

0800 442 182



# UTILITY PRODUCTS CATALOGUE

SECOND EDITION

**QUALITY  
COMMITMENT  
RELIABILITY**



**UTILUX** *Raychem*  
from TE Connectivity

[www.transnet.co.nz](http://www.transnet.co.nz)



## TRANSNET NEW ZEALAND LIMITED

At TransNet we offer a large range of products to the Electrical Distribution, Transmission, Rail, OEM and Wholesale Industry. We have the expertise and knowledge to assist with equipment specification as well as providing hands on service and support in the field.



With four stocking distribution facilities in Australasia and 24 hour contact, TransNet is able to offer local support and fast delivery. Your partners in power, we here at TransNet, pride ourselves on the ability to react quickly to any situation and have product to you whenever and wherever you need it.



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## THE REDT ENERGY STORAGE MACHINE

After 15 years of research and development, redT has developed a new and proprietary energy storage machine which enables the efficient and sustainable storage of electrical energy in liquid form.

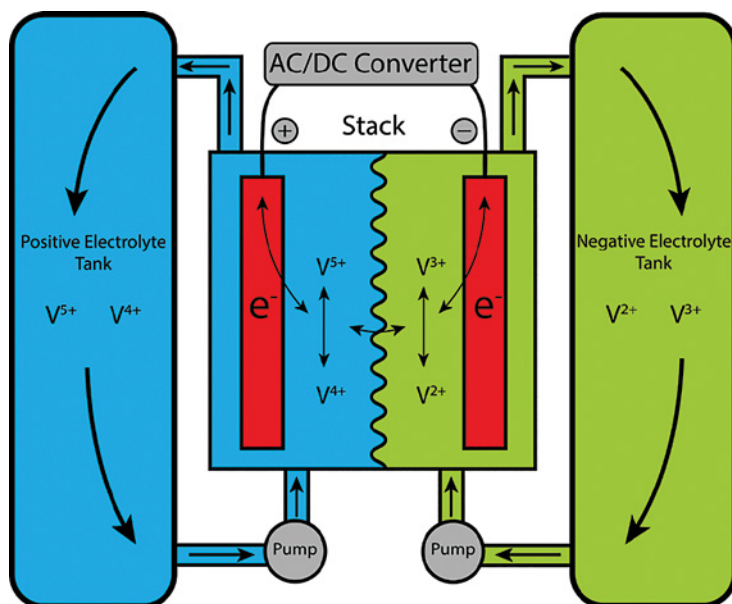
### WHO IS REDT?

We develop and supply durable and robust energy storage machines for use in a wide range of on- and off-grid industrial, commercial, and grid-scale applications.

Unlike conventional batteries, where energy is stored in a cell, our patented energy storage modules store energy in a liquid. This technology does not degrade like conventional batteries and affords exceptionally long life with (100%) discharge functionality, making the system perfectly suited to integration alongside renewables such as wind and solar.



### HOW DOES IT WORK?



Vanadium Redox Flow Machine (VRFM) technology utilises the flow of Vanadium electrolyte across an ion exchange membrane. When this occurs, a reversible electrochemical reaction takes place, allowing electrical energy to be stored and subsequently returned.

The technology relies on the ability of Vanadium to exist in four different oxidation states ( $V^{2+}$ ,  $V^{3+}$ ,  $V^{4+}$ , and  $V^{5+}$ ), each of which holding a different electrical charge.

As demonstrated by the diagram, the electrolyte in the negative half-cell contains  $V^{3+}$  and  $V^{2+}$  ions, whilst the electrolyte in the positive half-cell contains  $V^{4+}$  and  $V^{5+}$  ions. This represents the machine in its charged state. On discharge, a redox reaction occurs in the central stack, creating a surplus of electrons at the negative terminal, generating an electrical current.

The setup of the electrolyte and the membrane stack can be compared to that of an engine and fuel tanks. The membrane stack ('engine') delivers power rated in kilowatts (kW), whilst the fuel (the Vanadium electrolyte) delivers energy rated in kilowatt hours (kWh).

### THE REDT ENERGY STORAGE MACHINES



redT 5-20

redT 15-75

redT 60-300



## APPLICATIONS

The modular, versatile nature of redT energy storage machines make them suitable for a wide range of applications, from small off-grid sites to large-scale, grid-connected solar and wind installations.



### RENEWABLES

A key issue in supplying renewable energy to the grid is the mismatch between availability and demand. redT energy storage is ideal for coupling to renewables such as PV and wind. Unlike most energy storage systems it does not degrade, even

when performing 100% charge/discharge cycles, and is suited to long duration storage, meaning it can handle the high volatility inherent in renewable generation. The machine's life also matches that of renewable assets (25 years), further minimising costs.

Use redT energy storage with renewables to maximise your utilisation through time-shifting and peak shaving, remove constraints on existing renewable generation, or gain full autonomy from the grid.



### GRID SERVICES

Conventional power plants have traditionally provided both energy and grid balancing services. However, with the increasing proliferation of renewable energy, the grid must now adapt to the larger share of mid-to-low power

generation, leaving utilities with the issue of how to perform grid services.

redT energy storage is capable of performing grid services at both transmission and distribution levels, requiring discharge durations ranging from seconds to days and power ratings from 100kW-10MW. Use the machine to provide capacity to the grid for balancing, deferral, congestion relief and other services - opening up new revenue streams and maximising your return on investment.



### OFF-GRID

Energy storage provides a solution for locations with a weak or non-existent grid connection. redT machines are equally well-suited to coupling with renewables, diesel generators, or a combination of the two.

For renewables, the energy storage machine can absorb intermittent and volatile generation and time-shift it for when there is demand. redT systems can also stabilise the addition of renewables to a micro-grid, enabling maximum flexibility of operation.

For non-renewables, a diesel genset can run 3x more efficiently at full loads than low loads. By coupling diesel assets with redT energy storage, the genset can run at a higher loading to charge the machine whilst still supplying demand. This not only reduces fuel

consumption (as the genset is only run at optimised efficiencies) but also prolongs the life of the generator, reducing replacement and maintenance requirements, leading to significantly lower total operating costs.



### TELCO

In order to provide extensive coverage, telecommunications stations often need to be installed in remote locations where diesel generators must be used due to weak or non-existent grid connections.

redT energy storage machines reduce site operating costs by increasing generator efficiency, and have the potential to eliminate the need for fuel when used alongside sufficient solar PV assets.

The low maintenance requirements and remote monitoring capability of the redT system minimises the need for site attendance and, unlike lead-acid batteries, the system is not a target for theft as there is no easily accessible secondary market for Vanadium.

## THE REDT ADVANTAGE

### 100% DEPTH OF DISCHARGE

Charge and discharge the system fully from 0-100% without significant degradation, unlike conventional batteries which suffer drastic capacity loss if discharged below 50%

### LOW LEVELISED COST OF STORAGE (LCOS)

LCOS calculates the cost of storage over a system's life and accounts for all operating and maintenance costs, together with efficiency.

### LONG LASTING

The machine can last for 25 years with no significant degradation, matching the life of solar and wind assets.

### LOW MAINTENANCE

The system can be monitored remotely and requires minimal maintenance, reducing the need for frequent site visits.

### SAFE

Unlike lead acid and lithium batteries, the redT energy storage machine is at no risk of thermal runaway and is non-explosive and non-flammable.

### ENVIRONMENTALLY FRIENDLY

redT energy storage machines contain no heavy metals and are emission free. The electrolyte is fully reusable and recyclable, alongside the majority of components used in the system.

## TE CONNECTIVITY ARE A LEADING GLOBAL SUPPLIER OF:

- Cable Accessories
- Connectors and Fittings
- Insulators and Insulation
- Surge Arresters
- Switching, Protection and Lighting

Our global expertise combined with a local New Zealand presence provides expert application and engineering assistance, hands-on field training & continuous aftersales support to help our customers successfully master the challenges of today's businesses. TE Energy are well recognised in the New Zealand market for:

- A Customer focused organisation
- Innovation and technology driven
- Extensive product offering
- Industry leadership and expertise
- Structural and financial strength

Our wide range of reliable and cost-effective solutions is continuously expanded through research-driven product development. Utilux is a brand that has built an enviable reputation for high quality, reliable electrical connectors. For over 100 years, this dynamic brand has been a leader in the field of interconnection systems. Utilux is now part of the truly innovative, international market leader —TE Energy.

Our aim is to provide the best possible products and services to keep our customers at the cutting edge of industry standards internationally.

## QUALITY YOU CAN RELY ON

With strong brands like Raychem and Utilux, TE Energy quality is second to none. The Utilux manufacturing operation is certified to International Standards Organisation (ISO) 9001:2000 quality standards, the benchmark for the world's best practice in design and production facilities and methods.

TE Connectivity's highly skilled technical team ensures that these optimal standards are inherent in every product that leaves

our factories. You can be sure that Utilux branded products are fabricated from the finest materials and produced to exacting tolerances. They represent the latest technology and the best design for the tasks they are required to perform.

Trust the inventors of Heatshrink Technology. The most innovative utilities and industries around the world use our power cable accessories. Our Raychem products are designed to withstand environmental extremes and high pollution levels specifically for our New Zealand customers. They help maintain service reliability in both overhead and underground installations. Their specially formulated insulation materials resist tracking and degradation caused by erosion, ultraviolet light and other environmental stresses. All our cable accessories meet international specifications, such as IEC, CENELEC, IEEE and GOST.

## RELIABLE ELECTRICAL CONNECTORS

Our full line of connectors and accessories for low, medium and high voltage cable and overhead networks, substations, grounding applications, rail transport infrastructure, industrial applications, cover most applications in an electrical network. Utilux is a leading brand of electrical connectors sold to original equipment manufacturers and electrical distribution companies throughout Australia, New Zealand and Asia. A comprehensive range, the most up to date production technology, and the highest quality control standards ensure that there are Utilux connectors of optimum reliability and durability for all major power distribution applications.

## RESEARCH & DEVELOPMENT

As part of the worlds largest electrical connector company, the development of products is an ongoing commitment. It is done on a global basis, utilising the talents of many people throughout the organisation to ensure a global product for the New Zealand market.

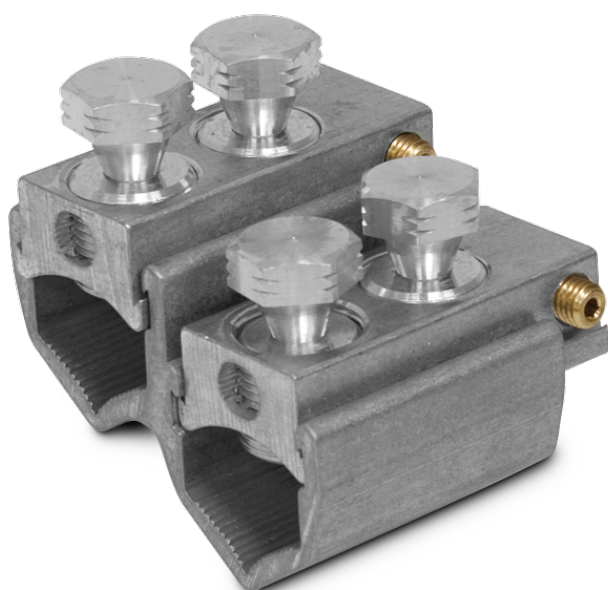
## TECHNICAL ASSISTANCE

TE Energy in New Zealand has a full team of experienced technical sales and support people who are available to assist in the purchase of products shown in this catalogue or to develop a solution to meet your particular needs.





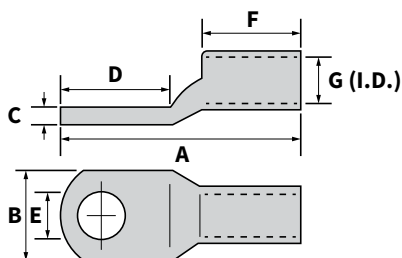
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# COPPER LUGS

## COPPER CRIMP LUGS

- Suitable for Copper conductor
- Range 0.5-1000mm<sup>2</sup> Seamless Copper tube
- Electro tinned Cable area clearly identified on the lug Tested to AS/NZS 4325.1:1995



Cat No.	Conductor Size (mm <sup>2</sup> )	Stranding Metric	Stud E	Dimensions (mm)							No. of Crimps (Tool No.)							Crimping Die
				A	B	C	D	F	G		76	00	18	24	21	22	38A	
CG05M4	0.5-1.5	1/0.80	M4	19.1	6.4	1.4	11.1	6.0	2.1		1	1	1	-	-	-	-	-
CG05SM5			M5	19.1	8.7	1.0	11.1	6.0	2.1		1	1	1	-	-	-	-	-
CG05LM5			M5	26.6	8.7	1.0	15.1	9.5	2.1		2	2	1	-	-	-	-	-
CG05M6			M6	26.2	10.3	0.9	15.1	9.5	2.1		2	2	1	-	-	-	-	-
CG05M8			M8	26.2	11.1	0.8	15.1	9.5	2.1		2	2	1	-	-	-	-	-
CG2.5M4	2.5	7/0.67	M4	21.4	9.1	1.1	11.9	8.0	2.5		2	1	1	-	-	-	-	-
CG2.5M5			M5	21.4	9.1	1.1	11.9	8.0	2.5		2	1	1	-	-	-	-	-
CG2.5M6			M6	26.2	10.3	0.9	15.1	8.7	2.5		2	2	1	-	-	-	-	-
CG2.5M8			M8	26.2	10.3	0.9	15.1	8.7	2.5		2	2	1	-	-	-	-	-
CG4SM5	4	7/0.85	M5	21.0	8.7	1.5	11.1	8.0	3.3		2	1	1	-	-	-	-	-
CG4LM5			M5	27.3	8.7	1.5	14.7	9.2	3.3		2	2	1	-	-	-	-	-
CG4M6			M6	27.8	10.3	1.2	15.1	9.5	3.3		2	2	1	-	-	-	-	-
CG4M8			M8	28.6	13.0	1.0	16.3	9.5	3.3		2	2	1	-	-	-	-	-
CG4M10	6	7/1.04	M10	28.6	13.0	1.0	16.3	9.5	3.3		2	2	1	-	-	-	-	-
CG6M6			M6	27.0	10.3	1.2	15.0	9.5	3.7		-	2	1	1	1	1	1	1#38-44CU
CG6M8			M8	28.6	13.9	0.9	16.7	9.5	3.7		-	2	1	1	1	1	1	
CG6M10			M10	28.6	13.9	0.9	16.7	9.5	3.7		-	2	1	1	1	1	1	
CG10SM6			M6	27.0	11.9	1.8	15.5	9.5	4.7		-	2	1	1	1	1	1	1#38-57CU
CG10LM6	10	7/1.35	M6	29.4	11.9	1.8	15.5	11.5	4.7		-	2	2	1	1	1	1	
CG10M8			M8	28.6	14.3	1.6	16.3	9.5	4.7		-	2	1	1	1	1	1	
CG10M10			M10	30.6	14.3	1.6	16.3	9.5	4.7		-	2	1	1	1	1	1	
CG10M12			M12	33.0	17.0	1.4	20.0	11.0	4.7		-	2	1	1	1	1	1	1#38-63CU
CG16M5	16	7/1.70	M5	39.7	11.6	2.3	16.3	20.6	5.5		-	-	3	3	2	2	1	
CG16M6			M6	39.7	11.6	2.3	16.3	20.6	5.5		-	-	3	3	2	2	1	
CG16M8			M8	39.7	13.5	1.9	16.3	20.6	5.5		-	-	3	3	2	2	1	
CG16M10			M10	41.5	13.5	1.9	18.5	20.6	5.5		-	-	3	3	2	2	1	
CG16M11			M11	43.6	16.7	2.8	19.0	22.2	5.5		-	-	-	3	2	2	1	1#38-77CU
CG16M12	20	19/0.44	M12	46.0	17.5	1.4	20.5	19.0	5.5		-	-	-	3	2	2	1	1#38-63CU
CG20M6			M6	34.9	13.5	2.2	19.0	20.3	6.3		-	-	-	3	2	2	1	1#38-70CU
CG20M8			M8	42.1	14.3	2.0	19.0	20.3	6.3		-	-	-	3	2	2	1	
CG20M10			M10	42.1	15.2	1.9	19.0	20.3	6.3		-	-	-	3	2	2	1	
CG20M12			M11	42.1	16.7	2.2	19.0	22.0	6.3		-	-	-	3	2	2	1	
CG25M6	25	19/1.35	M6	43.6	16.7	2.2	19.0	22.0	7.1		-	-	-	3	2	2	1	1#38-77CU
CG25M8			M8	43.6	16.7	1.9	19.0	22.0	7.1		-	-	-	3	2	2	1	
CG25M10			M10	43.6	16.7	1.9	19.0	22.0	7.1		-	-	-	3	2	2	1	
CG25M11			M11	43.6	18.2	1.7	25.4	21.0	7.1		-	-	-	3	2	2	1	
CG25M12			M12	51.0	18.2	1.7	25.4	21.0	7.1		-	-	-	3	2	2	1	

\*All sizes of crimp lugs are compatible with imperial size cables except those marked





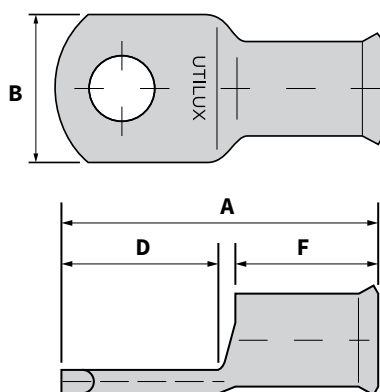
Cat No.	Conductor Size (mm <sup>2</sup> )	Stranding Metric	Stud E	Dimensions (mm)						No. of Crimps (Tool No.)				Crimping Die
				A	B	C	D	F	G	21	22	38A	40B	
CG35M6	35	19/1.53	M6	43.6	18.2	2.7	19.0	22.2	8.4	2	2	1	-	1#38-92CU
CG35M8			M8	43.6	18.2	2.7	19.0	22.2	8.4	2	2	1	-	
CG35M10			M10	43.6	18.2	2.7	19.0	22.2	8.4	2	2	1	-	
CG35M11	38	7/0.104	M11	51.6	19.0	3.7	27.0	22.2	8.7	2	2	1	-	1#38-104CU
CG35M12	35	19/1.53	M12	51.2	20.0	2.4	24.5	22.0	8.4	2	2	1	-	1#38-92CU
CG50M8	50	19/1.78	M8	51.6	18.2	3.1	27.0	22.2	9.5	2	2	1	-	1#38-104CU
CG50M10			M10	51.6	19.0	3.0	27.0	22.2	9.5	2	2	1	-	
CG50M12			M12	51.6	20.6	2.8	27.0	22.2	9.5	2	2	1	-	
CG70M6	70	19/2.14	M6	54.0	20.6	3.2	27.0	23.0	11.0	-	2	1	-	1#38-115CU
CG70M8			M8	54.0	20.6	3.2	27.0	23.0	11.0	-	2	1	-	
CG70M10			M10	54.0	20.6	3.2	27.0	23.0	11.0	-	2	1	-	
CG70M11			M11	54.0	22.2	4.7	27.0	23.0	11.2	-	2	1	-	1#38-130CU
CG70M12			M12	54.0	20.6	3.2	27.0	23.0	11.0	-	2	1	-	1#38-115CU
CG70M16			M16	54.2	27.5	2.4	27.0	22.0	11.0	-	2	1	-	1#38-142CU
CG70M20	95	37/1.78	M20	76.0	28.6	3.5	45.0	25.4	11.0	-	-	1	1	1#38-142CU
CG95M6			M6	57.2	25.4	4.0	27.0	27.0	13.4	-	2	1	1	1#40-142CU
CG95M8			M8	57.2	25.4	4.0	27.0	27.0	13.4	-	2	1	1	
CG95M10			M10	57.2	25.4	4.0	27.0	27.0	13.4	-	2	1	1	
CG95M12			M12	57.2	25.4	4.0	27.0	27.0	13.4	-	2	1	1	
CG95M16			M16	75.5	27.0	3.7	45.0	25.4	13.4	-	2	1	1	
CG95M20	120	37/2.03	M20	75.5	28.6	3.5	45.0	25.4	13.4	-	2	1	1	1#38-165CU
CG120M10			M10	68.3	30.0	4.8	31.8	31.0	15.5	-	2	2	1	
CG120M12			M12	68.3	30.0	4.8	31.8	31.0	15.5	-	2	2	1	
CG120M16			M16	68.3	30.0	4.8	31.8	31.0	15.5	-	2	2	1	
CG120M20	150	37/2.25	M20	68.3	30.0	4.8	31.8	31.0	15.5	-	2	2	1	1#40-165CU
CG150M10*			M10	75.0	33.5	5.4	41.3	27.0	16.3	-	-	2	1	
CG150M12*			M12	75.0	33.5	5.4	41.3	27.0	16.3	-	-	2	1	
CG150M16*			M16	75.0	33.5	5.4	41.3	27.0	16.3	-	-	2	1	
CG150M20*	185	37/2.52	M20	75.0	33.5	5.4	41.3	27.0	16.3	-	-	2	1	1#38-183CU
CG185M10			M10	79.0	36.5	5.2	41.3	31.0	18.4	-	-	2	1	
CG185M12			M12	79.0	36.5	5.2	41.3	31.0	18.4	-	-	2	1	
CG185M16			M16	79.0	36.5	5.2	41.3	31.0	18.4	-	-	2	1	
CG185M20	240	61/2.25	M20	79.0	36.5	5.2	41.3	31.0	18.4	-	-	2	1	1#40-200CU
CG240MB*			MB	127.0	41.6	7.1	54.0	47.6	21.2	-	-	3	1	
CG240M10*			M10	127.0	41.6	7.1	54.0	47.6	21.2	-	-	3	1	
CG240M12*			M12	127.0	41.6	7.1	54.0	47.6	21.2	-	-	3	1	
CG240M16*	300	61/2.52	M16	127.0	41.6	7.1	54.0	47.6	21.2	-	-	3	1	1#38-231CU
CG240M20*			M20	127.0	41.6	7.1	54.0	47.6	21.2	-	-	3	1	
CG300MB			MB	127.0	46.0	7.9	54.0	47.6	23.8	-	-	3	1	
CG300M16			M16	127.0	46.0	7.9	54.0	47.6	23.8	-	-	3	1	
CG300M20	400	61/2.85	M20	127.0	46.0	7.9	54.0	47.6	23.8	-	-	3	1	1#40-260CU
CG400MB			MB	123.0	49.6	7.9	54.0	41.3	26.9	-	-	-	1	
CG400M16			M16	123.0	49.6	7.9	54.0	41.3	26.9	-	-	-	1	
CG400M20			M20	123.0	49.6	7.9	54.0	41.3	26.9	-	-	-	1	
CG500MB	500	61/3.20	MB	142.5	54.8	8.2	54.0	55.5	30.0	-	-	-	2	1#40-281CU
G500M16			M16	142.5	54.8	8.2	54.0	55.5	30.0	-	-	-	2	
CG500M20			M20	142.5	54.8	8.2	54.0	55.5	30.0	-	-	-	2	
CG630MB*	630	127/2.52	MB	146.0	63.5	11.5	54.0	58.0	33.5	-	-	-	2	1#40-310CU
CG800MB	800	127/2.85	MB	275.0	75.0	14.0	127.0	105.0	39.3	-	-	-	3	1#40-370CU
CG1000MB	1000	127/3.20	MB	295.0	85.0	16.0	125.0	110.0	44.0	-	-	-	3	1#40-432CU
														1#40-480CU

\*All sizes of crimp lugs are compatible with imperial size cables except those marked

## COPPER FLARED LUGS (BELLMOUTH)

The Utilux range of flared Copper lugs has been designed with the barrel entry flared to enable an easy insertion of multi stranded cables (flexible cable).

The range of connectors (from 25mm<sup>2</sup> to 185mm<sup>2</sup>) will ensure most applications for common flexible cable sizes are covered. Flared Copper lugs are made from seamless Copper tube, electro tin plated and have the cable area clearly marked on the palm of the lug. The inspection window on the barrel provides a check that the cable has been fully inserted. The flared lugs can be crimped with the standard range of Utilux tooling and hexagonal dies.



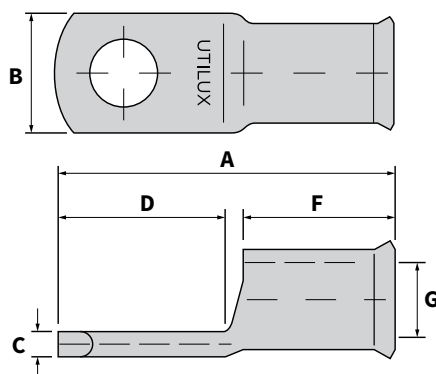
Cat No.	Conductor Size (mm <sup>2</sup> )	Stranding Metric	Stud Size	Dimensions (mm)				No. of Crimps (Tool No.)				Crimping Die
				A	B	D	F	21	22	38A	40B	
CG25FLM6	25	209/0.40	M6	44	17	19	22	2	2	1	-	1#38-77CU
CG25FLM8		209/0.40	M8	44	17	19	22	2	2	1	-	
CG25FLM10		209/0.40	M10	44	17	19	22	2	2	1	-	
CG25FLM12		209/0.40	M12	44	17	19	22	2	2	1	-	
CG35FLM6	35	285/0.40	M6	44	18	19	22	2	2	1	-	1#38-92CU
CG35FLM8		285/0.40	M8	44	18	19	22	2	2	1	-	
CG35FLM10		285/0.40	M10	44	18	19	22	2	2	1	-	
CG35FLM12		285/0.40	M12	44	18	19	22	2	2	1	-	
CG50FLM8	50	380/0.40	M8	52	21	27	22	2	2	1	-	1#38-104CU
CG50FLM10		380/0.40	M10	52	21	27	22	2	2	1	-	
CG50FLM12		380/0.40	M12	52	21	27	22	2	2	1	-	
CG70FLM6	70	203/0.67	M6	54	21	27	23	-	2	1	-	1#38-115CU
CG70FLM8		203/0.67	M8	54	21	27	23	-	2	1	-	
CG70FLM10		203/0.67	M10	54	21	27	23	-	2	1	-	
CG70FLM12		203/0.67	M12	54	21	27	23	-	2	1	-	
CG95FLM6	95	259/0.67	M6	57	25	27	27	-	2	1	-	1#38-142CU
CG95FLM8		259/0.67	M8	57	25	27	27	-	2	1	-	
CG95FLM10		259/0.67	M10	57	25	27	27	-	2	1	-	
CG95FLM12		259/0.67	M12	57	25	27	27	-	2	1	-	
CG120FLM10	120	336/0.67	M10	68	30	32	31	-	2	2	1	1#38-165U
CG120FLM12		336/0.67	M12	68	30	32	31	-	2	2	1	
CG120FLM16		336/0.67	M16	68	30	32	31	-	2	2	1	
CG150FLM12	150	427/0.67	M12	75	34	32	27	-	-	2	1	1#38-183CU
CG150FLM16		427/0.67	M16	75	34	32	27	-	-	2	1	
CG185FLM12	185	518/0.67	M12	79	34	32	31	-	-	2	1	1#38-200CU
CG185FLM16		518/0.67	M16	79	34	32	31	-	-	2	1	





## NARROW PALM - CIRCUIT BREAKER LUGS

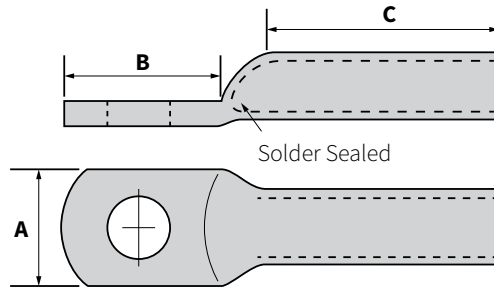
- Specially made for terminating large cables to circuit breakers
- Unique bell mouth for easy insertion of fine stranded conductors
- Made from 99.9%+ high conductivity Copper



Cat No.	Conductor Size (mm <sup>2</sup> )	Stud Size	Dimensions (mm)						No. of Crimps (Tool No.)				Crimping Die
			A	B	C	D	F	G	21	22	38A	40B	
CGNP35M6	35	M6	44	15	2.7	15	21	8.4	2	2	1	-	1#38-92CU
CGNP50M6	50	M6	52	15	3.0	15	22	9.5	2	2	1	-	1#38-104CU
CGNP50M10		M10	52	19	3.0	21	22	9.5	2	2	1	-	
CGNP70M6	70	M6	54	17	3.2	15	24	11.0	-	2	1	-	1#38-115CU
CGNP70M10		M10	54	19	3.2	21	24	11.0	-	2	1	-	
CGNP95M8	95	M8	57	19	4	17	27	13.4	-	2	1	-	1#38-142CU
CGNP95M10		M10	57	19	4	21	27	13.4	-	2	1	-	
CGNP120M8	120	M8	68	19	4.8	23	30	15.5	-	2	2	1	1#38-165CU
CGNP120M10		M10	68	19	4.8	23	30	15.5	-	2	2	1	
CGNP150M8	150	M8	75	19	5.4	27	30	16.3	-	-	2	1	1#38-183CU
CGNP150M10		M10	75	19	5.4	27	30	16.3	-	-	2	1	
CGNP185M10	185	M10	79	31	5.2	32	32	18.4	-	-	2	1	1#38-200CU
CGNP240M10	240	M10	127	31	7.1	32	38	21.2	-	-	3	1	1#38-231CU
CGNP240M12		M12	127	31	7.1	32	38	21.2	-	-	3	1	
CGNP300M10	300	M10	127	31	7.9	32	42	23.8	-	-	3	1	1#38-260CU
CGNP300M12		M12	127	31	7.9	32	42	23.8	-	-	3	1	

## SEALED COPPER CRIMP LUGS

- Long barrel length for effective heat shrink sealing
- Designed for outdoor terminations
- Solder sealed
- Impervious to air at 140kPa min



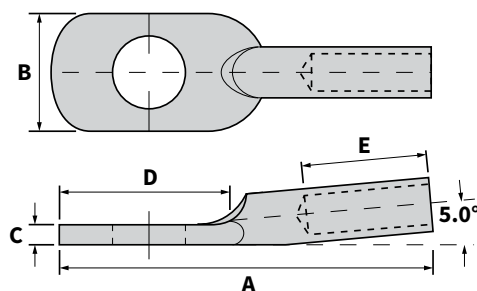
Cat No.	Conductor Size (mm <sup>2</sup> )	Stranding Metric	Stud Size	Dimensions (mm)			Crimping Die
				A	B	C	
SEG25M8/1	25	7/2.14-19/1.354	M8	14.7	19	29	1#38-77CU
SEG25M10/1			M10	16.7	19	29	
SEG35M8/1			M8	18.2	19	35	
SEG35M10/1	35	19/1.53	M10	18.2	19	35	1#38-92CU
SEG35M12/1			M12	20.0	24.5	35	
SEG50M10/1	50	19/1.78	M10	19.0	27	38	1#38-104CU
SEG50M12/1			M12	20.6	27	38	
SEG70M10/1	70	19/2.14	M10	20.6	27	43	1#38-115CU
SEG70M12/1			M12	20.6	27	43	
SEG95M10/1	95	19/2.52	M10	25.4	27	53	1#38-142CU
SEG95M12/1			M12	25.4	27	53	
SEG120MB	120	37/2.03	MB	30.0	31.8	62	1#38-165CU
SEG120M10/1			M10	30.0	31.8	62	
SEG120M12/1			M12	30.0	31.8	62	
SEG120M16/1			M16	30.0	31.8	62	
SEG150M12/1	150	37/2.25	M12	33.5	41.3	67	1#38-183CU
SEG150M16/1			M16	33.5	41.3	67	
SEG185M12/1	185	37/2.52	M12	36.5	41.3	77	1#38-200CU
SEG185M16/1			M16	36.5	41.3	77	
SEG240MB	240	61/2.25	MB	41.6	54	86	1#38-231CU 1#40-231CU
SEG240M12/1			M12	41.6	54	86	
SEG300MB	300	61/2.52	MB	46.0	54	95	1#38-260CU
SEG300M16/1			M16	46.0	54	95	
SEG400MB	400	61/2.85	MB	49.6	54	98	1#40-281CU
SEG400M16/1			M16	49.6	54	98	
SEG500MB	500	61/3.20	MB	54.8	54	98	1#40-310CU
SEG500M20/1			M20	54.8	54	98	
SEG630MB	630	127/2.52	MB	63.5	54	98	1#40-370CU
SEG630M20/1			M20	63.5	54	98	



## HEAVY DUTY COPPER LUGS

Manufactured from solid Copper bar, these Copper lugs are designed for use in high fault current potential areas.

Lug markings are stamped into each lug for fast, easy identification.

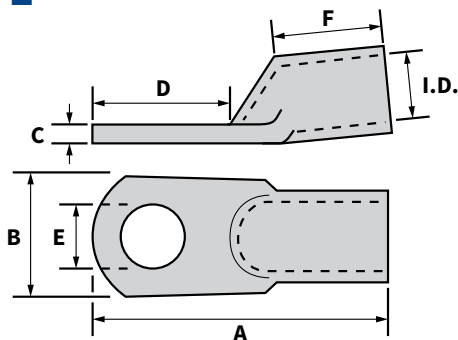


Cat No.	Conductor Size (mm <sup>2</sup> )	Stud Size	Dimensions (mm)					A/F (mm)	Crimping Die
			A	B	C	D	E		
TNTCU16-8	16	M8	80	22	4.5	32	30	9.2	1#38-92CU
TNTCU16-10		M10							
TNTCU16-12		M12							
TNTCU25-8	25	M8	80	22	4.5	32	30	9.2	
TNTCU25-10		M10							
TNTCU25-12		M12							
TNTCU35-10	35	M10	80	22	4.5	32	31	9.2	
TNTCU35-12		M12							
TNTCU50-8	50	M8	80	25	5	32	33	10.4	1#38-104CU
TNTCU50-10		M10							
TNTCU50-12		M12							
TNTCU50-16		M16							
TNTCU70LPB	70	M10	90	27	6	38	36	11.5	1#38-115CU
TNTCU70-10		M10							
TNTCU70-12		M12							
TNTCU95-8	95	M8	100	36	6.5	42	40	14.2	1#38-142CU
TNTCU95-10		M10							
TNTCU95-12		M12							
TNTCU95-16		M16							
TNTCU95-20		M20							



## CABLE LUG SOLDER TYPE

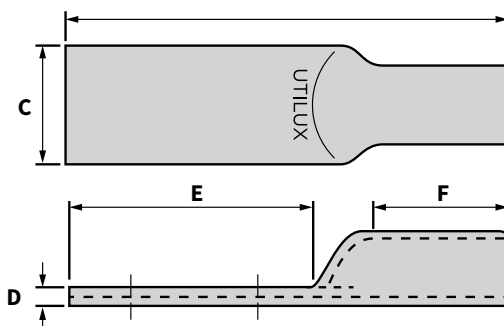
- Solid drawn Copper tube
- Electro tinned
- Alternative sizes made to order
- Not recommended for crimping
- Bright acid tin finish for easy solderability



Cat No.	Max Area (mm <sup>2</sup> )	Nominal Amps for Cu Cable	Stud Size	Dimensions (mm)						
				A	B	C	D	E	F	I.D.
SG10M5	10	75	M5	28.6	8.9	1.8	8.9	8.9	9.5	4.5
SG16M6	16	99	M6	38.6	11.9	1.6	16	16.0	17.0	6.1
SG35M8	25-35	155	M8	38.1	16.0	1.8	16.5	16.5	12.7	9.3
SG50M10	50	250	M10	44.5	18.5	2.4	20.5	20.5	15.9	10.3
SG70M10	70	310	M10	56.0	23.1	3.3	27.5	27.5	17.9	12.6
SG95M12	95-120	375	M12	68.0	28.0	3.3	33.5	33.5	20.6	15.8
SG120MB	95-120	435	MB	79.5	33.0	3.3	36.0	36.0	22.2	19.0
SG120M16	150	435	M16	79.5	33.0	3.3	36.0	36.0	22.2	19.0
SG150M20	185	570	M20	85.7	37.6	4.0	36.0	36.0	28.6	21.3
SG185M20	240-300	680	M20	106.5	46.5	5.3	48.0	48.0	37.0	26.5

## LONG PALM LONG BARREL COPPER LUGS

- Long barrel length for effective heat shrink sealing
- No inspection window
- Uses same crimp tools as standard Copper lugs

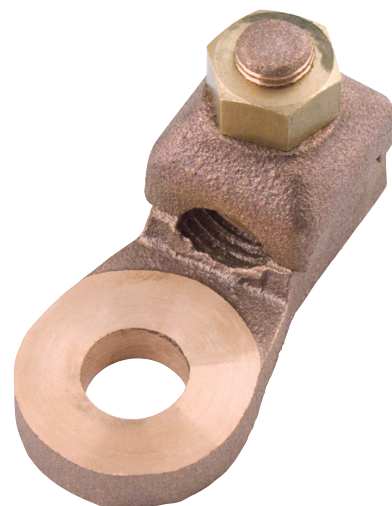
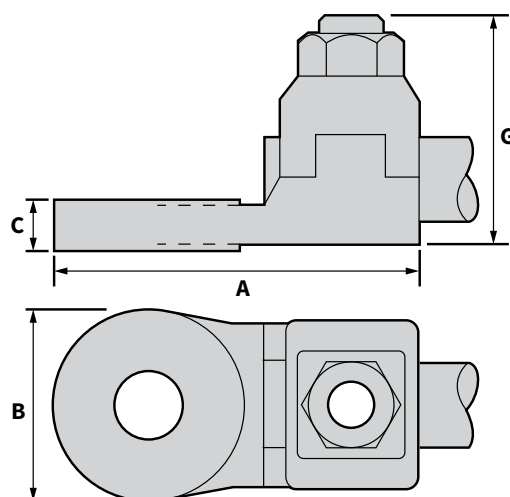


Cat No.	Conductor Size (mm <sup>2</sup> )	Dimensions (mm)					Crimping Die
		C	D	E	F	L	
CG16LPMB	16	13	1.9	70	40	114	1#38-63CU
CG25LPMB	25	17	1.9	70	40	117	1#38-77CU
CG35LPMB	35	18	2.7	90	45	145	1#38-92CU
CG50LPMB	50	21	2.8	100	50	159	1#38-104CU
CG70LPMB	70	21	3.2	100	50	161	1#38-115CU
CG95LPMB	95	25	4.0	100	50	161	1#38-142CU
CG120LPMB	120	30	4.8	100	50	165	1#38-165CU
CG150LPMB	150	34	5.4	100	50	166	1#38-183CU
CG185LPMB	185	37	5.2	100	55	173	1#38-200CU
CG240LPMB	240	42	7.1	110	90	221	1#38-231CU
CG300LPMB	300	46	7.9	110	90	222	1#38-260CU
CG400LPMB	400	50	7.9	110	90	227	1#40-281CU
CG500LPMB	500	55	8.2	110	90	233	1#40-310CU
CG630LPMB	630	64	11.5	100	90	225	1#40-370CU



## BOLTED CABLE LUGS

- Quick and easy termination
- Re-usable
- Palms are machined flat and parallel for maximum conductivity
- Copper alloy

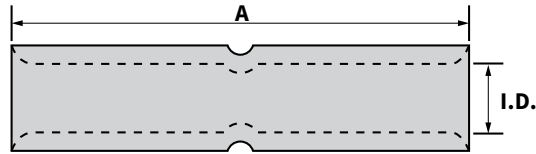


Cat No.	Generic Code	Conductor Size (mm <sup>2</sup> )	Non Flexible Conductor	Stud Size	Dimensions (mm)			
					A	B	C	G
H1802/1	NO.2	16	7/1.70	M8	44	19	5.5	23
H1803/1 H1803X01/1	NO.3	25-35	7/2.14 19/1.53	M10 M12	53	25	5.5	27
H1804/1	NO.4	50-70	19/1.78 19/2.14	M12	60	32	6.4	34
H1805/1	NO.5	95	37/1.78	M12	65	32	7.9	38
H1806/1	NO.6	150-185	37/2.25 37/2.52	M16	76	38	8.7	45
H1807/1	NO.7	185-240	61/2.25	M20	86	44	10.3	53

# COPPER LINKS

## COPPER CRIMP LINKS

- Solid drawn Copper tube
- Centre dimples
- Ends reamed



Cat No.	Conductor Size (mm <sup>2</sup> )	Stranding Metric	Dimensions (mm)		No. of Crimps (Tool No.)							Crimping Die
			A	I.D.	00	18	24	21	22	38A	40B	
CK0.5	0.5–1.5	1/0.80	22	21	2	-	-	-	-	-	-	-
CK2.5	2.5	7/0.67	22	2.5	2	-	-	-	-	-	-	-
CK4	4	7/0.85	22	3.3	2	1	-	-	-	-	-	-
CK6	6	7/1.04	22	3.7	2	1	1	2	2	1	-	1#38-44CU
CK10	10	7/1.35	22	4.7	2	1	1	2	2	1	-	1#38-57CU
CK16	16	7/1.70	44	5.5	-	3	3	2	2	1	-	1#38-63CU
CK20	20	19/0.44	44	6.3	-	-	3	2	2	1	-	1#38-70CU
CK25	25	19/1.35	48	7.1	-	-	3	2	2	1	-	1#38-77CU
CK35	35	19/1.53	48	8.4	-	-	-	2	2	1	-	1#38-92CU
CK50	50	19/1.78	48	9.5	-	-	-	2	2	1	-	1#38-104CU
CK70	70	19/2.14	51	11.0	-	-	-	-	2	1	-	1#38-115CU
CK95	95	37/1.78	54	13.4	-	-	-	-	2	1	1	1#38-142CU
CK120	120	37/2.03	65	15.5	-	-	-	-	2	2	1	1#38-165CU
CK150	150	37/2.25	65	16.3	-	-	-	-	-	2	1	1#38-183CU
CK185	185	37/2.52	65	18.4	-	-	-	-	-	2	1	1#38-200CU
CK240	240	61/2.25	89	21.2	-	-	-	-	-	3	1	1#38-231CU
CK300	300	61/2.52	89	23.8	-	-	-	-	-	3	1	1#38-260CU
CK400	400	61/2.85	89	26.8	-	-	-	-	-	-	1	1#40-281CU
CK500	500	61/3.20	114	30.0	-	-	-	-	-	-	2	1#40-310CU
CK630*	630	127/2.52	114	33.5	-	-	-	-	-	-	2	1#40-370CU
CK800	800	127/2.85	230	39.3	-	-	-	-	-	-	3	1#40-432CU
CK1000	1000	127/3.20	230	43.8	-	-	-	-	-	-	3	1#40-480CU

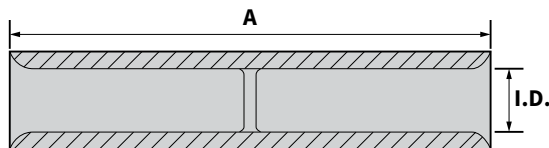
\*All sizes of crimp links are compatible with imperial size cables except those marked





## COPPER CRIMP LINKS - WITH SOLID BARRIER

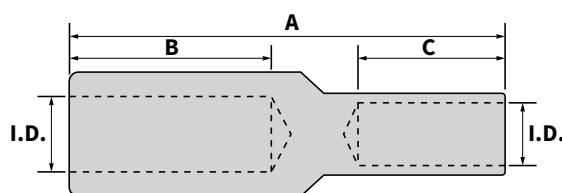
- For use with oil filled cables
- Solid drawn Copper rod
- Electro tinned
- Solid centre barriers
- Ends reamed
- Excellent as water barrier



Cat No.	Conductor Size (mm <sup>2</sup> )	Stranding Metric	Dimensions (mm)		No. of Crimps (Tool No.)				Crimping Die
			A	I.D.	21	22	38A	40B	
CKB10	10	7/1.35	48	4.7	2	2	1	-	1#38-57CU
CKB16	16	7/1.70	44	5.5	2	2	1	-	1#38-63CU
CKB20	20	7/2.14	44	6.7	2	2	1	-	1#38-74CU
CKB25	25	19/1.35	48	7.1	2	2	1	-	1#38-77CU
CKB35	35	19/1.53	48	8.4	2	2	1	-	1#38-92CU
CKB50	50	19/1.78	54	9.5	2	2	1	-	1#38-104CU
CKB70	70	19/2.14	51	11.0	-	2	1	-	1#38-115CU
CKB95	95	37/1.78	54	13.4	-	2	1	1	1#38-142CU
CKB120	120	37/2.03	65	15.5	-	2	2	1	1#38-165CU
CKB150	150	37/2.25	65	16.3	-	-	2	1	1#38-183CU
CKB185	185	37/2.52	65	18.4	-	-	2	1	1#38-200CU
CKB240	240	61/2.25	76	21.2	-	-	3	1	1#38-231CU
CKB300	300	61/2.52	76	23.8	-	-	3	1	1#38-260CU
CKB400	400	61/2.85	89	26.8	-	-	-	1	1#40-281CU
CKB500	500	61/3.20	145	30.0	-	-	-	2	1#40-310CU
CKB630	630	127/2.52	145	33.5	-	-	-	2	1#40-370CU

## COPPER REDUCING LINKS

- Solid drawn Copper rod
- Electro tin plated
- Stock sizes shown
- Custom sizes to order
- Crimp with standard Utilux hex dies

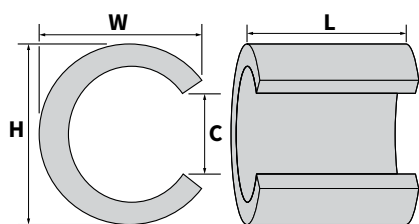


Cat No.	Conductor Size (mm <sup>2</sup> )	Large End Dimensions (mm)			Crimping Die	Small End Dimensions (mm)		
		A	B	I.D.		C	I.D.	Crimping Die
CKR16-6	16/6	55	24	5.5	1#38-63CU	24	3.7	1#38-44CU
CKR16-10	16/10	55	24	5.5		24	4.7	1#38-57CU
CKR25-6	25/6	56	24	7.0	1#38-77CU	24	3.7	1#38-44CU
CKR25-10	25/10	56	24	7.0		24	4.7	1#38-44CU
CKR25-16	25/16	56	24	7.0	1#38-92CU	24	5.5	1#38-63CU
CKR35-10	35/10	56	24	8.5		24	4.7	1#38-57CU
CKR35-16	35/16	56	24	8.5	1#38-104CU	24	5.5	1#38-63CU
CKR35-25	35/25	56	24	8.5		24	7.0	1#38-77CU
CKR50-16	50/16	58	24	9.4	1#38-115CU	24	5.5	1#38-63CU
CKR50-25	50/25	58	24	9.4		24	7.0	1#38-77CU
CKR50-35	50/35	58	24	9.4	1#38-120CU	24	8.5	1#38-92CU
CKR70-25	70/25	58	24	11		24	7.0	1#38-77CU
CKR70-35	70/35	58	24	11	1#38-142CU	24	8.5	1#38-92CU
CKR70-50	70/50	58	24	11		24	9.4	1#38-104CU
CKR95-35	95/35	60	25	13.4	1#38-165CU	24	8.5	1#38-92CU
CKR95-50	95/50	60	25	13.4		24	9.4	1#38-104CU
CKR95-70	95/70	60	25	13.4	1#38-200CU	24	11	1#38-115CU
CKR120-50	120/50	75	38	14.7		24	9.4	1#38-104CU
CKR120-70	120/70	75	38	14.7	1#38-231CU 1#40-231CU	24	11	1#38-115CU
CKR120-95	120/95	75	38	14.7		25	13.4	1#38-142CU
CKR150-70	150/70	77	38	16.3	1#38-260CU 1#40-260CU	24	11	1#38-115CU
CKR150-95	150/95	77	38	16.3		25	13.4	1#38-142CU
CKR150-120	150/120	90	38	16.3	1#38-231CU 1#40-231CU	38	14.7	1#38-165CU
CKR185-95	185/95	77	38	18.4		25	13.4	1#38-142CU
CKR185-120	185/120	90	38	18.4	1#38-231CU 1#40-231CU	38	14.7	1#38-165CU
CKR185-150	185/150	90	38	18.4		38	16.3	1#38-183CU
CKR240-120	240/120	98	42	21.1	1#38-231CU 1#40-231CU	38	14.7	1#38-165CU
CKR240-150	240/150	98	42	21.1		38	16.3	1#38-183CU
CKR240-185	240/185	98	42	21.1	1#38-260CU 1#40-260CU	38	18.4	1#38-200CU
CKR300-150	300/150	98	42	23.4		38	16.3	1#38-183CU
CKR300-185	300/185	98	42	23.4	1#38-260CU 1#40-260CU	38	18.4	1#38-200CU
CKR300-240	300/240	101	42	23.4		42	21.1	1#38-231CU 1#40-231CU



## 'C' CONNECTORS

- 'C' Connectors are manufactured in 'C' shaped Copper section for connection of main and tap Copper conductors
- Reliability is ensured by passing tests specified by JIS C2810
- Suitable for connecting Copper conductors in both indoor and outdoor applications such as earth grid connections
- Tin plated
- Other sizes available on request (366-700mm<sup>2</sup>)



ZT122COVER/1



Cat No.	Conductor Size (mm <sup>2</sup> )	Dimensions (mm)				Crimping Die	Insulating Cover
		H	W	L	C		
ZT26/1	21-26	15	11	16	6	ZT26DIE/1	ZT26COVER/1
ZT44/1	27-44	19	14	20	8	ZT44DIE/1	ZT44COVER/1
ZT60/1	45-60	21	15	22	10	ZT60DIE/1	ZT60COVER/1
ZT76/1	61-76	24	17	22	11	ZT76DIE/1	ZT76COVER/1
ZT98/1	77-98	28	19	25	14	ZT98DIE/1	ZT98COVER/1
ZT122/1	99-122	30	21	26	13	ZT122DIE/1	ZT122COVER/1
ZT154/1	123-154	34	24	28	17	ZT154DIE/1	ZT154COVER/1
ZT190/1	155-190	37	25	35	17	ZT190DIE/1	ZT190COVER/1
ZT240/1	191-240	40	28	40	19	ZT240DIE/1	ZT240COVER/1
ZT365/1	289-365	48	34	50	24	ZT365DIE/1	ZT365COVER/1

## CONNECTOR SELECTION CHART

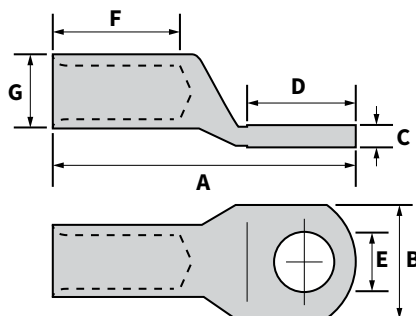
		Tap Conductor (mm <sup>2</sup> )															
		2.5	4	6	10	16	20	25	35	50	70	95	120	150	185	240	300
Main Conductor (mm <sup>2</sup> )	6	11	11	16													
	10	16	16	16													
	16	20	20	26	26	44											
	20	26	26	26	44	44	44										
	25	44	44	44	44	44	60	60									
	35	44	44	44	60	60	60	60	76								
	50	60	60	60	60	76	76	76	98	122							
	70	76	76	76	98	98	98	98	122	122	154						
	95	98	122	122	122	122	122	122	154	154	190	190					
	120	154	154	154	154	154	154	154	190	190	190	240	240				
	150	154	154	190	190	190	190	190	190	240	240	288	288	365			
	185	190	190	240	240	240	240	240	240	240	288	288	365	365	450		
	240			288	288	288	288	288	288	365	365	365	365	450	450	560	
	300			365	365	365	365	365	365	365	450	450	450	450	560	560	700
	400								450	450	560	560	560	560	700	700	700
	500								560	560	700	700	700	700	700		
	630								700	700	700						



# ALUMINIUM LUGS

## UNILUG FOR ALUMINIUM CABLES

- 99.9% pure high conductivity Aluminium
- Forged from solid Aluminium billets
- Solid palm, therefore eliminating the ingress of moisture
- Pre-filled with joining compound
- Individually packed in sealed plastic bags



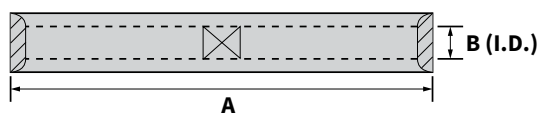
Cat No.	Conductor Size (mm <sup>2</sup> )	Stranding Metric	Stud Size E	Dimensions (mm)						Crimping Die
A	B	C	D	F	G					
AG6MB/1 AG6M6/1	6	7/1.04	MB M6	54	18	5	22	32	3.5	1#38-90AL
AG10MB/1 AG10M6/1	10	7/13.5	MB M6	65	22	5	22	32	4.5	
AG16MB/1 AG16M10/1	16	7/1.70	MB M10	65	22	5	22	32	5.5	
AG25MB/1 AG25M10/1	25	7/2.14 19/1.35	MB M10	65	22	5	22	32	7.0	
AG35MB/1 AG35M10/1	35	19/1.53	MB M10	65	22	5	22	32	8.5	
AG50MB/1 AG50M10/1	50	19/1.78	M8 M10 M12	73	26	7	28	32	9.5	1#38-132AL
AG70MB/1 AG70M10/1 AG70M12/1	70	19/2.14	MB M10 M12	73	26	8	28	32	11.0	
AG95MB/1 AG95M10/1 AG95M12/1	95	19/2.52 37/1.78	MB M10 M12	80	30	10	35	32	13.0	
AG120MB/1 AG120M10/1 AG120M12/1	120	37/2.03	MB M10 M12	80	30	10	35	32	15.0	1#38-173AL 1#40-172AL
AG150MB/1 AG150M10/1 AG150M12/1 AG150M16/1	150	37/2.25	MB M12 M16	90	36	11	36	30	16.5	
AG185MB/1 AG185M12/1 AG185M16/1	185	37/2.52	MB M12 M16	90	36	11	36	30	18.5	1#38-284AL 1#40-263AL
AG240MB/1 AG240M12/1 AG240M16/1	240	61/2.25	MB M12 M16	115	46	12	50	41	21.0	
AG300MB/1 AG300M12/1 AG300M16/1	300	61/2.52	MB M12 M16	115	46	12	50	41	23.5	
AG400MB/1 AG400M12/1 AG400M16/1	400	61/2.85	MB M12 M16	150	54	15	54	68	26.5	
AG500MB/1 AG500M12/1 AG500M16/1	500	61/3.20	MB M12 M16	150	54	15	54	68	29.5	1#40-390AL
AG630MB/1 AG630M16/1	630	127/2.52	MB M16	159	60	15	60	68	33.5	1#40-432AL

\*Stud size "MB" means blank palm. 800-1000mm<sup>2</sup> tube Aluminium Crimp Lugs made to approved minimum order quantities only.



## UNILINK FOR ALUMINIUM CABLES

- Solid barrier
- High conductivity Aluminium
- Pre-filled with jointing compound
- Individually packed in sealed plastic bags



Cat No.	Conductor Size (mm <sup>2</sup> )	Stranding Metric	Dimensions (mm)		Crimping Die
			A	B (I.D.)	
AK6/1	6	7/1.04	70	3.5	1#38-90AL
AK10/1	10	7/1.35	70	4.5	
AK16/1	16	7/1.70	70	5.5	
AK25/1	25	7/2.14 – 19/1.35	70	7.0	
AK35/1	35	19/1.53	70	8.5	
AK50/1	50	19/1.78	70	9.5	1#38-132A
AK70/1	70	19/2.14	70	11.0	
AK95/1	95	19/2.52 – 37/1.78	124	13.0	1#38-173AL 1#40-172AL
AK120/1	120	37/2.03	124	15.0	
AK150/1	150	37/2.25	124	16.5	1#38-220AL 1#40-220AL
AK185/1	185	37/2.52	124	18.5	
AK240/1	240	61/2.25	124	21.0	1#38-284AL 1#40-283AL
AK300/1	300	61/2.52	124	23.5	
AK400/1	400	61/2.85	146	26.5	1#40-390AL
AK500/1	500	61/3.20	146	29.5	
AK630/1	630	127/2.52	146	33.5	1#40-432AL
AK800/1	800	127/2.85	260	38.5	

\*Larger sizes available, subject to approved quantities



# JOINTING COMPOUNDS

## ELECTRICAL JOINTING COMPOUND

- Recommended for Aluminium connections
- Zinc particles in H2397 penetrate oxide films that form on the Aluminium surface
- Seals out air and moisture, therefore minimising oxidation or corrosion and maximising conductivity
- High melt point grease



H2398/1



H2397/1



A13

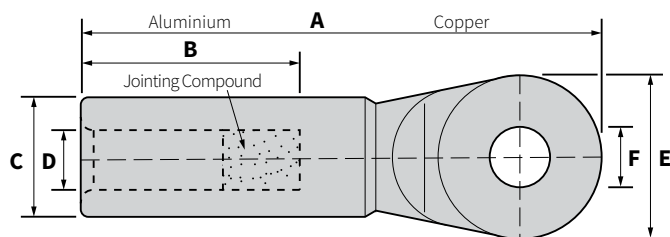
Cat No.	Description	Colour	Tube Size
H2398/1	COPPER JOINTING COMPOUND, SECUROL	CLEAR	250G
H2397/1	ALI JOINTING COMPOUND ALUMINOX WITH ZINC PARTICLES	GREY	225G
A13	ALI & BIMETAL JOINTING COMPOUND WITH ZINC PARTICLES	GREY	8OZ



## BIMETAL LUGS

### BIMETAL CRIMP LUGS

- For Aluminium to Copper terminations
- Friction welded
- Manufactured from high purity Copper and Aluminium rod for high conductivity
- Reverse bimetal (Aluminium palm, Copper barrel) lugs are manufactured to approved order quantities
- Stepped barrel O.D. sizes across all bimetal lugs allows rationalisation of die inventory
- Pre-filled with jointing compound
- Individually packed in sealed plastic bags
- Industry standard tooling and dies required for installation
- Alternative sizes can be made to order for approved order quantities

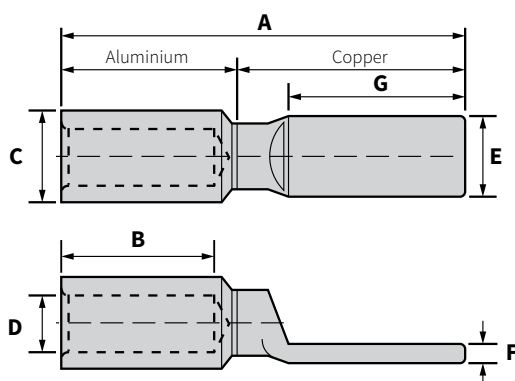


Cat No.	Conductor Size (mm <sup>2</sup> )	Stranding Metric	Dimensions (mm)					Stud Size F	Palm Thickness (mm)	Crimping Die
			A	B	C	D	E			
BG25MB/1 BG25M10/1	25	19/1.35	75.0	32.0	12.0	7.0	22.0	MB M10	4.5	1#38-90AL
BG35MB/1 BG35M10/1 BG35M12/1	35	19/1.53	75.0	32.0	12.0	8.5	22.0	MB M10 M12	4.5	1#38-90AL
BG50MB/1 BG50M10/1 BG50M12/1	50	19/1.78	75.0	32.0	16.0	9.5	22.0	MB M10 M12	4.5	1#38-132AL
BG70MB/1 BG70M10/1 BG70M12/1	70	19/2.14	75.0	32.0	16.0	11.0	22.0	MB M10 M12	4.5	1#38-132AL
BG95MB/1 BG95M8/1 BG95M10/1 BG95M12/1	95	37/1.78	115.0	60.0	21.5	13.0	32.0	MB M8 M10 M12	6.0	1#38-173AL 1#40-172AL
BG120MB/1 BG120M12/1 BG120M16/1	120	37/2.03	115.0	60.0	21.5	15.0	32.0	MB M12 M16	6.0	1#38-173AL 1#40-172AL
BG150MB/1 BG150M12/1 BG150M16/1	150	37/2.25	120.0	60.0	27.0	16.5	36.0	MB M12 M16	7.0	1#38-220AL 1#40-220AL
BG185MB/1 BG185M10/1 BG185M12/1 BG185M16/1	185	37/2.52	120.0	60.0	27.0	18.5	36.0	MB M10 M12 M16	7.0	1#38-220AL 1#40-220AL
BG240MB/1 BG240M10/1 BG240M12/1 BG240M16/1	240	61/2.25	130.0	60.0	35.0	21.0	42.0	MB M10 M12 M16	7.0	1#38-284AL 1#40-283AL
BG300MB/1 BG300M12/1	300	61/2.52	130.0	60.0	35.0	23.5	42.0	MB M12	7.0	1#38-284AL 1#40-283AL
*BG400MB/1	400	61/2.85	160.0	70.0	47.0	26.5	50.0	MB	10.0	1#40-390AL
*BG500MB/1	500	61/3.20	160.0	70.0	47.0	29.5	50.0	MB	10.0	1#40-390AL
*BG630MB/1	630	127/2.52	175.0	70.0	54.0	33.5	60.0	MB	10.0	1#40-432AL
*BG800MB/1 **BG800LPMB	800	127/2.85	221.0	115.0	54.0	39.0	60.0	MB	10.0	1#40-432AL

\*Square palms \*\*Long palms

## BIMETAL LONG PALM LUGS

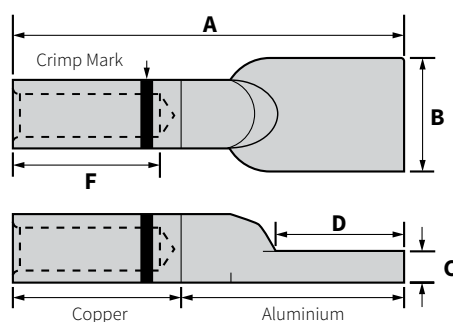
- For two bolt termination applications
- Blank palm, 105mm long x 50mm wide
- Friction welded high purity Aluminium and Copper rod
- Eliminates electrolytic corrosion
- Clearly marked with cable size, die recommendation and crimping position
- Pre-filled with jointing compound
- Individually packed in plastic bags
- Palms can be drilled to customers bolt hole specification



Cat No.	Conductor Size (mm <sup>2</sup> )	Dimensions (mm)							Crimping Die
		A	B	C	D	E	F	G	
BG240LPMB/1	240	209	60	35	21	50	13	105	1#38-284AL
BG300LPMB/1	300	209	60	35	23.5	50	13	105	
BG400LPMB/1	400	221	70	47	26.5	50	13	105	1#40-390AL
BG500LPMB/1	500	221	70	47	29.5	50	13	105	
BG630LPMB/1	630	221	70	54	33.5	50	13	105	1#40-432AL
BG800LPMB/1	800	266	105	54	39	50	13	105	

## BIMETAL REVERSE LUGS

- Used for connection of Copper conductor to Aluminium terminal
- Blank Aluminium palm and Copper barrel friction welded
- High purity Aluminium and Copper rod
- Eliminates electrolytic corrosion
- Clearly marked with crimping position

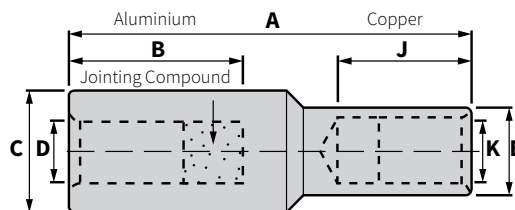


Cat No.	Conductor Size (mm <sup>2</sup> )	Dimensions (mm)					Crimping Die
		A	B	C	D	F	
BGRV25MB	25	70	23	4.5	24	22	1#38-92CU
BGRV35MB	35	70	23	4.5	24	22	1#38-92CU
BGRV50MB	50	78	27	6.0	28	22	1#38-115CU
BGRV70MB	70	78	27	6.0	28	22	1#38-115CU
BGRV95MB	95	103	34	9.8	34	38	1#38-165CU
BGRV120MB	120	103	34	9.8	34	38	1#38-165CU

## BIMETAL LINKS

## BIMETAL CRIMP LINKS

- Suitable for Aluminium to Copper in-line terminations
- Friction welded
- Manufactured from high purity Copper and Aluminium rod for high conductivity
- Pre-filled with jointing compound
- Individually packed in sealed plastic bags
- Industry standard tooling and dies required for installation
- Pre-filled with jointing compound
- Individually packed in sealed plastic bags

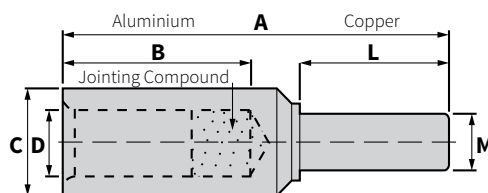


Cat No.	Conductor Size (mm²)	Stranding Metric	Al Dimensions (mm)				Aluminium Crimping Die	Cu Dimensions (mm)			Copper Crimping Die
			A	B	C	D		J	E	K	
BK25/16 BK25/25	25/16 25/25	19/1.35-7/1.70 19/1.35-19/1.35	70.0	32.0	12.0	7.0	1#38-90AL	11.5	21.5	5.5 7.0	1#38-92CU
BK35/25 BK35/35	35/25 35/35	19/1.53-19/1.35 19/1.35-19/1.53	70.0	32.0	12.0	8.5	1#38-90AL	11.5	21.5	7.0 8.5	1#38-92CU
BK50/35 BK50/50	50/35 50/50	19/1.78-19/1.53 19/1.78-19/1.78	70.0	32.0	16.0	9.5	1#38-132AL	11.5 14.5	21.5	8.5 9.5	1#38-92CU 1#38-115CU
BK70/50 BK70/70	70/50 70/70	19/2.14-19/1.78 19/2.14-19/2.14	70.0	32.0	16.0	11.5	1#38-132AL	14.5	32.0 40.0	9.5 11.0	1#38-115CU
BK95/70 BK95/95	95/70 95/95	37/1.78-19/2.14 37/1.78-37/1.78	110.0 120.0	60.0	21.5	13.0	1#38-173AL 1#40-172AL	14.5 20.5	40.0	11.0 13.0	1#38-115CU 1#38-165CU
BK120/95 BK120/120	120/95 120/120	37/2.03-37/1.78 37/2.03-37/2.03	120.0	60.0	21.5	15.0	1#38-173AL 1#40-172AL	20.5	40.0	13.0 15.0	1#38-165CU
BK150/120 BK150/150	150/120 150/150	37/2.25-37/2.03 37/2.25-37/2.25	120.0	60.0	27.0	16.5	1#38-173AL 1#40-172AL	20.5 24.5	40.0	15.0 16.5	1#38-165CU 1#38-200CU
BK185/150 BK185/185	185/150 185/185	37/2.52-37/2.25 37/2.52-37/2.52	120.0	60.0	27.0	18.5	1#38-220AL	24.5	40.0	16.5 18.5	1#38-200CU
BK240/185 BK240/240	240/185 240/240	61/2.25-37/2.52 61/2.25-61/2.25	122.0	60.0	35.0	21.0	1#38-284AL	24.5 32.0	40.0	18.5 21.0	1#38-200CU 1#38-260CU
BK300/240 BK300/300	300/240 300/300	61/2.52-61/2.25 61/2.52-61/2.52	125.0	60.0	35.0	23.5	1#38-284AL 1#40-283AL	32.0	40.0	21.0 23.5	1# 38-260CU
BK400/300 BK400/400	400/300 400/400	61/2.85-61/2.52 61/2.85-61/2.85	153.0 155.0	70.0	47.0	26.5	1#40-390AL	32.0 38.5	55.0 58.0	23.5 26.5	1#40-260CU 1#40-310CU
BK500/400 BK500/500	500/400 500/500	61/3.20-61/2.85 61/3.20-61/3.20	155.0	70.0	47.0	29.5	1#40-390AL	38.5	58.0	26.5 29.5	1#40-310CU
BK630/500 BK630/630	630/500 630/630	127/2.52-61/3.20 127/2.52-127/2.52	160.0	70.0	54.0	33.5	1#40-432AL	38.5 45	58.0 60.0	29.5 33.5	1#40-310CU 1#40-370CU

**Note:** Other size combinations are available, please contact customer service for details

## BIMETAL CRIMP STALK CONNECTOR

- Suitable for Aluminium to Copper terminations
- Friction welded
- Manufactured from high purity Copper and Aluminium
- Pre-filled with jointing compound
- Individually packed in sealed plastic bags

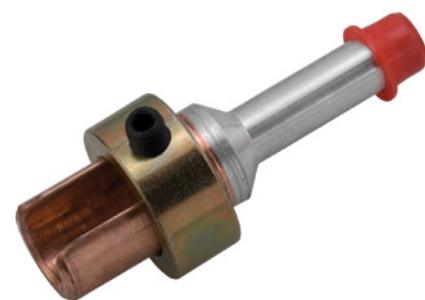


Cat No.	Conductor Size (mm <sup>2</sup> )	Stranding Metric	Al Dimensions (mm)						Crimping Die
			A	B	C	D	L	M	
BS25/7 BS25/12	25	19/1.35	70	32	12	7.0	30	7 12	1#38-90AL
BS35/12	35	19/1.53	70	32	12	8.5	30	12	
BS50/12	50	19/1.78	70	32	16	9.5	30	12	1#38-132AL
BS70/12	70	19/2.14	70	32	16	11.0	30	12	
BS95/12	95	37/1.78	110	60	21.5	13.0	38	12	1#38-173AL 1#40-172AL
BS120/12 BS120/14	120	37/2.03	110	60	21.5	15.0	38	12 14	
BS150/12 BS150/14	150	37/2.25	120	60	27	16.5	48	12 14	1#38-220AL 1#40-220AL
BS185/16 BS185/18	185	37/2.25	120	60	27	18.5	48	16 18	
BS240/16 BS240/18	240	61/2.25	122	60	35	21.0	48	16 18	1#40-390AL
BS300/16 BS300/18	300	61/2.52	122	60	35	23.5	48	16 18	
BS400/18 BS400/20	400	61/2.85	153	70	47	26.5	65	18 20	1#40-390AL
BS500/18 BS500/20	500	61/3.20	153	70	47	29.5	65	18 20	
BS630/20	630	127/2.52	160	70	54	33.5	70	20	1#40-432AL

**Note:** Alternative stalk sizes can be manufactured to approved minimum order quantities.

## BIMETAL SWITCHGEAR CONNECTORS

- Designed for termination of aluminium cables to a 12mm switchgear stem
- Manufactured from high purity copper
- Comes complete with a zinc-plated steel locking collar
- Grub screw in the collar fastens connector to switchgear stem



Cat No.	Conductor Size (mm <sup>2</sup> )	Switchgear Stem Size (mm)	Dimensions (mm)		Crimping Die A/F (mm)
			Overall Length	Aluminium Barrel Length	
BSC25/12K	25	12	85	32	7.7
BSC35/12K	35		85	32	9.2
BSC95/12K	95		110	60	14.2
BSC185/12K	185		120	60	20.0
BSC300/12K	300		120	60	26.0

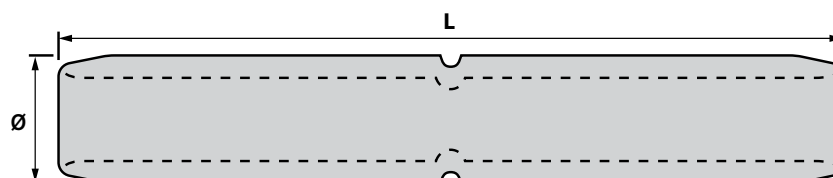


## MID SPAN COMPRESSION CONNECTORS

### MID SPAN COMPRESSION JOINTS - FULL TENSION

Full Tension Mid Span Joints are manufactured from an Aluminium Extrusion, equivalent in strength to the conductor onto which the fitting is applied.

Each fitting is manufactured with internal and external tapers, to eliminate stresses associated with compression and reduce corona discharge. They are clearly marked with compression length, application conductor size and name as well as correct die. There are stoppers in the centre to ensure correct insertion of conductor and they are pre-filled with jointing compound.



Cat No.	Conductor Name	Outside Ø (mm)	Dimensions L (mm)	Hexagonal Crimp Die
3-0361415-9	BEE/IODINE	25.4	300	HT-A6
2-0361415-4	BORON	15.9	240	HT-A4
4-0361415-7	BUTTERFLY	38.1	500	HT-A9
4-0361415-5	CARACAL/MATA/JAGUAR	33.32	610	HT-A8
2-0361415-7	CHLORINE	15.9	240	HT-A4
4-0361415-6	COCKROACH	38.1	500	HT-A9
4-0361415-0	CRICKET	25.4	300	HT-A6
4-0361415-4	DINGO/WAXWING	30.15	500	HT-A7
4-0361415-2	DOG	30.15	500	HT-A7
3-0361415-2	FERRET/FLUORINE	20.65	430	HT-A5
3-0361415-0	FLOUNDER	20.6	430	HT-A5
3-0361415-3	FLY	20.65	180	HT-A5
2-0361415-8	GOPHER	15.9	360	HT-A4
3-0361415-4	HAKE/RABBIT	20.65	430	HT-A5
3-0361415-1	KUTU	20.65	170	HT-A5
2-0361415-9	LADYBIRD	15.9	120	HT-A4
3-0361415-6	MINK/HELIUM	25.4	430	HT-A6
2-0361415-3	NAMU/GNAT	15.9	100	HT-A4
2-0361415-6	POKO	15.9	120	HT-A4
3-0361415-7	RACCOON	25.4	480	HT-A6
3-0361415-5	RANGO/GRASSHOPPER	25.4	230	HT-A6
2-361415-5	SQUIRREL	15.9	360	HT-A4
2-0361415-2	THRUSH	14.4	330	HT-A3
3-0361415-8	WASP/BEETLE	25.4	250	HT-A6
4-0361415-1	WEKE	30.15	250	HT-A7
4-0361415-3	WETA	30.15	300	HT-A7

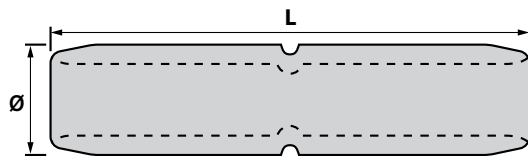
**Note:** HT-Ax dies are designed for use on Aluminium overhead links, you can find this range outlined in our Tool Catalogue

## MID SPAN COMPRESSION JOINTS - NON TENSION

Non Tension Mid Span Joints are manufactured from an Aluminium Extrusion. As these joints are installed at low tension values, one fitting can be used for all cable types of the same size (OD).

Each fitting is clearly marked with the compression length, the applicable conductor size and the appropriate hexagonal compression die size. These fittings are designed to join same sized overhead Aluminium conductors and feature a stopper in the centre to ensure correct insertion of each conductor.

Filled with jointing compound and capped to protect from contaminants, Utilux Non Tension Joints are ready to use.

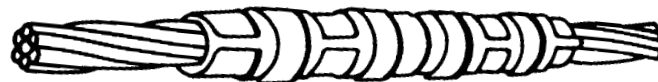


Cat No.	Conductor Name	Outside Ø (mm)	Dimensions L (mm)	Hexagonal Crimp Die
1-0361415-2	BEE/IODINE	30.4	120	HT-A7
0-0361415-2	BORON/FLOUNDER	15.9	100	HT-A4
1-0361415-7	BUTTERFLY	38.1	140	HT-A9
1-0361415-6	COCKROACH/NITRO	38.1	140	HT-A9
1-0361415-0	CRICKET/WAXWING	25.4	120	HT-A6
1-0361415-1	DOG/WEKE	30.4	120	HT-A7
0-0361415-6	FLY/HAKE/RABBIT	20.6	120	HT-A5
0-0361415-5	KUTU/FERRET/FLUORINE	20.6	120	HT-A5
0-0361415-4	LADYBIRD	15.9	120	HT-A4
0-0361415-7	MINK/RANGO/GRASSHOPPER	25.4	120	HT-A6
0-0361415-0	MULLET/THRUSH	14.4	100	HT-A3
1-0361415-5	NEON/MATA/JAGUAR	33.3	140	HT-A8
0-0361415-3	POKO/GOPHER/CHLORINE	15.9	120	HT-A4
0-0361415-8	RACCOON	25.4	120	HT-A6
0-0361415-1	SQUIRREL/NAMU/GNAT	15.9	100	HT-A4
0-0361415-9	WASP/BEETLE/HYDROGEN	25.4	120	HT-A6
1-0361415-3	WETA/DINGO	30.4	120	HT-A7
1-0361415-4	WOLF	33.3	140	HT-A8

**Note:** HT-Ax dies are designed for use on Aluminium overhead links, you can find this range outlined in our Tool Catalogue

## TELECOM CRIMPS - FULL TENSION COPPER CONNECTORS IMPERIAL & METRIC

- Connector Material – Copper, metal sprayed internally
- Superior tensile strength
- Considerable reduction in mass of finished joint
- Elimination of corrosion
- Also known as MS Telecom Sleeves



### IMPERIAL

Cat No.	Stranding Imperial	Connector Dimensions (mm)		Crimp Groove Size (mm)	Tool No.	Crimps per Connector
		O.D.	Length			
TDCS1/100	7/.044	6.35	38	6.35	TY635794/1	4
TECS1/50	7/.052	7.94	64	7.94	TY635794/1, TR794952	8
TECS2/50	7/.064	7.94	64	7.94	TY635794/1, TR794952	8
TFCS1/50	7/.080	9.52	76	9.52	TR794952, TR9521270	8
TFCS2/50	19/.052	9.52	76	9.52	TR794952, TR9521270	8
TFCS3/50	7/.083	9.52	76	9.52	TR794952, TR9521270	8
TGCS3/50	19/.064	12.70	89	12.70	TR9521270	10
THCS2/50	19/.083	15.88	127	15.88	38-130CU	14
TJCS1/1	19/.101	22.22	203	19.25	38-193CU	8
TJCS2/1	37/.072	22.22	203	19.25	38-193CU	8
TKCS2/1	37/.083	25.40	254	22.00	38-220CU	12

### METRIC

Cat No.	Stranding Metric	Conductor Size (mm <sup>2</sup> )	Connector Dimensions (mm)		Crimp Groove Size (mm)	Tool No.	Crimps per Connector
			O.D.	Length			
TDCSM2/100	7/1.04	6	6.35	38	6.35	TY635794/1	4
TECSM1/50	7/1.35	10	7.94	64	7.94	TY635794/1, TR794952	8
TECSM2/50	7/1.70	16	7.94	64	7.94	TY635794/1, TR794952	8
TFCSM1/50	7/2.14	25	9.52	76	9.52	TR794952, TR9521270	8
TFCSM2/50	19/1.35	35	9.52	76	9.52	TR794952, TR9521270	8
TGCSM2/50	19/1.53	–	12.70	89	12.70	TR9521270	10
THCSM2/50	19/1.78	50	15.88	127	15.88	38-130CU	14
THCSM3/50	19/2.14	70	15.88	127	15.88	38-130CU	14

## UTILUX MS-TELECOM SLEEVE CRIMP TOOL

Available in various crimp groove size combinations. The complete range is adjustable and robust. All models are supplied complete with adjusting key and "Go, No Go" gauge to ensure a perfect crimp every time.

- Designed for use with Utilux MS – Telecom sleeves

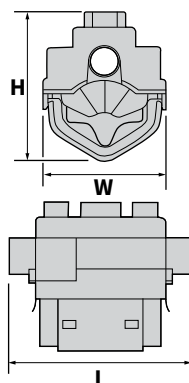
Cat No.	Crimp Groove Sizes (mm)
TY635794/1	6.35 & 7.94
TR794952	7.94 & 9.52
TR9521270	9.52 & 12.70



# INSULATION PIERCING CONNECTORS

## RISING MAINS CONNECTORS

- Intended for 'live' jointing on to LV mains cables
- Insulation piercing connection
- Fully shrouded connector body
- Designed and tested to IEC 61238-1
- Up to 300mm<sup>2</sup> main & up to 2x35mm<sup>2</sup> service conductors
- Shear head bolt detaches once correct torque is reached
- Can be installed under live working conditions (following suitable procedures)



Cat No.	Dimensions (mm)			Application Tool	Main Conductor (mm <sup>2</sup> )	Take Off Connector Size Range (mm <sup>2</sup> )
	L	H	W			
MSIP185	83	60	48	19MM SOCKET, 3MM ALLEN KEY	50-185	4-35
MSIP300	83	60	55	19MM SOCKET, 3MM ALLEN KEY	185-300	4-35
1350329-1	39	58	61	IRW13/17 OR 13MM SOCKET	50-300	6-35

## IPCS - INSULATION PIERCING CONNECTORS

All our IPC connectors have tinned copper teeth so are suited to both Aluminium and Copper conductor (unless otherwise stated). These connectors are range taking and therefore reduce inventory requirements.

### FEATURES

- Tinned Copper teeth for Al/Cu application
- Insulated to Insulated & Insulated to Bare connectors available
- Shearhead bolt snaps when correct connection torque is reached
- Application tool: IRW13/17 for 13mm O.D. Shearbolts (or 13mm socket)



Cat No.	Name	Mains Cable		Branch Cable		Notes	Installation Bolt Size A/F
		Conductor Size (mm <sup>2</sup> )	Conductor Type	Conductor Size (mm <sup>2</sup> )	Conductor Type		
K258	-	7-95	BARE	6-35	INSULATED	BARE COPPER MAIN	13MM
K259	-	7-95	BARE	6-35	INSULATED	BARE ALUMINIUM MAIN	13MM
K223NZ	-	16-95	INSULATED	1.5-10	INSULATED	FUSED IPC	13MM
0-1727912-3	KZEP13	16-95	INSULATED	1.5-10	INSULATED	ALUMINIUM & COPPER	13MM
0-1510619-3	P2X95US	16-95	INSULATED	4-35	INSULATED	ALUMINIUM & COPPER	13MM
K473	-	25-95	INSULATED	10-95	BARE	COPPER BRANCH	17MM
0-1574150-1	P3X95	25-95	INSULATED	25-95	INSULATED	ALUMINIUM & COPPER	13MM
0-0708030-1	CDR/CN	25-100	BARE	25-95	INSULATED	ALUMINIUM & COPPER	13MM
K472	-	35-95	INSULATED	10-95	BARE	ALUMINIUM BRANCH	17MM
1351230-2	KZ4-150	50-150	INSULATED	50-150	INSULATED	ALUMINIUM & COPPER	13MM
0-1229731-2	KZ2-150	50-150	INSULATED	6-35	INSULATED	ALUMINIUM & COPPER	13MM
1350329-1	P2G-300M	50-300	INSULATED	6-35	INSULATED	ALUMINIUM & COPPER	13MM
0-0739523-3	PUSH ON CONDUCTOR END CAP 16-150 MM <sup>2</sup>						
IRW13/17	1000V INSULATED RATCHET SPANNER, 13 MM & 17 MM SOCKETS						

## SSIP - LV INSULATED PIERCING CONNECTORS

SSIP connectors allow 'live' jointing between low voltage stranded, solid or round service conductors from 4-35mm<sup>2</sup>.

Designed and tested to withstand loads picked-up during 'live' jointing.

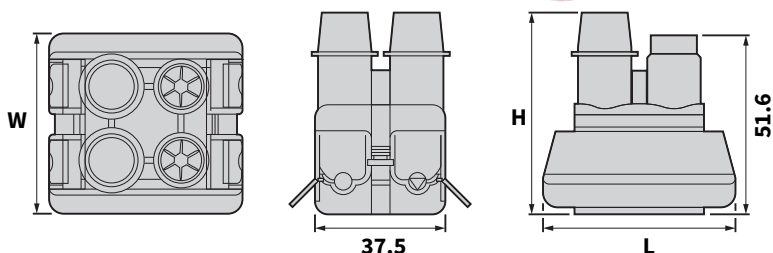
- 4-35mm<sup>2</sup> stranded copper & aluminium
- Up to 35mm<sup>2</sup> circular solid aluminium

### FEATURES

- Special insulation piercing shear screws give controlled application torque
- All grub screws use standard Insulated 5mm A/F hexagon key
- Connector body fully shrouded with no exposed metalwork during installation
- One connector for all cable types/sizes

### SPECIFICATION

- Tested to IEC 61238-1 and ER C79/1 October 2004 draft



Cat No.	Dimensions (mm)			Allen Key A/F (mm)	Cable Size	
	L	H	W		Main (mm <sup>2</sup> )	Tap Off (mm <sup>2</sup> )
SSIP35	55.2	57.5	51.7	5	4-35	4-35

## IIPC - LV INSULATED PIERCING CONNECTORS

IIPC connectors allow live jointing of solid or stranded service cables up to 35mm<sup>2</sup> onto LV mains cables from 50mm<sup>2</sup> to 300mm<sup>2</sup>. This includes solid or stranded 120 and 90 degree sectoral or round conductors with XLPE, PVC, or paper insulation.

The ergonomic design allows up to two service cables to be taken from each IIPC with the option of taking the service connections from either side of the connector.

The main connection is made using a 19mm insulated socket or a battery powered impact wrench, and the service connections are made using an insulated 3mm Allen key. Live working procedures

should be followed during installation.

### FEATURES & BENEFITS

- Fully insulated
- Suitable for live working
- Two service connections
- Torque controlled
- Range taking
- Reduced size
- Quick and easy to install
- Ergonomic design
- Reduced size joint shell and resin volume

### STANDARDS

- Tested to IEC 61238-1



Cat No.	Number of Service Take Offs	Dimensions (mm)			Socket/Spanner A/F (mm)	Cable Size	
		L	H	W		Main (mm <sup>2</sup> )	Tap Off (mm <sup>2</sup> )
IIPC50-185	2	71	64	42	19	50-185	UP TO 35
IIPC185-300	2	71	72	42	19	185-300	UP TO 35

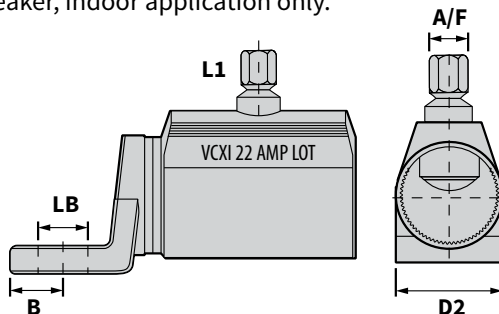


# LV MECHANICAL CONNECTORS

## VCXI - LV BIMETAL MECHANICAL LUGS

Made of an aluminium barrel friction welded to a copper palm. The aluminium barrel has a shear head bolt to ensure correct connection. For LV connection on busbar inside electrical panel and compact type circuit breaker, indoor application only.

- Accepts aluminium and copper cables
- Only 5 lugs to connect 25-500mm<sup>2</sup>
- Can be fitted into the new generation of compact type circuit breakers
- No special tool & one shear head bolt
- Inner surface of barrel is grooved and greased for good electrical contact

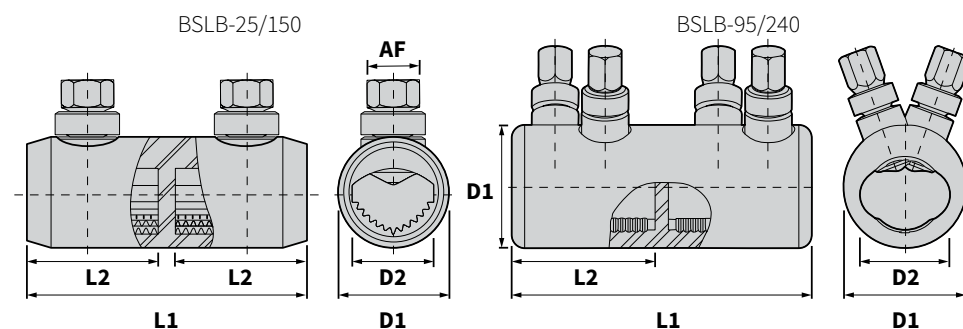


Cat No.	Cross Section Range (mm <sup>2</sup> )		Stud Size LB	Dimensions (mm)			Max Intensity	Bolt Head Size A/F (mm)
	Aluminium	Copper		L1	B	Ø D2		
VCXI-11-M6	25-70	25-50	M6	40	8	16	160A	10
VCXI-14-M10	50-120	50-95	M10	60	10	20	250A	10
VCXI-18-M10	95-185	95-120	M10	72	12.5	25	315A	13
VCXI-22-M12	150-300	150-185	M12	89	15.5	31	400A	13
VCXI-29-M16	240-500	240	M16	105	20	40	630A	13

## BSLB - LV SHEARBOLT CONNECTORS FOR AL OR CU CONDUCTORS ROUND & SECTOR UP TO 1KV

Standardised range of four sizes of LV mechanical connectors, fully compliant to the new specification DIN 47640

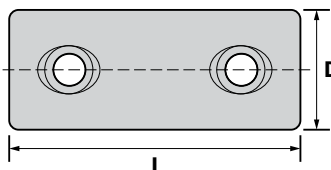
- Bodies and shear off bolts made of high strength Aluminium alloy
- Cross-grooved conductor channels for improved long term contact performance
- Bodies, with rounded edges, completely electro-tinned
- Bolts with outer hexagonal head, waxed for better installation, not removable
- Unique design with round bores and milled notches to allow installation of sector-shaped conductors without rounding



Cat No.	Dimensions (mm)				Size Range (mm <sup>2</sup> )						Contact Bolts	
	L1	L2	D1	D2	AL Circular Stranded	AL Circular Solid	AL Sector Stranded	AL Sector Solid	CU Circular Stranded	CU Sector Stranded	Qty	Head Size AF (mm)
BSLB-4/16	30	12	12	6	-	-	-	-	4-16	-	2	2.5 HEX
BSLB-10/50	40	19	18	12	10-50	10-50	10-50	10-50	10-50	10-50	2	10
BSLB-25/150	70	35	28	20.5	25-95	25-95	25-150	25-150	-	25-150	2	13
BSLB-95/240	90	40	37	27	95-240	95-240	95-240	95-240	70-240	95-240	4	10

## HELLSTERN LV SHEARBOLT CONNECTORS FOR AL OR CU CONDUCTORS UP TO 1KV

- Blocked connector (solid barrier in centre of barrel)
- Constructed from electro tinned high strength Al-Alloy with electro tinned brass bolts
- Suitable for Cu or Al conductors up to 185mm<sup>2</sup>
- Voltage Class up to 1kV

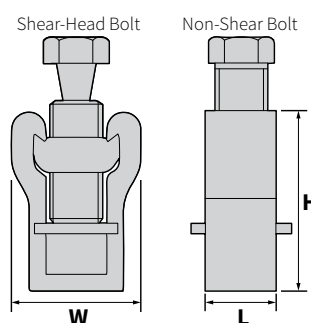


Cat No.	Dimensions (mm)		Installation Tool	Size Range (mm <sup>2</sup> )			
	L	D		Sector Stranded	Sector Solid	Round Stranded	Round Solid
HEL-4897-T-Z-AK	40	16	4MM ALLEN KEY	4-35	4-35	4-35	4-35
HEL-4896-Z-AK	55	25	5MM ALLEN KEY	25-70	35-95	16-70	16-95
HEL-4893-Z-AK	80	32	6MM ALLEN KEY	25-185	35-185	35-185	10-95

## COMBINED NEUTRAL & EARTH CONNECTORS FOR WAVEFORM C.N.F. CONDUCTORS

These connectors are designed for jointing the combined neutral and earth conductors of waveform CNE cable.

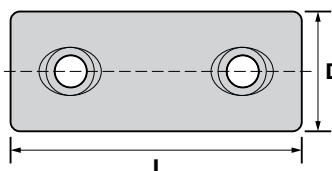
- Manufactured from brass
- Supplied with Shear head bolts
- Suitable for Cu conductors
- Range taking up to 240mm<sup>2</sup>
- Designed to meet BS4579 Part 1 & Part 3
- Meets engineering recommendation C79



Cat No.	Cross Sectional Range (mm <sup>2</sup> )	Suitable Conductor Type	Dimensions (mm)			Contact Bolt Head Size A/F (mm)
			W	L	H	
BCNE-1S	4-125	COPPER	30	16	41	13
BCNE-3S	125-240	COPPER	29	16	50	13

## BRASS SHEARBOLT CONNECTOR FOR AL OR CU CONDUCTORS UP TO 1KV

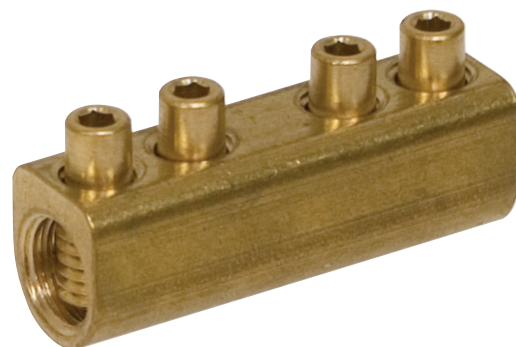
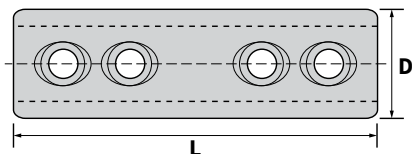
- Suitable for Al or Cu conductors when used with resin joints
- Designed to meet the requirements or BS4579 Part 1 and Part 3 and engineering recommendation C79
- Can be installed under live working conditions (following suitable procedures)



Cat No.	Description	Dimensions (mm)		Installation Tool	Cable Size Range (mm <sup>2</sup> )
		L	D		
HEL-4892	BRASS SHEARBOLT CONNECTOR UNBLOCKED	40	17	10MM SOCKET	16-70

## BTC - BRASS TUNNEL CONNECTOR UP TO 1KV

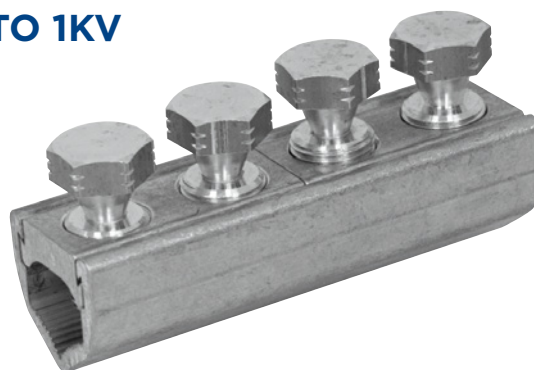
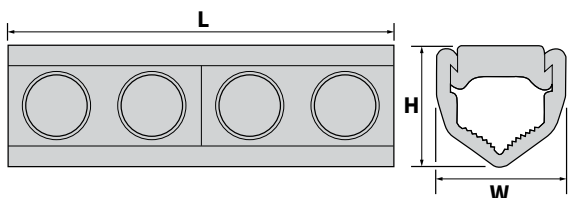
- These connectors are composed of a brass body with brass bolts
- Suitable for Al and Cu conductors
- Shear type bolts with Allen key head



Cat No.	Description	Dimensions (mm)		Installation Tool	Cable Size Range (mm <sup>2</sup> )
		L	D		
BAH-022040052	BRASS TUNNEL CONNECTOR	45	14	3MM ALLEN	4-50

## UST - UNIVERSAL STRAIGHT CONNECTORS UP TO 1KV

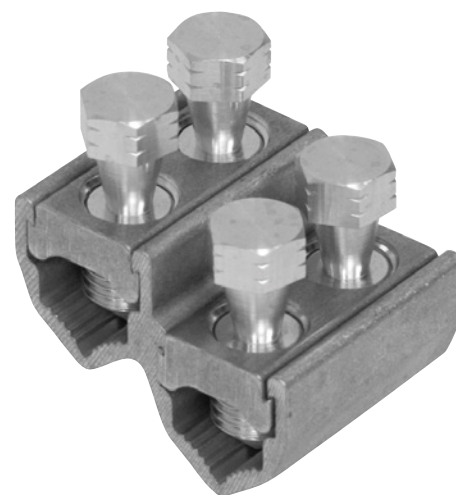
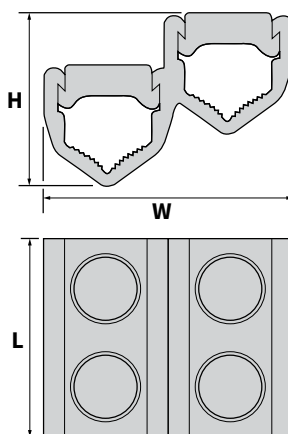
- Connector composed of an Aluminium alloy body with Aluminium alloy bolts
- Suitable for Al and Cu conductors when used with resin joints
- Designed to meet the requirements of BS4579 Part 1 and Part 3 and engineering recommendation C79



Cat No.	Description	Dimensions (mm)			Application Tool	Cable Size Range (mm <sup>2</sup> )
		L	H	W		
UST95	UNIVERSAL STRAIGHT CONNECTOR	80	25	25	13MM SOCKET	35-95
UST185	UNIVERSAL STRAIGHT CONNECTOR	108	32	34	19MM SOCKET	35-185
UST300	UNIVERSAL STRAIGHT CONNECTOR	108	36	40	19MM SOCKET	70-300

## UBR - UNIVERSAL BRANCH CONNECTOR UP TO 1KV

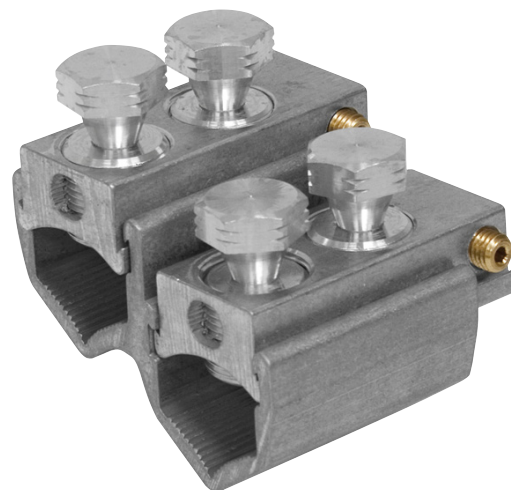
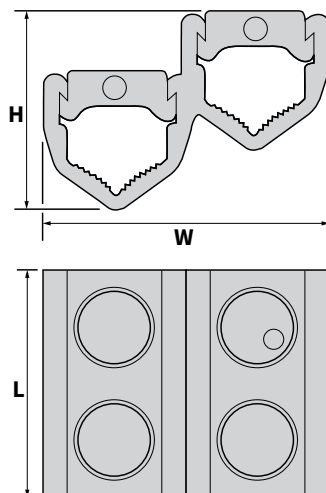
- A range of connectors for mains to mains connectors
- These connectors are composed of an Aluminium alloy body with Aluminium alloy bolts
- Suitable for Al or Cu conductors when used with resin joints
- Designed to meet the requirements of BS4579 Part 1 and Part 3 and engineering recommendation C79
- Can be installed under live working conditions (following suitable procedures)



Cat No.	Description	Dimensions (mm)			Application Tool	Cable Size (mm <sup>2</sup> )
		L	H	W		
UBR95	UNIVERSAL BRANCH CONNECTOR	40	36	49	13MM SOCKET	35-95
UBR185	UNIVERSAL BRANCH CONNECTOR	54	45	66	19MM SOCKET	35-185
UBR300	UNIVERSAL BRANCH CONNECTOR	54	52	77	19MM SOCKET	70-300
UBR400	UNIVERSAL BRANCH CONNECTOR	54	63	79	19MM SOCKET	185-400

## UBRXX-SBD - UNIVERSAL BRANCH CONNECTOR WITH DOUBLE SERVICE TAKE OFFS UP TO 1KV

- A range of connectors for incorporating one or two service take off connections onto LV mains to mains cables
- These connectors are composed of an Aluminium alloy body with Aluminium alloy bolts
- Suitable for Al or Cu conductors when used with resin joints
- Designed to meet the requirements of BS4579 Part 1 and Part 3 and engineering recommendation C79
- Can be installed under live working conditions (following suitable procedures)



Cat No.	Number of Service Take Offs	Dimensions (mm)			Application Tool	Cable Size	
		L	H	W		Main (mm <sup>2</sup> )	Tap Off (mm <sup>2</sup> )
UBR95SBD	DOUBLE	64	44	49	13MM SOCKET	35-95	6-35
UBR185SBD	DOUBLE	78	52	66	19MM SOCKET	35-185	6-35
UBR300SBD	DOUBLE	78	59	77	19MM SOCKET	70-300	6-35

## USBXX-D - UNIVERSAL SERVICE BRANCH CONNECTOR WITH DOUBLE SERVICE TAKE OFFS UP TO 1KV

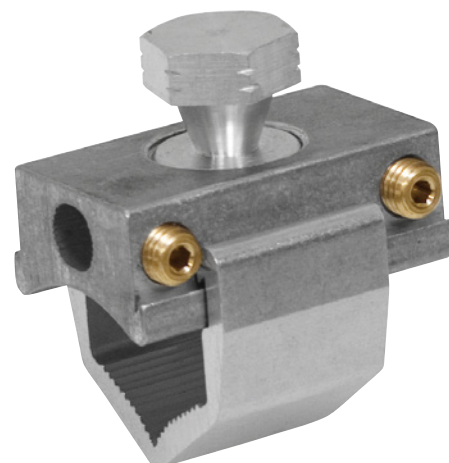
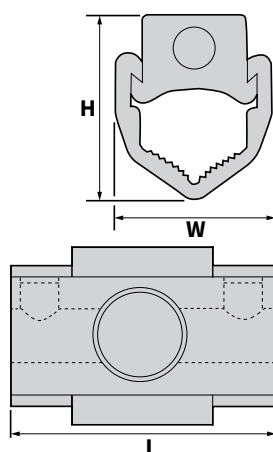
A range of connectors for incorporating one or two service take off connections onto LV mains cables

These connectors are composed of an Aluminium alloy body with Aluminium alloy bolts

Suitable for Al or Cu conductors when used with resin joints

Designed to meet the requirements of BS4579 Part 1 and Part 3 and engineering recommendation C79

Can be installed under live working conditions (following suitable procedures)

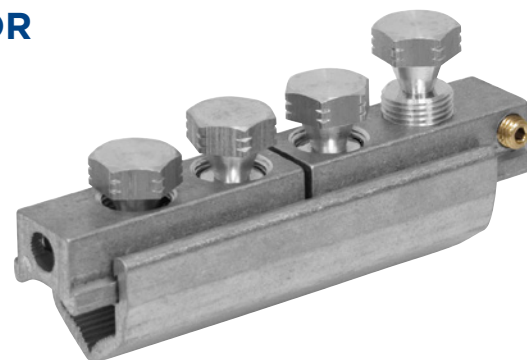
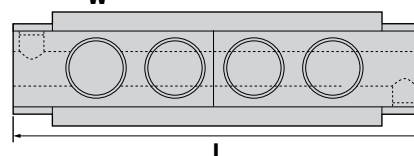
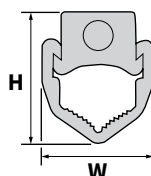


Cat No.	Number of Service Take Offs	Dimensions (mm)			Application Tool	Cable Size (mm <sup>2</sup> )	
		L	H	W		Main	Tap Off
USB95D	DOUBLE	44	35	26	13MM SOCKET	35-95	6-35
USB185D	DOUBLE	51	40	35	19MM SOCKET	35-185	6-35
USB300D	DOUBLE	51	45	41	19MM SOCKET	70-300	6-35
USB400D	DOUBLE	51	53	41	19MM SOCKET	185-400	6-35



## USTXX-SBD - UNIVERSAL STRAIGHT CONNECTOR WITH DOUBLE SERVICE TAKE OFFS UP TO 1KV

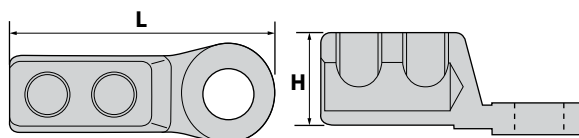
- A range of connectors for incorporating one or two service take off connections onto LV mains cables
- These connectors are composed of an Aluminium alloy body with Aluminium alloy bolts
- Suitable for Al or Cu conductors when used with resin joints
- Designed to meet the requirements of BS4579 Part 1 and Part 3 and engineering recommendation C79
- Can be installed under live working conditions (following suitable procedures)



Cat No.	Number of Service Take Offs	Dimensions (mm)			Application Tool	Cable Size	
		L	H	W		Main (mm <sup>2</sup> )	Tap Off (mm <sup>2</sup> )
UST95-SBD	DOUBLE	104	33	25	13MM SOCKET	35-95	6-35
UST185-SBD	DOUBLE	132	39	34	19MM SOCKET	35-185	6-35
UST300-SBD	DOUBLE	132	43	40	19MM SOCKET	70-300	6-35

## BET - BRASS END TERMINATION HEAVY DUTY BRASS SHEARBOLT LUG

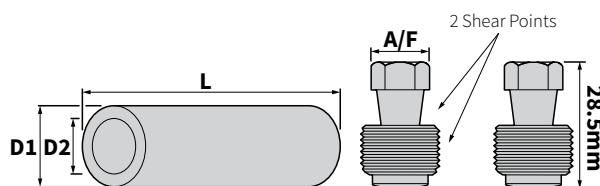
These connectors are intended as end terminations for use on Copper conductors (stranded or solid). They are especially suitable for the Copper neutral or CNE conductors of LV service and mains cables. They can also be used on the earth conductors and Copper screening wires of MV cables.



Cat No.	Hole Size	Dimensions (mm)		Application Type	Size Range (mm <sup>2</sup> )
		L	H		
BET35-12SGB	M12	55	20	3MM ALLEN KEY	4-35
BET60-12	M12	70	25	13MM SOCKET	16-60
BET120-12	M12	86	28	16MM SOCKET	50-120

## BSEK - EXTENSION KIT FOR MECHANICAL CONNECTORS

The BSEK is a crush sleeve accessory for use with BLMT and BSMB mechanical connectors of the specified sizes outlined in the table below. The sleeve allows a smaller conductor to be used successfully in a connector that it would not normally be suitable for.



Cat No.	Cross Sectional Range (mm <sup>2</sup> )	Dimensions (mm)			Contact Bolts Qty	Head Size A/F (mm)
		L	D1	D2		
BSEK-16/25	16-25	35	10	6.9	0	-
BSEK-16/70	16-70	60	12	8	2	13



## ANC - INSULATED LV BRANCH CONNECTOR

Branch connector with molded insulation shrouds for service conductors.

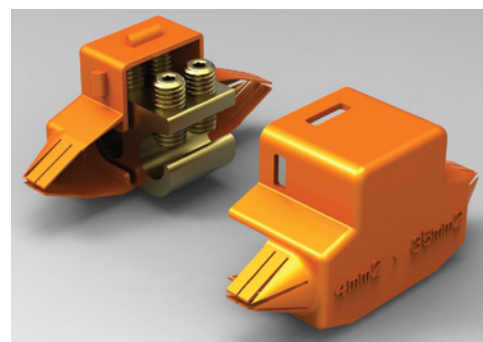
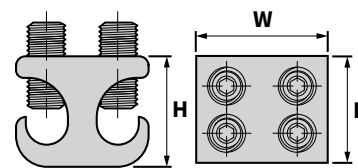
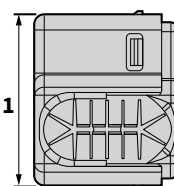
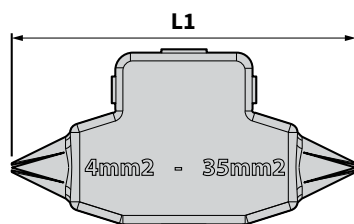
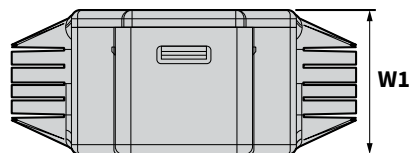
ANC Connectors can be installed on all service cable types such as stranded, solid, aluminium or copper. The molded orange insulation shrouds offer reliable and robust insulation thus reducing installation time and making live working easier and safer.

### FEATURES AND BENEFITS

- Suitable for both copper and aluminium conductors
- Branch connection can be made without cutting the existing main cable
- Quick and easy to install molded insulation shroud

### STANDARDS

- Connector tested to ER C79
- Molded insulation shroud tested to 5kV AC and 1 kV DC



Cat No.	L	H	Dimensions (mm)				Installation Tool	Cable Size (mm <sup>2</sup> )
ANC-35-INS	22	23	W	L1	H1	W1	3MM ALLEN KEY	4-35

## P1INS - INSULATED LV BRANCH CONNECTOR

The P1INS connector is designed for straight or branch jointing the phase conductors of low voltage service cables up to 35mm<sup>2</sup>. The molded orange insulation shrouds offer reliable and robust insulation thus reducing installation time and making live working easier and safer.

### FEATURES AND BENEFITS

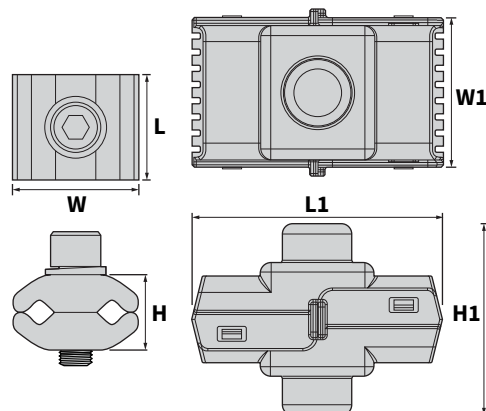
- Suitable for both copper and aluminium conductors
- Quick and easy to install molded insulation shroud

### STANDARDS

- Connector tested to ER C79
- Molded insulation shroud tested to 5 kV AC and 1 kV DC

### Notes

Stranded conductors less than 16mm<sup>2</sup> should be doubled up and preferably wrapped in a brass gauze before insertion into the connector.



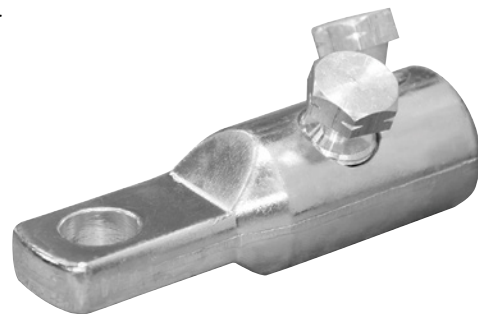
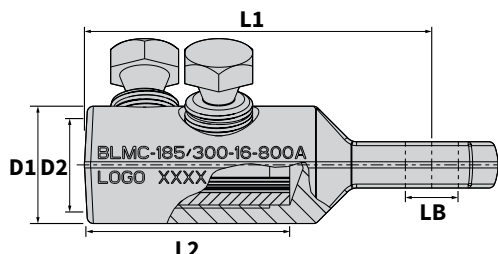
Cat No.	L	H	Dimensions (mm)				Installation Tool	Cable Size (mm <sup>2</sup> )
P1INS	20	14.5	W	L1	H1	W1	3/16" ALLEN KEY	4-35

# MV MECHANICAL CONNECTORS

## BLMC - MECHANICAL CONCENTRIC PALM LUGS UP TO 42KV

- Designed for use in low and medium voltage terminations
- Wide application range
- Compact Design
- Can be used with almost every type of conductor and material
- Torque-controlled shearhead bolts guarantee a good electrical contact
- Easy installation with standard socket spanner
- Pre-engineered design for perfect fit in MV cable accessories up to 42 kV

- Lugs are suitable for outdoor and indoor applications and are available with 16mm palm hole sizes
- Tested according to IEC 61238-1 class A



Cat No.	Conductor Size (mm <sup>2</sup> )	No. of Shearhead Bolts	Bolt Head Size A/F (mm)	Palm Hole Diameter LB (mm)	Dimensions (mm)			
					L1	L2	D1	D2
BLMC-25/95-16	25-95	1	13	16	77.5	30	29	12.8
BLMC-25/95-16-800A				16				
BLMC-95/240-12-800A*	95-240	2	19	12	107.5	60	34.5	19.5
BLMC-95/240-16-800A				16				
BLMC-150/300-16-800A	150-300	2	22	16	112.5	65	38	24
BLMC-185/400-16-1250	185-400	3	22	16	155	100	50	25.5
BLMC-500/630-16-1250	500-630	3	27	16	155	100	50	33
BLMC-800-16-1250A	800	4	27	16	185	130	56	36
BLMC-800-21				21				

\*LV use only

## BLMT - ALUMINIUM FLEX CONNECTORS FOR APPLICATIONS UP TO 42KV

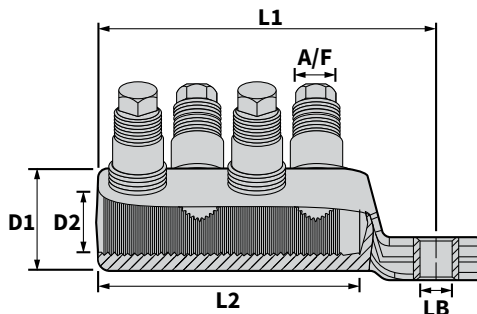
BLMT-FLEX mechanical connectors are designed for use in low and medium voltage applications up to 42 kV, and consist of high tensile aluminium tin-plated body and shear-head bolts. Suitable for outdoor and indoor applications and available with different palm hole sizes.

application tooling and reduced number of bolts

- To be available for cable cross sections 70 mm<sup>2</sup> through 500 mm<sup>2</sup>
- Dual range connectors available for connecting Cu – Al and Al – Al combinations for class 5 conductors

### FEATURES

- Easy and secure connection system for Aluminum flexible cables tested to IEC-61238-1 Class A
- New patented two step shear off bolts provide pre-determined torque & ensure reliable and secure contact without damaging fine Aluminum strands
- Easier and faster installation without

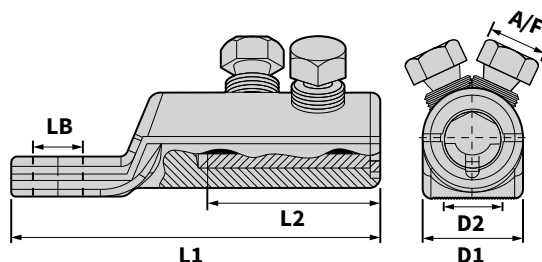


Cat No.	Cross Sectional Range (mm <sup>2</sup> ) Class 5 Conductors	Palm Hole Diameter LB (mm)	Dimensions (mm)				Contact Bolts Quantity	Head Size A/F (mm)
			L1	L2	D1	D2		
BLMT-400-FLEX-15	300/400	15	150	115	51	33	4	17
BLMT-400-FLEX-17	300/400	17	150	115	51	33	4	17
BLMT-400-FLEX-21	300/400	21	150	115	51	33	4	17

## BLMT - MECHANICAL LUGS FOR APPLICATIONS UP TO 36KV

Designed for use on Aluminium or Copper conductors and are suitable for applications up to 36kV.

- Wide application range
- Shear head bolts with predetermined shear torque
- Centered hole and inserts
- Lug bodies made of high-tensile, tin-plated Aluminium alloy and bolts from special Aluminium alloy



Cat No.	Conductor Size (mm <sup>2</sup> )	Palm Hole Diameter LB (mm)	Dimensions (mm)				Contact Bolts	
			L1	L2	D1	D2	Quantity	Head Size A/F (mm)
BLMT-25/95-13	25-95	13	60	30	24	12.8	1	13
BLMT-25/95-17		17						
BLMT-35/150-13	35-150	13	86	35	28	15.8	1	17
BLMT-35/150-17		17						
BLMT-95/240-13	95-240	13	112	60	33	20	2	19
BLMT-95/240-17		17						
BLMT-120/300-13	120-300	13	115	65	37	24	2	22
BLMT-120/300-17		17						
BLMT-185/400-13	185-400	13	137	80	42	25.5	3	22
BLMT-185/400-17		17						
BLMT-185/400-21		21						
BLMT-500/630-13	500-630	13	150	95	50	33	3	27
BLMT-500/630-17		17						
BLMT-500/630-21		21						
BLMT-800/1000-2X13	800-1000	2 × M13 (44MM CENTRES)	153	85	60	40	4	13

### SELECTION & APPLICATION TABLE

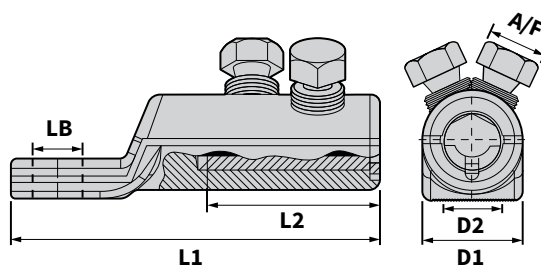
Cat No.		Application Range/ Conductor Type						
		Al Circular Stranded RM	Al Circular Solid RE	Al Sector Stranded SM	Al Sector Solid SE	Cu Circular Stranded RM	Cu Circular Solid RE	Cu Sector Stranded SM
BLMT-25/95-XX	mm <sup>2</sup>	25-95	25-95	25-70	16-95	10-50	25-70	-
	mm <sup>2</sup>	-	-	95*	-	-	95*	-
	mm	5.7-12.5	5.5-11	-	4.8-12.5	3.6-8	-	-
BLMT-35/150-XX	mm <sup>2</sup>	35-150	35-150	50-95	50-120	35-150	35-50	50-95
	mm <sup>2</sup>	-	-	120*-150*	-	-	-	120*-150*
	mm	6.8-15	6.5-14	-	-	6.6-15	6.5-8	-
BLMT-95/240-XX	mm <sup>2</sup>	95-240	95-240	95-150	95-150	95-240	-	95-150
	mm <sup>2</sup>	-	-	185*-240*	185 (90°)	-	-	185*-240*
	mm	11-19.2	10.5-18	-	-	11-19.2	-	-
BLMT-120/300-XX	mm <sup>2</sup>	120-300	150-300	120-185	120-240	120-300	-	120-185
	mm <sup>2</sup>	-	-	240*-300*	-	-	-	240*-300*
	mm	12.7-23.1	12.9-19.8	-	-	12.7-22.6	-	-
BLMT-185/400-XX	mm <sup>2</sup>	185-400	185-400	185-240	185-240	185-400	-	185-240
	mm <sup>2</sup>	-	-	300*-400*	-	-	-	300*-400*
	mm	15.5-24.6	14.8-24.6	-	-	15.5-24.6	-	-
BLMT-500/630-XX	mm <sup>2</sup>	500-630	500-630	-	-	500-630	-	-
	mm	25.3-32.5	24-28.6	-	-	25.3-32.5	-	-

\* Pressed Round  
XX Palm Hole Diameter

## BLMT-B - BIMETAL MECHANICAL LUGS FOR APPLICATIONS UP TO 36KV

Designed for use on Aluminium or Copper conductors and are suitable for applications up to 36kV.

- Wide application range
- Shear head bolts with predetermined shear torque
- Centered hole and inserts
- Bimetal Alloy body with tinned Copper Palm and bolts from special Aluminium Alloy



Cat No.	Conductor Size (mm <sup>2</sup> )	Palm Hole Diameter LB (mm)	Dimensions (mm)				Contact Bolts	
			L1	L2	D1	D2	Quantity	Head Size A/F (mm)
BLMT-16/95-RSB-13	16-95	13	96	35	28	15.8	1	15
BLMT-95/240-B-13	95-240	13	112	60	33	20	2	19
BLMT-120/300-B-17	120-300	17	135	65	40	24	2	22

## BSMB - ALUMINIUM FLEX CONNECTORS FOR APPLICATIONS UP TO 42KV

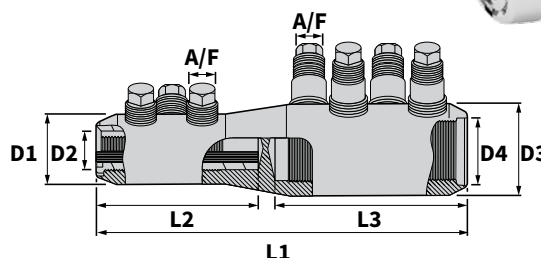
BSMB-FLEX mechanical connectors are designed for use in low and medium voltage applications up to 42 kV, and consist of high tensile aluminium tin-plated body and shear-head bolts. Suitable for outdoor and indoor applications and available with different palm hole sizes.

### FEATURES

- Easy and secure connection system for Aluminum flexible cables tested to IEC-61238-1 Class A
- New patented two step shear off bolts provide pre-determined torque & ensure reliable and secure contact without

damaging fine Aluminum strands

- Easier and faster installation without application tooling and reduced number of bolts
- Dual range connectors available for connecting Cu – Al and Al – Al combinations for class 2 conductors

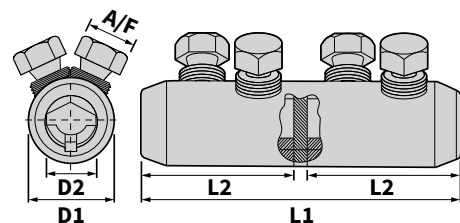


Cat No.	Cross Sectional Range (mm <sup>2</sup> )		Dimensions (mm)							Contact Bolts Quantity, Head Size A/F (mm)
	Class 2 Conductors	Class 5 Flexible Conductors	L1	L2	L3	D1	D2	D3	D4	
BSMB-150/400-400-FL	150/400	300/400	210	80	120	42	25.5	51	33	3 × 13MM, 4 × 17MM

## BSMB - MECHANICAL CONNECTORS FOR APPLICATIONS UP TO 36KV

These connectors are designed for use on Al or Cu conductors and are suitable for applications up to 36kV.

- Wide application range
- Shear head bolts with predetermined shear torque



- Connector bodies are made of high-tensile, tin-plated Aluminium alloy and bolts from special Aluminium alloy
- Centered hole and inserts



Cat No.	Conductor Size (mm <sup>2</sup> )	Blocked	Dimensions (mm)				Contact Bolts	
			L1	L2	D1	D2	Quantity	Head Size A/F (mm)
BSMB-10/35	10-35	YES	45	20	19	8.5	2	10
BSMB-25/95	25-95	YES	65	30	24	12.8	2	13
BSMB-35/150	35-150	YES	80	35	28	15.8	2	17
BSMB-95/240	95-240	YES	125	60	33	20	4	19
BSMB-120/300	120-300	YES	140	65	37	24	4	22
BSMB-185/400	185-400	YES	170	80	42	25.5	6	22
BSMB-500-MK2	500	YES	190	90	46	30	6	27
BSMB-630-MK2	630	YES	200	95	50	33	6	27
BSMB-800-MK2	800	YES	180	85	56	36	8	13
BSMB-1000-MK2	1000	YES	180	85	60	40	8	13

### SELECTION & APPLICATION TABLE

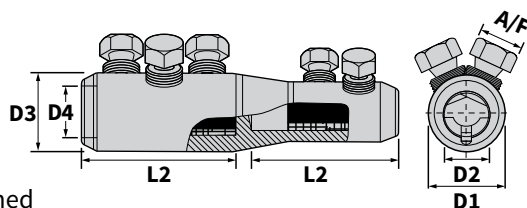
Cat No.		Al Circular Stranded RM	Al Circular Solid RE	Al Sector Stranded SM	Al Sector Solid SE	Cu Circular Stranded RM	Cu Circular Solid RE	Cu Sector Stranded SM
BSMB-10/35	mm <sup>2</sup>	10-35	10-50	10-25	10-35	10-35	10-35	10-25
	mm <sup>2</sup>	-	-	35*	-	-	-	35*
	mm	3.7-7.5	3.4-7.8	-	-	3.7-7.5	3.4-6.7	-
BSMB-25/95	mm <sup>2</sup>	25-95	25-95	25-70	-	16-95	10-50	25-70
	mm <sup>2</sup>	-	-	95*	-	-	-	95*
	mm	5.7-12.5	5.5-11	-	-	4.8-12.5	3.6-8	-
BSMB-35/150	mm <sup>2</sup>	35-150	35-150	50-95	50-120	35-150	-	50-95
	mm <sup>2</sup>	-	-	120-150*	-	-	-	120-150*
	mm	6.8-15	6.5-14	-	-	6.6-15	-	-
BSMB-95/240	mm <sup>2</sup>	95-240	95-240	95-150	95-150	95-240	-	95-150
	mm <sup>2</sup>	-	-	185-240*	185 (90°)	-	-	185-240*
	mm	11-19.2	10.5-18	-	-	11-19.2	-	-
BSMB-120/300	mm <sup>2</sup>	120-300	150-300	120-185	120-240	120-300	-	120-185
	mm <sup>2</sup>	-	-	240-300*	-	-	-	240-300*
	mm	12.7-23.1	12.9-19.8	-	-	12.7-22.6	-	-
BSMB-185/400	mm <sup>2</sup>	185-400	185-400	185-240	185-240	185-400	-	185-240
	mm <sup>2</sup>	-	-	300-400*	300 (90°)	-	-	300-400*
	mm	25.3-28.9	24-25.1	-	-	25.3-28.6	-	-
BSMB-500-MK2	mm <sup>2</sup>	500	500	-	-	500	-	-
	mm	25.3-28.9	24-25.1	-	-	25.3-28.6	-	-
BSMB-630-MK2	mm <sup>2</sup>	630	630	-	-	630	-	-
	mm	28.7-32.5	27.3-28.4	-	-	28.7-32.5	-	-
BSMB-800-MK2	mm <sup>2</sup>	800	800	-	-	800	-	-
	mm	32.5-35.3	30.9-32.1	-	-	32.5-35.3	-	-
BSMB-1000-MK2	mm <sup>2</sup>	1000	1000	-	-	1000	-	-
	mm	37-39.3	34.8-36	-	-	37-39.5	-	-

\*Compacted



## BSMB - MECHANICAL REDUCING CONNECTORS UP TO 36KV

- Designed for use on Al or Cu conductors and suitable for applications up to 36kV
- Wide application range
- Centred hole & inserts
- Shearhead bolts with predetermined shear torque
- Blocked connector to prevent moisture tracking



Cat No.	Conductor Size (mm <sup>2</sup> )		Dimensions (mm)							Contact Bolts			
										Side 1		Side 2	
	Side 1	Side 2	L1	L2	D1	D2	D3	D4	Qty	Head A/F (mm)	Qty	Head A/F (mm)	
BSMB-25/95-95/240	25-95	95-240	125	60	24	12.8	33	20	1	13	2	19	
BSMB-95/240-185/400	95-240	185-400	170	60	33	20	42	25.5	2	19	3	22	
BSMB-185/400-500	185-400	500	190	90	42	25.5	46	30	3	22	3	27	
BSMB-185/400-630	185-400	630	200	95	42	25.5	50	33	3	22	3	27	
BSMB-500-630	500	630	200	95	46	30	50	33	3	27	3	27	
BSMB-630-1000	630	1000	180	85	50	33	60	40	3	13	4	13	

### SELECTION & APPLICATION TABLE

Cat No.		Al Round Stranded RM	Al Round Solid RE	Al Sector Stranded SM	Al Sector Solid SE	Cu Round Stranded RM	Cu Round Solid RE	Cu Sector Stranded SM
BSMB-25/95-95/240								
(25-95MM <sup>2</sup> SIDE)	mm <sup>2</sup>	25-95	25-95	25-70	-	16-95	10-50	25-70
	mm	-	-	95*	-	-	-	95*
(95-240MM <sup>2</sup> SIDE)	mm <sup>2</sup>	95-240	95-240	95-150	95-150	95-240	-	95-150
	mm <sup>2</sup>	-	-	185*-240*	185 (90°)	-	-	185*-240
	mm	11-19.2	10.5-18	-	-	11-19.2	-	-
BSMB-95/240-185/400								
(95-240MM <sup>2</sup> SIDE)	mm <sup>2</sup>	95-240	95-240	95-150	95-150	95-240	-	95-150
	mm <sup>2</sup>	-	-	185-240*	185 (90°)	-	-	185-240*
	mm	11-19.2	10.5-18	-	-	11-19.2	-	-
(185-400MM <sup>2</sup> SIDE)	mm <sup>2</sup>	185-400	185-400	185-240	185-240	185-400	-	185-240
	mm <sup>2</sup>	-	-	300-400*	300 (90°)	-	-	300-400*
	mm	15.5-24.6	14.8-24.6	-	-	15.5-24.6	-	-
BSMB-185/400-500								
(185-400MM <sup>2</sup> SIDE)	mm <sup>2</sup>	185-400	185-400	185-240	185-240	185-400	-	185-240
	mm <sup>2</sup>	-	-	300-400*	300 (90°)	-	-	300-400*
	mm	15.5-24.6	14.8-24.6	-	-	15.5-24.6	-	-
(500MM <sup>2</sup> SIDE)	mm <sup>2</sup>	500	500	-	-	500	-	-
	mm	25.3-28.9	24-25.1	-	-	25.3-28.6	-	-
BSMB-185/400-630								
(185-400MM <sup>2</sup> SIDE)	mm <sup>2</sup>	185-400	185-400	185-240	185-240	185-400	-	185-240
	mm <sup>2</sup>	-	-	300-400*	300 (90°)	-	-	300-400*
	mm	15.5-24.6	14.8-24.6	-	-	15.5-24.6	-	-
(630MM <sup>2</sup> SIDE)	mm <sup>2</sup>	630	630	-	-	630	-	-
	mm	28.7-32.5	27.3-28.4	-	-	28.7-32.5	-	-
BSMB-500-630								
(500MM <sup>2</sup> SIDE)	mm <sup>2</sup>	500	500	-	-	500	-	-
	mm	25.3-28.9	24-25.1	-	-	25.3-28.6	-	-
(630MM <sup>2</sup> SIDE)	mm <sup>2</sup>	630	630	-	-	630	-	-
	mm	28.7-32.5	27.3-28.4	-	-	28.7-32.5	-	-

\*Compacted

## BSMV - MECHANICAL SWITCHGEAR CONNECTORS FOR APPLICATIONS UP TO 42KV

This range includes both standard split V connectors and those used for connections to Holec switchgear. These connectors are range taking, reducing inventory requirements and designed for use up to 42kV. Made to comply with requirements of IEC61238.

- The V shape of the connector faces increases the contact area of the connector.
- The two interlocking V faces pull the two connector halves into alignment as they are tightened ensuring a straight connection.

- The manufacturing tolerances used ensure that the upper and lower V faces are always in complete contact when the centre joining bolt is tightened and sheared off.
- The centre bolt can be removed with an Allen Key and replaced with an approved connector replacement bolt. This feature provides the option to disconnect the cable from the switchgear for cable testing.
- Compatible with Raychem heatshrink terminations and will come standard in these kits.



Cat No.	Conductor Size (mm <sup>2</sup> )	Type	Dimensions (mm)		Contact Bolts		Central Bolt	
			Length	Diameter	Qty	Head A/F (mm)	Qty	Head A/F (mm)
BSMV-16/95-MFX	XLPE = 16-95, PILC = 16-70	MAGNEFIX	98	25.4	3	13	1	13
BSMV-95/240-MFX	XLPE = 95-240, PILC = 95-185		111	33	3	19	1	13
BSMV-95/240	95-240	STANDARD	140	33	4	19	1	19
BSMV-185/400	185-400		190	42	6	22	1	19

## MECHANICAL CONNECTOR TOOLS

### MECHANICAL CONNECTOR HOLDING TOOLS

TransNet offers both an insulated and un-insulated holding tool for Mechanical Connectors. Both can be used for most connector sizes.

- Large easy grip handle
- Recommended for use on most sizes of connector to eliminate possible core 'cranking'
- IT-1000-019 has a large jaw opening to accommodate a wide range of mechanical connectors
- 223 is insulated to 1000V



Cat No.	Description
IT-1000-019	UNIVERSAL HOLDING TOOL FOR MECHANICAL CONNECTORS
223	1000V INSULATED MECHANICAL CONNECTOR HOLDER

## CORDLESS IMPACT WRENCH

Cordless Impact Wrench IT-1000-033 for the installation of mechanical connectors and lugs using shear-head bolts. Includes everything for all standard mechanical connectors & lugs.

### FEATURES

- Fan-cooled rare-earth magnet motor
- Convenient belt hook with integrated LED work light
- Externally accessible carbon brush and replaceable armature
- Stable compartmented carry case
- Simplified, safer and faster installation
- No additional device needed
- 1700g (~3.8 lbs) light, ergonomic and practical design
- Can be used for shear-head bolts up to 100Nm
- Powerful battery sufficient for approx. 20 four-bolted mechanical connectors per battery charging cycle

### KIT CONTENTS

1 battery charger,  
2 Ni-MH battery  
12V/2.6 Ah, 1 carry  
case, installation  
instructions, 1/2"  
hexagon socket sizes  
metric 10, 13, 17, 19,  
22, 27, 1 adaptor to  
1/4" hexagon drive,  
2 hex head wrenches  
(Allen keys) metric  
5, 6



Cat No.	Description
IT-1000-033	CORDLESS IMPACT WRENCH FOR INSTALLATION OF MECHANICAL CONNECTORS & LUGS USING SHEAR-HEAD BOLTS

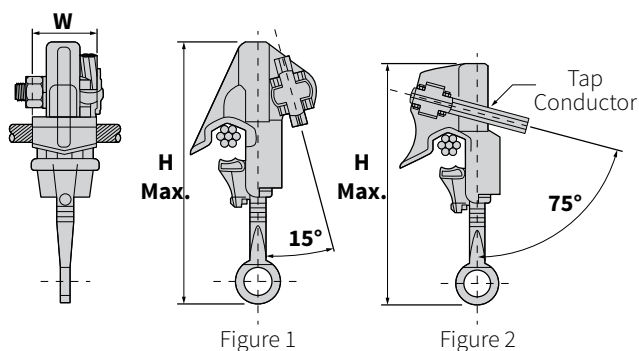
## LIVE LINE CLAMPS

### LIVE LINE CLAMPS

**AGP** – For Aluminum, ACSR, and armor rod covered aluminum or ACSR conductor

**GP** – For Copper conductor

For installation on energised conductor



Cat No.	Figure	Conductor		Conductor Size (mm)		Dimensions (mm) W x H	Weight (kg)
		Main Line	Tap	Main Line	Tap		
S1520AGP	1	AL	AL/CU	3.25-11.38	3.25-10.54	25.4 × 133	0.18
S1520GP		CU	CU			31 × 115	0.32
S1530AGP	2	AL	AL/CU	4.12-18.96	4.12-13.92	44 × 181	0.29
S1530GP		CU	CU			34.92 × 171.45	0.72
S1540AGP	2	AL	AL/CU	12.78-26.24	5.03-17.89	46 × 186	0.45
S1540GP		CU	CU			48 × 210	0.92

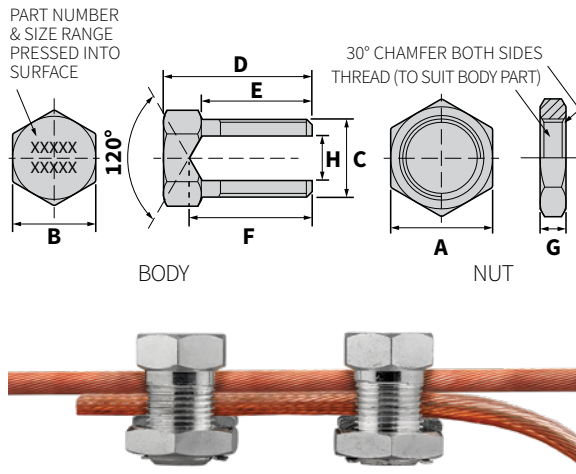
## SPLIT BOLT CONNECTORS

### SPLIT BOLT CONNECTORS - NEW ZEALAND STYLE

This style of split bolt, or line tap as they are commonly referred to as, has been used in New Zealand since the late 1940s and has proven to be a simple to use connector for use on copper overhead lines. These connectors are made in Australia from Australian Brass and have an electro tinned finish.

These connectors are range taking, simple to install and remove, very inexpensive, and don't require any special tooling.

Meets all requirements of British Standard BS3288:Part 1:1973, Section 5.2, test reports available on request.

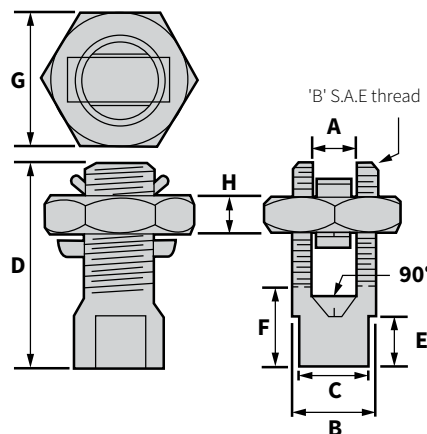
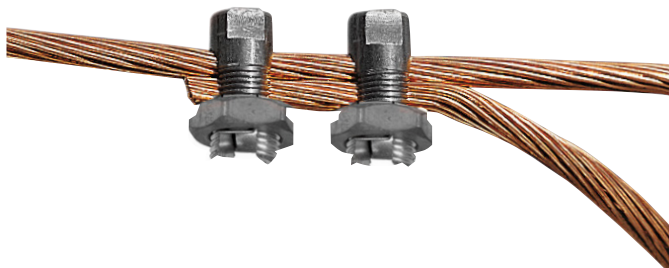


Cat No.	Size Range of each Individual Conductor*			Torque Setting (Nm)	Dimensions (mm)							
	mm <sup>2</sup>	mm O.D.	Stranding		A	B	C	D	E	F	G	H
TNHD9	4-7	2.7-4.1	7/.036-7/.044	5-10	13.3	11.16	9.52	19.0	13.5	15.5	5.0	4.2
TNHD10	6-16	3.8-5.8	7/.052-7/.064	10-15	19.0	13.4	13.0	24.0	16.0	21.0	6.5	5.9
TNHD12	10-25	4.3-6.6	7/.064-7/.083	15-20	20.8	15.2	14.2	28.5	19.6	24.0	6.5	6.8
TNHD12A	16-35	5.3-8.12	7/.067-19/.064	20-25	23.3	18.05	17.8	32.5	23.0	28.5	7.0	8.2
TNHD13	25-50	6.6-10.16	7/.083-19/.072	40-45	30.4	20.8	20.5	40.0	29.0	34.0	8.5	10.2
TNHD14	25-70	7.3-11.17	7/.083-19/.083	50-55	30.4	23.75	22.8	41.5	29.5	36.0	9.5	14.0
TNHD15	35-95	8.8-13.46	7/.116-37/.072	105-110	37.4	30.5	28.0	46.5	33.5	38.0	9.5	14.0
TNHD18	50-120	10.5-16.10	19/.083-37/.083	105-110	37.4	30.5	28.0	54.5	40.5	45.0	9.5	16.3

\*Size range of each of the two conductors being joined.

### SPLIT BOLT CONNECTORS - AUSTRALIAN STYLE

Split bolt connectors are used for tapping or joining overhead Copper conductors. Split bolts are made of hard grade, high conductivity 100% Australian brass and include a captive saddle which applies a distributed pressure to conductors, to comply with ESAA specifications.



Cat No.	Maximum Conductor Size*		Dimensions (mm) (EXCEPT B WHICH IS IN INCHES)							
	mm <sup>2</sup>	Stranding	A	B (in)	C	D	E	F	G	H
B22T	16	7/.064	5.3	1/2"	10.4	30.2	7.9	11.1	17.9	6.3
B24T	35	7/.104	8.3	5/8"	13.2	36.5	9.5	14.3	23.2	6.3
B25T	70	19/.083	10.9	7/8"	17.9	44.5	9.5	22.2	27.7	7.1
B26T	95	19/.101	12.9	7/8"	17.9	50.8	9.5	22.2	27.7	7.1
B28T	185	37/.103	18.5	1¼"	23.2	66.7	9.5	25.4	42.1	7.9



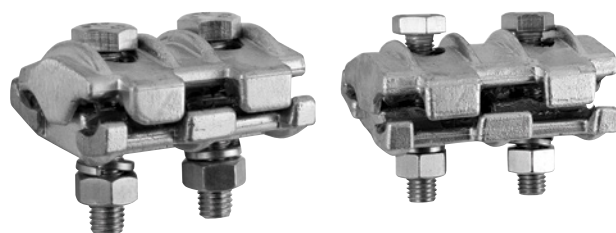
# PARALLEL GROOVE CLAMPS

## ALUMINIUM PARALLEL GROOVE CLAMPS

### MATERIAL

Body: Aluminium

Bolts: Galvanised Steel (TNPGA part numbers)  
Stainless Steel (PGAL part numbers)



Cat No.	Overall Ø (mm)	Conductor Size (mm <sup>2</sup> )	Number of Bolts		Length (mm)	Approx. Weight (kg)
			Qty	Size AF (mm)		
PGAL10MM2-70MM2	4.0–11.3	10–70	2 (STAINLESS STEEL)	17	70	0.2
PGAL35MM2-185MM2	7.5–17.5	35–185		18	96	0.4
TNPGA-1670/1	5.1–11.3	16–70	1 (GALVANISED STEEL)	14	25	0.1
TNPGA-35185/2	7.5–17.5	35–185	2 (GALVANISED STEEL)	17	70	0.4
TNPGA-35300/3	7.5–22.5	35–300	3 (GALVANISED STEEL)	17	105	0.6

## BIMETAL PARALLEL GROOVE CLAMPS

### MATERIAL

Body: Aluminium with a Bimetallic Sheet - Hot Forged

Bolts: Galvanised Steel



Cat No.	Cable Size Aluminium		Cable Size Copper		Number of Bolts	Length (mm)	Approx. Weight (kg)
	Ø (mm)	(mm <sup>2</sup> )	Ø (mm)	(mm <sup>2</sup> )			
TNPGB1670/1	5.1–11.7	16–70	3.0–9.0	6–50	1	25	0.1
TNPGB35120/1	7.5–14.0	35–120	3.5–9.0	10–50		30	0.1
TNPGB25150/1	6.3–15.7	25–150	4.1–12.5	10–95		28	0.1
TNPGB1670/2	5.1–11.7	16–70	3.0–9.0	6–50		40	0.15
TNPGB35120/2	7.5–14.0	35–120	3.5–9.0	10–50	2	50	0.15
TNPGB25150/2	6.3–15.7	25–150	4.1–12.5	10–95		48	0.2
TNPGB16185/2	5.1–17.5	16–185	6.0–17.5	16–185		63	0.3
TNPGB35185/2	7.5–17.5	35–185	7.5–17.5	35–185		63	0.3
TNPGB35185/3	7.5–17.5	35–185	7.5–17.5	35–185	3	95	0.6
TNPGB35300/3	7.5–22.5	35–300	7.5–20.0	35–300		105	0.6

## COPPER PARALLEL GROOVE CLAMPS

### MATERIAL

Body: Copper - Hot Forged

Bolts: Galvanised Steel



Cat No.	Cable Size Range		Number of Bolts
	Ø (mm)	(mm <sup>2</sup> )	
TNPGC-670/1	2.7–10.5	6–70	1
TNPGC1070/1	4–10.5	10–70	
TNPGC-16120/2	5.0–14.0	16–120	2
TNPGC50240/2	8.9–20.25	50–240	



## CONNECTOR BLOCKS

### LV DISTRIBUTION CONNECTOR BLOCKS

Connector Block range for use in switchboards and pillar boxes. The perfect upgrade for busbars, traditional power distribution blocks and strip connections. The unique socket design provides customers safe and reliable installation.

- Provides hundreds of input/output combinations with internal and external parallel connection methods, giving wiring professionals remarkable flexibility.
- Low cost and reliable contact point design.
- Supports 10mm<sup>2</sup> - 300mm<sup>2</sup> gauge in, and 1mm<sup>2</sup> - 50mm<sup>2</sup> gauge out.
- Insert and click to connect cable, no need to loosen screw.
- Can be mounted on TH 35 DIN rail or on base-plate.
- Exceeds UL 94 V-0 flammability test criteria.
- IEC 60529 IP20 rated safety protection.
- IEC standard color code (blue, red, yellow, green, and yellow/green)
- Fit for IEC 60947-7-1.



Cat No.	Voltage (V)	Amp Rating (A)	Input Cable Size (mm <sup>2</sup> )	Output Cable	
				Quantity	Size (mm <sup>2</sup> )
TNXK235/10X4	690	125	10-35	4	2.5-10
TNXK235/4X9		125	10-35	9	1-4
TNXK250/10X6		150	16-50	6	2.5-10
TNXK270/10X8		192	25-70	8	2.5-10
TNXK270/16X6		192	25-70	6	4-16
TNXK295/25X4		232	25-95	4	6-25
TNXK2120/16X8		309	35-120	8	4-16
TNXK2185/35X8		353	70-185	8	10-35

## WEDGE PRESSURE CONNECTORS

### MINI WEDGE CONNECTION SYSTEM

The Mini Wedge is part of the AMPACT system, using the same wedge pressure technology and offering some of the same benefits as the larger fired on AMPACT wedges. The Mini Wedge is installed using an adjustable "water pump" plier, and the tab on the wedge simply "clips" into place when the correct connection is made.

Mini Wedges are used on connections as large as Iodine to Helium and as small as 7/064 to

7/064. The mini wedge should be enclosed inside a Raychem Mini Wedge Enclosure, otherwise known as a "snot box".

These range taking connectors offer a cost effective, simple, easy and removable solution to tapping off your LV service conductors.

Connector and Snotbox sold separately. For connector selection information, please contact our customer service team.



3-1199125-2



## AMPACT CONNECTION SYSTEM

The AMPACT system was developed around an engineering principle TE calls "Wedge Pressure Technology". Field Proven for more than 40 years, Wedge Pressure Technology has formed the basis for a complete family of connectors that continuously out performs other types.

AMPACT connectors are range taking and cover connections from 4.8mm OD to 23.20mm OD in copper, aluminium and bimetallic connections.

This connector family is broken down into four colour coded ranges: Red, White, Blue and Yellow. The colours determine the amount of power required to install the connector correctly and are therefore colour coded to match the corresponding cartridge.

GelPact covers are available to protect the connection from the harsh environments we experience here in New Zealand. The GelPact cover is a UV stable plastic housing filled with Raychem PowerGel which is hydrophobic and excellent at protecting against environmental influences. GelPact covers are available for White, Blue and Yellow AMPACT connectors.

The AMPACT tool kit includes a robust toolbox, the AMPACT power unit, a small tool head, all connector take off clips and a stainless steel wire brush for cleaning the conductor. Large yellow heads are sold separately and are required when installing yellow connectors.



Yellow



Blue



White



Red



Cartridges

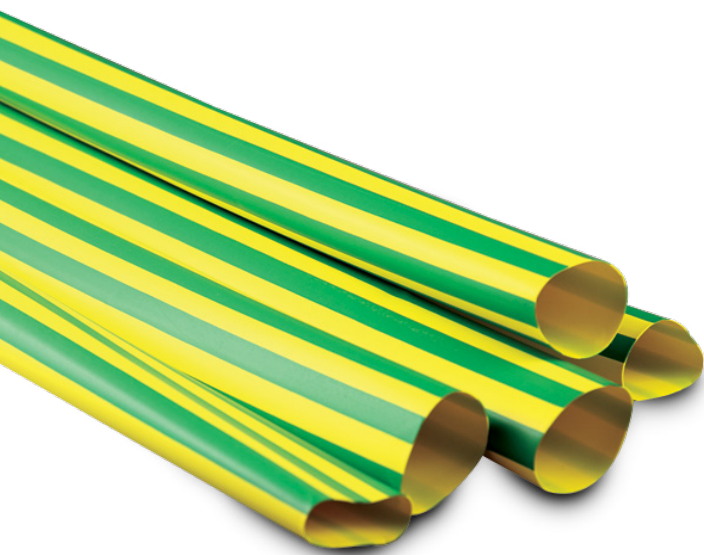


GelPact Cover

Cat No.	Description	Type
AMPTOOL-KIT-COMPLETE	COMPLETE KIT	AMP GUN,T/BOX & CLIPS
0-69633-2	LARGE YELLOW HEAD	FOR YELLOW WEDGES
RA-240279	REM OIL	FOR TOOL CLEANING
0-1443442-1	CLEANING TOOL	NEW STYLE TOOL
0-0314199-1		OLD STYLE TOOL
1710500-1	GELPACT COVER	WHITE
1710523-1		BLUE
1710501-1		YELLOW
0-69338-1		BLUE
0-69338-2	CARTRIDGE	RED
0-69338-4		YELLOW
0-69338-5		WHITE
0-69684-0	TAKE OFF CLIP	RED
0-69685-1		BLUE
0-69647-0		YELLOW
0-69947-0		WHITE

**FOR INFORMATION ON SELECTION CHARTS CONTACT CUSTOMER SERVICE**

PAGE	CATEGORY
<b>48</b>	<b>MOLDED ACCESSORIES</b>
<b>48</b>	Breakout Boots - Heatshrinkable Cable Breakouts for Power Cables
<b>48</b>	End Caps - Valved Heatshrinkable Cable End Caps
<b>49</b>	End Caps - Non-Valved Heatshrinkable Cable End Caps
<b>49</b>	Raychem LV Heatshrink Multipacks
<b>PAGE</b>	<b>HEATSHRINK TUBING</b>
<b>50</b>	EziShrink - Thin Wall Tubing Heatshrink
<b>51</b>	RNF100 - General Purpose Low Voltage Heatshrink
<b>52</b>	DWP/ATUM - ES1000/ES2000 Thin Wall Heatshrink
<b>53</b>	MWTM - Medium Wall Heatshrink
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<b>55</b>	CRSM - Heatshrinkable Wrap-Around Repair Sleeve
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<b>57</b>	LVIT - Flexible Low Voltage Insulation Tubing
<b>PAGE</b>	<b>HEATSHRINK GLANDS</b>
<b>58</b>	CFTS - Heatshrink Feed Through Cable Glands
<b>PAGE</b>	<b>HEATSHRINK TAPE</b>
<b>58</b>	LVBT - Low Voltage Busbar Tape
<b>59</b>	HVBT - High Voltage Busbar Insulation Tape
<b>PAGE</b>	<b>MEDIUM VOLTAGE BUSBAR INSULATION</b>
<b>59</b>	BPTM - Medium Wall Busbar Insulating Tubing 25kV
<b>60</b>	BBIT - Heavy Wall Busbar Insulating Tubing 36kV
<b>60</b>	HVIS - High Voltage Insulation Sheets





## MOLDED ACCESSORIES

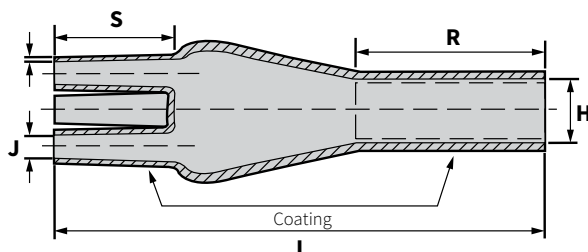
### BREAKOUT BOOTS - HEATSHRINKABLE CABLE BREAKOUTS FOR POWER CABLES

Raychem low voltage breakouts are an easily installed, light weight insulation for sealing the crutches of plastic, paper and rubber insulated cables up to 1kV. Made from semi-rigid cross-linked

halogen free polyolefin, these medium wall breakouts also offer resistance to abrasion, weathering, and atmospheric pollution.

#### APPLICATIONS

- For sealing and insulating multi-core cables
- Resistant to corrosion and decay
- Waterproof
- IP68
- Inner adhesive wall
- UV Resistant
- Sealant lined



Cat No.	Number of Cores	Conductor Size (mm <sup>2</sup> )	Inside Diameter (mm)				Length (mm)		
			H		J		L (B) +/-10%	R (B) +/-10%	S (B) +/-10%
			Min A	Max B	Min A	Max B			
302K333/S	2	4-25	28	9.2	15	4.1	90	-	25
302K224/S	2	35-150	48	32	22	7	172	-	70
302K466/S	2	185-300	86	42	40	17	200	-	75
402W533/S	3	4-35	38	13	16	4.2	103	45	28
402W516/S	3	50-150	63	22	26	9	180	85	40
402W526/S	3	185-300	95	28	44	13	205	90	45
402W248/S	3	400	115	45	52	22	240	100	60
402W439/S	3	630	170	60	60	30	252	90	66
502K033/S	4	4-35	45	16.5	14	3.4	98	71	25
502K046/S	4	35-70	45	19	20	7	165	75	40
502K016/S	4	70-150	75	25	25	9	217	100	44
502K026/S	4	185-300	100	31	40	13.5	223	103	51
603W035/S	4 + 1	16-185	68	26	30*	7*	182	75	40

\*One of 5 outlets dim = 20/6

**Note:** 1. Dimensions in millimetres  
A = as supplied

2. Recommended application range is from 20% above recovered dia to 20% below expanded dia  
B = after heating

### END CAPS - VALVED HEATSHRINKABLE CABLE END CAPS

- Easy to apply and remove
- Bonds directly to the cable jacket eliminating the need for additional components
- UV Resistant
- Sealant lined
- Complete with valve for pressure feeding or testing

Cat No.	Application Range (mm)	
	Min	Max
102K022-135-01/123	16	26
102K049-37-01/123	44	71
102K050-37-01/123	71	90



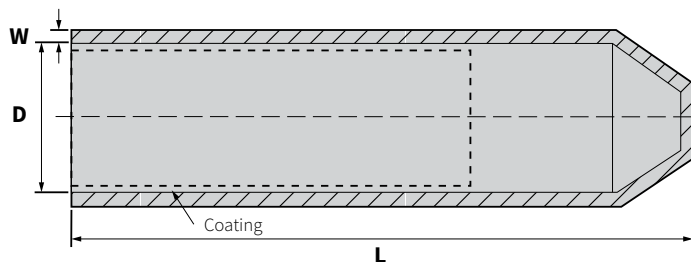
## END CAPS - NON-VALVED HEATSHRINKABLE CABLE END CAPS

Raychem Cable Caps shrink when heated to tightly fit a range of cable sizes and constructions. At the same time a special sealant also melts and flows under the shrinking action, gripping the cable and ensuring a high-integrity moisture seal.

Our advances in materials science ensure that these crosslinked halogen-free polymer products also provide high quality electrical insulation while at the same time resisting abrasion, weathering, and chemical attack.

### FEATURES

- Environmental sealing of all cable types
- Resistant to corrosion and decay
- Caps for pressurised and live sealing are available
- Operating temperature range -40°C to 120°C
- Inner adhesive wall
- Sealant lined



Cat No.	Application Range (mm)	Inside Diameter D (mm)		Length L (mm) (B) +15/-10%	Wall Thickness W (mm) (B) ± 20%
		Min A	Max B		
102L011-R05/S	4.0–8.0	10	4	38	2.0
102L022/S	8.0–17.0	20	7.5	55	2.3
102L033/S	17.0–30.0	35	15	90	3.0
102L044/S	30.0–45.0	55	25	143	3.3
102L048/S	45.0–65.0	75	32	150	3.3
102L055/S	65.0–95.0	100	45	162	3.8
102L066/S	95.0–115.0	120	70	145	3.8

**Note:** A = as supplied, B = after heating

## RAYCHEM LV HEATSHRINK MULTIPACKS

### RMP PACKS

- Contain various colours & sizes of Raychem RNF Heatshrink
- Premium grade, Mil Spec compliant
- Perfect for identification, colour coding, light harness jackets and light protection against abrasion
- AMS-DTL-23053/5 Class 2

### RDWP PACKS

- Premium grade polyolefin heatshrinkable tubing
- Good chemical and solvent resistance
- Adhesive lined for protection against moisture ingress
- Flexible
- AMS-DTL-23053/4 Class 3 (Black only)



Cat No.	Type	Size (O.D.)	Colours
RMP-3S	RNF – THIN WALL COLOURED	1/8", 3/16", 1/4"	RED, WHITE, BLUE, BLACK, GREEN
RMP-3L		3/8", 1/2", 3/4"	
RDWP-3S	THIN WALL, ADHESIVE LINED	6, 7.4, 9, 10.8, 12MM	BLACK, CLEAR
RDWP-3L		10.8, 12, 17.4, 19, 24MM	



## HEATSHRINK TUBING

### EZISHRINK - THIN WALL TUBING HEATSHRINK

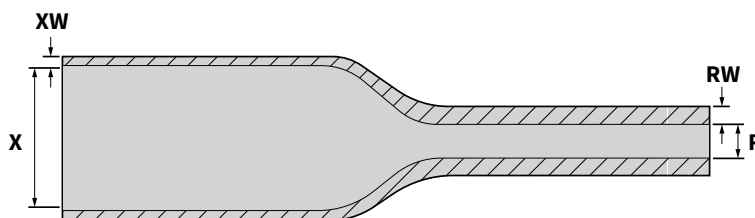
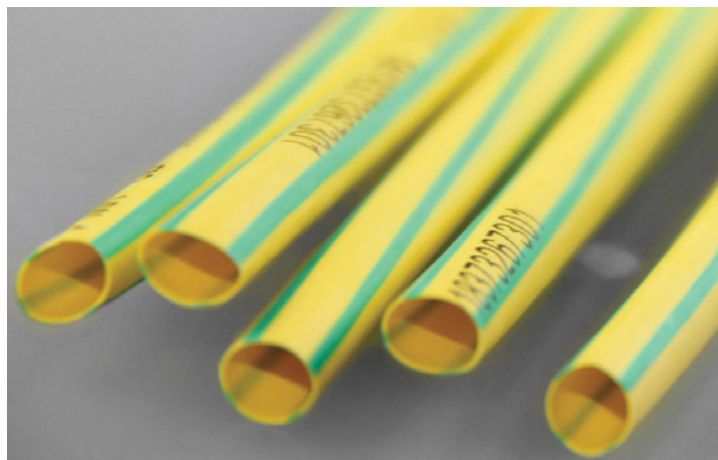
EziShrink Thin Wall Tubing is a high quality, heatshrinkable product for a variety of uses. Made from Flame Retardant Polyolefin Material, EziShrink has excellent physical, chemical and electrical properties.

#### TECHNICAL DATA

- Rated Voltage: 600 Volts
- Dielectric Strength: 15kV/mm
- Tensile Strength: 10.4Mpa
- Available in 1200mm stick lengths
- Shrink Ratio 2:1







#### OPERATIONAL PARAMETERS

- Operating Temperatures: -55°C up to 125°C
- Shrink Start Temperature: 70°C
- Longitudinal Shrinkage: Less than 8%
- UL recognised to standard 224



#### COLOUR CODES

##### In Stock

	BK = BLACK		G/Y = GREEN/YELLOW
	BU = BLUE		GN = GREEN
	YO = YELLOW		RD = RED

##### Indent Only

	VT = VIOLET
	BR = BROWN
	WH = WHITE

#### EXAMPLE CATALOGUE NUMBER

EZHSBU6/3

Cat No.	Expanded Dia. as Supplied X (mm)	Expanded Wall Thickness XW (mm)	Recovered Dia. R (mm)	Recovered Wall Thickness RW (mm)	Application Range Dia. (mm)	Standard Length (mm)
EZHScolourcode1.5/0.8	1.5	0.15	0.8	0.28	0.9–1.4	1200
EZHScolourcode2/1	2	0.18	1	0.35	1.1–1.8	1200
EZHScolourcode3/1.5	3	0.18	1.5	0.40	1.7–2.8	1200
EZHScolourcode6/3	6	0.28	3	0.55	3.2–5.5	1200
EZHScolourcode10/5	10	0.30	5	0.60	5.5–9	1200
EZHScolourcode12/6	12	0.30	6	0.60	6.4–11	1200
EZHScolourcode20/10	20	0.40	10	0.80	11–18	1200
EZHScolourcode25/12	25	0.55	12	0.90	13–23	1200
EZHScolourcode40/20	40	0.55	20	1.00	22–36	1200
EZHScolourcode50/25	50	0.55	25	1.00	28–45	1200
EZHScolourcode80/40	80	0.70	40	1.46	44–70	1200

## RNF100 - GENERAL PURPOSE LOW VOLTAGE HEATSHRINK








A premium grade flame-retardant polyolefin heatshrinkable tubing. Outstanding all round performance, good chemical and solvent resistance, flexible. Used extensively

in military applications for lightweight harness jackets, insulation, colour coding, identification, protection against fluids and provides mechanical strength.

### TECHNICAL DATA

- Excellent UV resistance
- Flame retardant (Black and colours only)
- Operating temperature -55°C to 135°C
- Minimum shrink temperature 95°C
- Minimum full recovery temperature 121°C
- Shrink ratio 2:1
- Available in 1200mm lengths or spools

### COLOUR CODES

	CL = CLEAR		YO = YELLOW
	BK = BLACK		GN = GREEN
	RD = RED		BU = BLUE
	WH = WHITE		

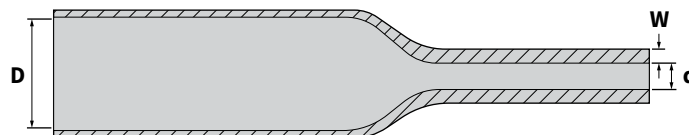
### APPLICATIONS

- Electrical insulation
- Wire strain relief
- Colour coding & identification
- Light weight and harness jacket

### LENGTH CODES

STK = Standard stick (1200mm)

SP = Spool



### EXAMPLE CATALOGUE NUMBER

RNF-100-3/64-BK-STK

Cat No.	Inside Diameter D (mm)		Wall Thickness W (mm)	Standard Length (mm)	Spool Length* (m)
	Min A	Max B	Nom Recovered		
RNF-100-3/64-colourcode-length	1.2	0.6	0.45	1200	300
RNF-100-1/16-colourcode-length	1.6	0.8	0.45	1200	300
RNF-100-3/32-colourcode-length	2.4	1.2	0.50	1200	150
RNF-100-1/8-colourcode-length	3.2	1.6	0.50	1200	150
RNF-100-3/16-colourcode-length	4.8	2.4	0.50	1200	150
RNF-100-1/4-colourcode-length	6.4	3.2	0.65	1200	76
RNF-100-3/8-colourcode-length	9.5	4.8	0.65	1200	150
RNF100-1/2-colourcode-length	12.7	6.4	0.65	1200	90
RNF-100-3/4-colourcode-length	19.0	9.5	0.75	1200	60
RNF-100-1-colourcode-length	25.4	12.7	0.90	1200	60
RNF-100-1-½-colourcode-length	38.0	19.0	1.00	1200	91
RNF-100-2-colourcode-length	51.0	25.4	1.15	1200	30
RNF-100-3-colourcode-length	76.0	38.0	1.25	1200	15
RNF-100-4-colourcode-length	102.0	51.0	1.40	1200	15
RNF-100-5-colourcode-length	127.0	63.5	1.52	1200	30

A = as supplied, B = after heating

\* Spool lengths may vary - please check at time of order

### APPROVALS

\*UL File E35586

\*CSA LR31929

VG 95343 Part 5 Type A and B

VDE 0341-Pt9005

Def Stan 59-97 Type 2b

MIL-DTL-23053/5 Class 1 (colours), (Clear) (exclude 1-3/4)

BS 4G-198PART 3 11B

## DWP/ATUM - ES1000/ES2000 THIN WALL HEATSHRINK

Semi-flexible, general purpose adhesive-lined, moisture proof heatshrinkable tubing, with high shrink ratio. Designed to provide moisture proof sealing to a wide range of substrates such as electrical wire splices, cable jackets, wire breakouts and electrical components.

### TECHNICAL DATA - DWP/ATUM

- Operating Temperature -55°C to 110°C
- Minimum shrink temperature 80°C
- Minimum full recovery temperature 110°C
- Shrink ratio 3:1
- Black (clear ATUM 40/13 only)
- Adhesive lined

- Minimum shrink temperature 110°C
- Maximum full recovery temperature 135°C
- Shrink ratio 4:1
- ES1000 Clear, ES2000 Black
- Adhesive lined

### APPLICATIONS

- Environmental sealing
- Cable insulation
- Connector insulation for control wiring

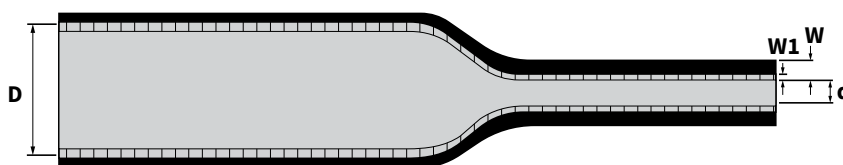
### TECHNICAL DATA - ES1000/ES2000

- Operating Temperature -40°C to 135°C



### APPROVALS

- UL E85381 (Black only)
- MIL-DTL-23053/4 Class 3 (Black only)
- 3:1 Shrink ratio only (excludes sizes 9/3,19/6)
- VG 95343 (clear 3:1 only)
- VDE 0341/Pt 9012 (clear 3:1 only)



## 3:1 SHRINK RATIO - DWP/ATUM, 4:1 SHRINK RATIO - ES1000/ES2000

Cat No.	Shrink Ratio	Inside Diameter D (mm)		Wall Thickness W	Colour	Standard Length (mm)
		Min A	Max B	Recovered Nom (mm)		
DWP-125-1/8-0-STK	3:1	3.2	0.6	1.02-0.5	BLACK	1200
DWP-125-3/16-0-STK	3:1	4.8	1.5	1.40-0.5	BLACK	1200
DWP-125-1/4-0-STK	3:1	6.4	2.0	1.45-0.5	BLACK	1200
DWP-125-3/8-0-STK	3:1	9.5	3.0	1.65-0.6	BLACK	1200
DWP-125-1/2-0-STK	3:1	12.7	4.0	1.78-0.7	BLACK	1200
DWP-125-3/4-0-STK	3:1	19.0	6.0	1.90-0.8	BLACK	1200
DWP-125-1-0-STK	3:1	25.4	8.0	2.50-1.0	BLACK	1200
DWP-125-1-1/2-0-STK	3:1	32.0	11	2.50-1.0	BLACK	1200
ATUM-6/2-0-STK	3:1	6	2	1.00-0.5	BLACK	1200
ATUM-9/3-0-STK	3:1	9	3	1.40-0.6	BLACK	1200
ATUM-12/4-0-STK	3:1	12	4	1.75-0.7	BLACK	1200
ATUM-19/6-0-STK	3:1	19	6	2.25-0.8	BLACK	1200
ATUM-24/8-0-STK	3:1	24	8	2.50-1.0	BLACK	1200
ATUM-40/13-X-STK	3:1	40	13	2.50-1.0	CLEAR	1200
ES1000-NO.2-B7-X-STK	4:1	7.4	1.6	1.52	CLEAR	1200
ES1000-NO.3-B8-X-STK	4:1	10.8	2.4	1.91	CLEAR	1200
ES1000-NO.4-B7-X-STK	4:1	17.7	4.4	2.41	CLEAR	1200
ES2000-NO.2-B8-0-STK	4:1	7.4	1.6	1.52	BLACK	1200
ES2000-NO.3-B8-0-STK	4:1	10.8	2.4	1.91	BLACK	1200

A = as supplied, B = after heating

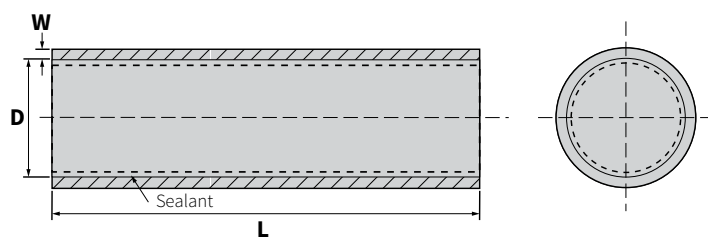


## MWTM - MEDIUM WALL HEATSHRINK

Raychem MWTM tubing is fast and easily installed, and has proven its long term reliability in harsh climatic conditions and polluted environments.

### TECHNICAL DATA

- Operating Temperature range -40°C to 120°C
- Shrink ratio 3:1
- Adhesive lined
- UV resistant
- Voltage class 1kV
- Sealant lined
- Halogen free
- Applications
- Fast cost effective way to waterproof joints
- Low voltage underground jointing and terminations
- Sealing of lugs and glands
- Resistant to chemicals, corrosion and decay



Cat No.	Application Range Dia. (mm)	Inside Diameter D (mm)		Wall Thickness W (mm)		Standard Length L (mm)
		Min A	Max B	Min A	Max B	
MWTM-10/3-1200/S	3.5–9.0	10	3	0.3	1.0	1200
MWTM-16/5-1200/S	5.5–14.5	16	5	0.3	1.4	1200
MWTM-25/8-1200/S	9.0–22.5	25	8	0.4	2.0	1200
MWTM-35/12-1200/S	13.0–31.5	35	12	0.4	2.0	1200
MWTM-50/16-1200/S	18–45.0	50	16	0.5	2.0	1200
MWTM-63/19-1200/S	21.0–57.0	63	19	0.6	2.4	1200
MWTM-75/22-1200/S	24.0–68.0	75	22	0.6	2.7	1200
MWTM-85/25-1200/S	28–77.0	85	25	0.6	2.8	1200
MWTM-95/29-1200/S	32.0–86.0	95	29	0.7	3.1	1200
MWTM-115/34-1200/S	37.0–104.0	115	34	0.7	3.1	1200
MWTM-140/42-1500/S	46.0–126.0	140	42	0.7	3.1	1200
MWTM-160/50-1200/S	55.0–144.0	160	50	0.7	3.2	1200

A = as supplied, B = after heating

## WCSM - HEAVY WALL HEATSHRINK

WCSM is a heatshrinkable heavy-wall tubing for insulating and sealing power cables and accessories. WCSM material is halogen free and UV resistant. WCSM tubing's mechanical strength enables immediate back-filling of cable trenches after jointing.

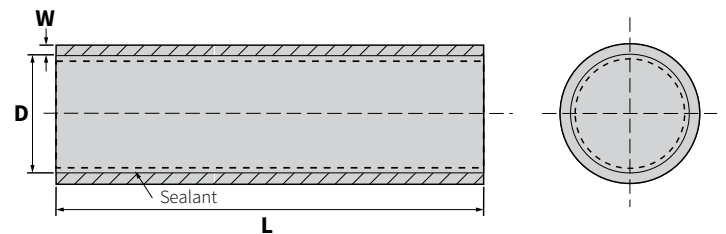
Widely used to insulate, protect and seal power cable joints, accessories and electrical connections.

### TECHNICAL DATA

- Operating Temperature range -40°C to 120°C
- Shrink ratio 3:1
- Adhesive wall
- Voltage class 1kV
- Black Colour
- Other lengths available on request
- All lengths subject to standard cutting tolerances
- Sealant lined
- Halogen free

### APPLICATIONS

- Fast cost effective way to waterproof joints
- Low voltage underground jointing and terminations
- Sealing of lugs and glands
- Resistant to chemicals, corrosion and decay



Cat No.	Application Range Diameter (mm)	Inside Diameter D (mm)		Wall Thickness W (mm)		Standard Length L (mm)
		Min A	Max B	Nom A	Max B	
WCSM-12/3-1200/S	3.5-10	12	3	0.8	2	1200
WCSM-16/4-1200/S	4.5-14	16	4	0.9	2.4	1200
WCSM-24/6-1200/S	6.5-22	24	6	1	2.7	1200
WCSM-34/8-1200/S	9-31	33	8	1.3	4	1200
WCSM-48/12-1200/S	13-44	48	12	1.5	4.5	1200
WCSM-56/16-1200/S	17.5-50	56	16	1.5	4.4	1200
WCSM-70/20-1200/S	22-63	70	20	1.4	4.4	1200
WCSM-90/25-1200/S	27-81	90	25	1.3	4.3	1200
WCSM-110/30-1200/S	33-100	110	30	1.2	4.3	1200
WCSM-130/35-1200/S	38-118	130	35	1.2	4.3	1200
WCSM-160/50-1200/S	55-144	160	50	1	4.3	1200
WCSM-180/50-1250/S	55-162	180	50	1	4.3	1200
WCSM-250/65-1550/S	70-225	250	65	N.A.	4.3	1550

**Note:** 1. Dimensions in millimetres  
A = as supplied  
2. Max. Longitudinal change after free recovery: +5%/-10%  
B = after heating





## CRSM - HEATSHRINKABLE WRAP-AROUND REPAIR SLEEVE

CRSM wrap-arounds are a fast and permanent cable repair and sealing system. The repair sleeve is quickly fitted in place by means of its rail and channel closure.

### TECHNICAL DATA

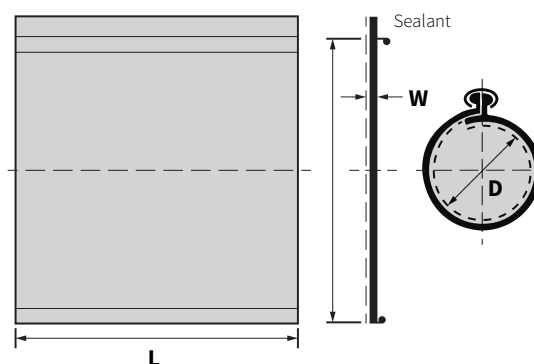
- Operating temperature range -40°C to 120°C
- Shrink ratio 3:1
- Adhesive lined
- Halogen free
- Abrasion, corrosion, and decay resistant
- IP68
- 100% waterproof
- UV resistant
- Voltage class 1kV

### APPLICATIONS

- Repair cable sheath damage without cutting cable
- Underground jointing (and in tight areas)
- Sealing cable glands

Labour-saving installation. Fitting and sealing all in one step. Abrasion and corrosion resistant. Each size covers a range of cable sizes.

Raychem's distinctive closure system, which incorporates a stainless steel channel slid over rails on the sleeve, keeps the wrap-around in place during installation but can be easily removed when the adhesive has set.



Cat No.	Application Range Diameter (mm)	Inside Dia. D (mm)		Wall Thickness W (mm)		Length L (mm)
		Min A	Max B	Min A	Max B	
CRSM-34/10-300	11-21	35	9	0.3	2.4	300
CRSM-53/13-300	17-32	54	15	0.3	2.0	
CRSM-84/20-300	24-50	86	21	0.3	2.0	
CRSM-107/29-300	31-65	108	27	0.3	2.0	
CRSM-143/36-300	40-115	144	28	0.3	1.8	
CRSM-198/55-300	56-120	203	50	0.3	2.1	
CRSM-250/98-300	103-150	257	91	0.4	1.7	500
CRSM-34/10-500	11-21	35	9	0.3	2.4	
CRSM-53/13-500	17-32	54	15	0.3	2.0	
CRSM-107/29-500	31-65	108	27	0.3	2.0	
CRSM-143/36-500	40-115	144	28	0.3	1.8	
CRSM-198/55-500	56-120	203	50	0.3	2.1	
CRSM-34/10-1500	11-21	35	9	0.3	2.4	1500
CRSM-53/13-1500	17-32	54	15	0.3	2.0	
CRSM-84/20-1500	24-50	86	21	0.3	2.0	
CRSM-107/29-1500	31-65	108	27	0.3	2.0	
CRSM-143/36-1500	40-115	144	28	0.3	1.8	
CRSM-198/55-1500	56-120	203	50	0.3	2.1	
CRSM-250/98-1500	103-150	257	91	0.4	1.7	

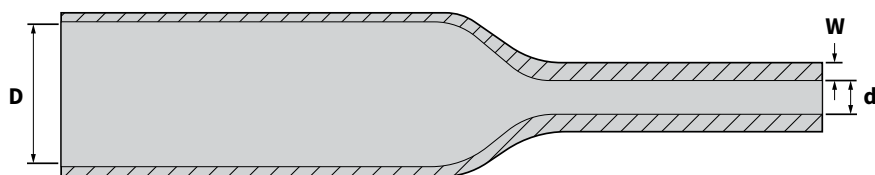
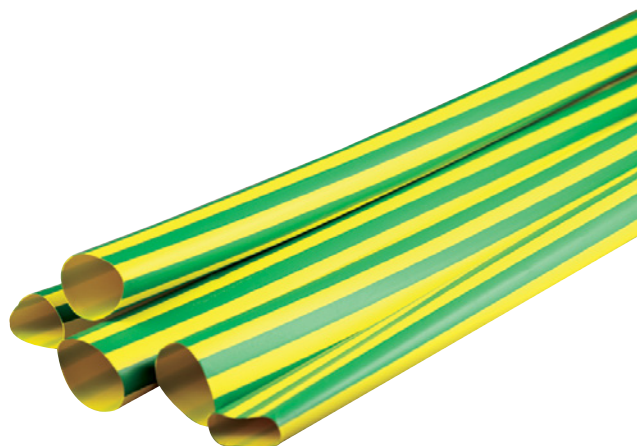
\*Other lengths available on request

**Note:** 1. Dimensions in millimetres  
A = as supplied  
2. Max. Longitudinal change after free recovery: 0 - +10%  
B = after heating

## DCPT - FLEXIBLE POLYOLEFIN TUBING

### APPLICATIONS

- 2:1 Shrink ratio
- Earth Colours (green/yellow) for instant identification
- Flame retardant
- Flexibility: able to conform to irregular shapes
- Excellent physical, chemical and electrical properties
- Minimum shrink temperature: 95°C
- Minimum full recovery temperature: 120°C
- Operating temp range (-55°C to 135°C)
- Standard length 1.2m



Cat No.	Inside Diameter (mm)		Wall Thickness (mm)	Length (mm)
	Min Expanded D	Max Recovered d	Fully Recovered W	
DCPT-3/1.5-45-STK	3.0	1.5	0.51	1200
DCPT-6/3-45-STK	6.0	3.0	0.58	1200
DCPT-10/5-45-STK	10.0	5.0	0.64	1200
DCPT-19/9-45-STK	19.0	9.0	0.76	1200
DCPT-26/13-45-STK	26.0	13.0	0.89	1200
DCPT-38/19-45-STK	38.0	19.0	1.00	1200

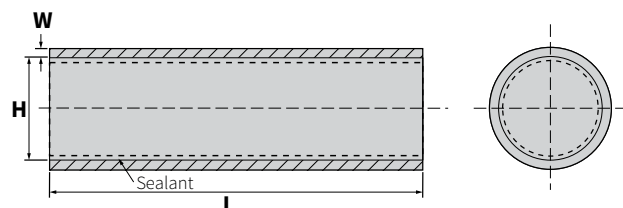
**Note:** D = as supplied d = after heating



## FCSM - FLEXIBLE MEDIUM WALL HEATSHRINK TUBING

### APPLICATIONS

- Electrical insulation
- Indoor or outdoor busbar insulation
- Corrosion protection
- Operating temp range -40°C to 120°C
- 15m roll size Shrink ratio 3:1
- Flame retardant
- Flexible



Cat No.	Application Range (mm)	Inside Dia. H (mm)		Wall Thickness Full Recovery W (mm)	Length L (mm)
		Min	Max		
FCSM-19/6-A/U-4	6.5–17.0	19	6	2.4	15
FCSM-28/9-A/U-4	10.0–25.0	28	9	3.2	15
FCSM-51/16-A/U-4	17.5–46.0	51	16	4.1	15

**Note:** A = as supplied B = after heating

## LVIT - FLEXIBLE LOW VOLTAGE INSULATION TUBING

### APPLICATIONS

- Electrical insulation
- Indoor or outdoor busbar insulation
- Corrosion protection
- Operating temperature -40°C to 150°C
- Flame retardant



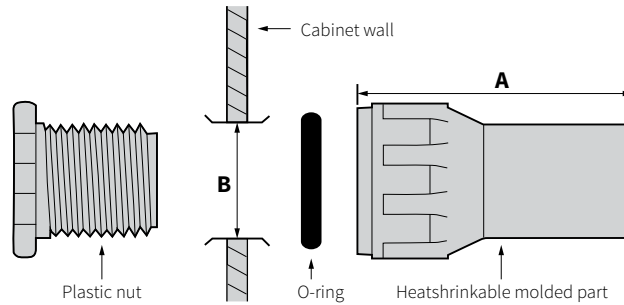
Cat No.	Application Range (mm)	Wall Thickness (mm)	Rectangular Busbar App. Range (mm)	Spool (m)
LVIT-30/10-A/U-4	28–12	1.5	40–18	60
LVIT-75/25-A/U-4	70–28	1.5	100–43	30
LVIT-150/50-A/U-4	145–55	1.5	200–86	30

## HEATSHRINK GLANDS

### CFTS - HEATSHRINK FEED THROUGH CABLE GLANDS

#### APPLICATIONS

- Sealing of bulkhead, equipment box and panel penetration
- Provides environmental seal and strain relief via heat activated adhesives
- Elastomeric 'O' ring with each part to accommodate irregularities on panel
- Operating temperatures -55°C to 135°C
- Cabinet wall thickness of 5mm is recommended



Cat No.	Cable Diameter (mm)	Length A (mm)	Recommended Hole Size B (mm)
CFTS-1	5-10	70	25
CFTS-2	6-17	70	25
CFTS-3	14-25	95	35
CFTS-4	20-37	114	51
CFTS-5	37-61	178	89

## HEATSHRINK TAPE

### LVBT - LOW VOLTAGE BUSBAR TAPE

Tape is adhesive coated and when heated will shrink and seal to itself.

#### APPLICATIONS

- Designed for areas of restricted access where tubing cannot be easily used
- LVBT is a general purpose, flexible, heatshrinkable insulating tape (adhesive coated)
- Colour: Black
- 1kV Voltage rating



Cat No.	Length (m)	Width (mm)	Voltage Rating	Colour
LVBT-1-R	8	25	1kV	BLACK
LVBT-2-R	8	50	1kV	BLACK
LVBT-4-R	8	100	1kV	BLACK



## HVBT - HIGH VOLTAGE BUSBAR INSULATION TAPE

HVBT tape offers a simple and effective solution to the problems of retrofit insulation of busbars particularly where existing equipment cannot be dismantled. It can be used for indoor and outdoor applications and is easily installed over a wide variety of shapes including complex connections.

- Rated Voltage: 36kV

Cat No.	Width (mm)	Spool Length (m)
HVBT-1-R	25	10
HVBT-14-A	50	10
HVBT-4-R	100	10



## MEDIUM VOLTAGE BUSBAR INSULATION

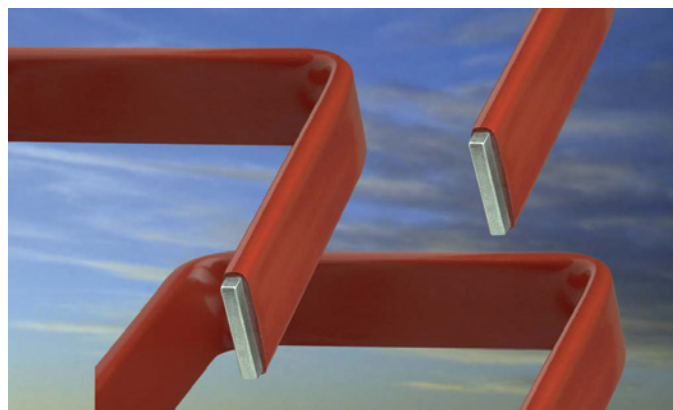
### BPTM - MEDIUM WALL BUSBAR INSULATING TUBING 25KV

#### FEATURES

- Excellent flexibility, will curve & bend without cracking or creasing
- High shrink ratio
- Extremely durable, resists damage from solvent, ultraviolet light, weathering mechanical impact and general wear & tear
- Suitable for indoor and outdoor use
- Excellent anti-tracking properties, flame retardant & non-halogen
- Good thermal emissivity and contact with busbars means no derating is required
- No shelf life (when stored below 50°C)

#### APPLICATIONS

- Areas where reduced air spacing between busbars is required
- Switchgear cabinets
- Where flashover protection up to 25kV is required



Cat No.	Length (m)	Inside Diameter (mm)		Recovered Wall Thickness (mm)
		Min Expanded	Max Recovered	
BPTM-15/6-A/U-4	30	15	6	1.90
BPTM-30/12-A/U-4	30	30	12	2.20
BPTM-50/20-A/U-4	30	50	20	2.35
BPTM-75/30-A/U-4	20	75	30	2.35
BPTM-100/40-A/U-4	25	100	40	2.35
BPTM-120/50-A/U-4	25	120	50	2.80
BPTM-175/70-A/U-4	15	175	70	2.80
BPTM-205/110-A/U-4	10	205	110	2.80
BPTM-235/130-A/U-4	20	235	130	3.10

Contact us for more information on exact application requirements



## BBIT - HEAVY WALL BUSBAR INSULATING TUBING 36KV

### FEATURES

- Excellent flexibility, will curve & bend without cracking or creasing
- High shrink ratio
- Extremely durable, resists damage from solvent, ultraviolet light, weathering mechanical impact and general wear & tear
- Suitable for indoor and outdoor use
- Excellent anti-tracking properties, flame retardant & non-halogen
- Good thermal emissivity and contact with busbars means no derating is required
- No shelf life (when stored below 50°C)



### APPLICATIONS

- Areas where reduced air spacing between busbars is required
- Switchgear cabinets
- Where flashover protection up to 36kV is required

Cat No.	Length (m)	Inside Diameter (mm)		Recovered Wall Thickness (mm)
		Min Expanded	Max Recovered	
BBIT-25/10-A/U-4	25	25	10	3.6
BBIT-40/16-A/U-4	20	40	16	3.6
BBIT-65/25-A/U-4	15	65	25	3.6
BBIT-100/40-A/U-4	15	100	40	3.6
BBIT-150/60-A/U-C	70	150	60	3.6
BBIT-175/80-A/U-4	10	175	80	3.6

Contact us for more information on exact application requirements

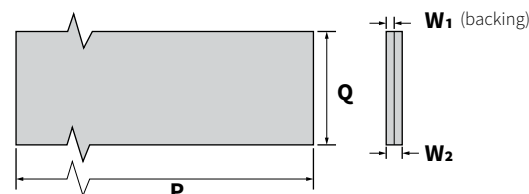
## HVIS - HIGH VOLTAGE INSULATION SHEETS

### FEATURES/BENEFITS

- Compatible with all other products in the Raychem MV insulation enhancement system
- Easy to install on site using a gas torch or hot air device
- Manufactured from a non-halogen based material, noxious and corrosive effects are greatly reduced in the event of a fire
- Excellent anti-tracking properties
- Excellent UV and weather resistant properties make HVIS suitable for indoor or outdoor use
- Can be stored indefinitely at temperatures up to 50 °C without loss of performance

### APPLICATIONS

HVIS will cover almost any size or shape of busbar joint, making it ideal for insulating busbar tees, elbows and other connections where tubing and tape cannot be used.



Cat No.	Dimensions (mm)			Length P (m)
	Q (Min)	W1 (Min)	W2 (Min)	
HVIS-05	660	1.5	2.4	0.5
HVIS-10	660	1.5	2.4	10.0
S1061-8-300	60	-	-	0.3
S1085-1-300	20	-	-	0.3
HVIS-TOOLS-01	BASIC CLAMP AND BRACKET KIT			
HVIS-TOOLS-02	EXTENDED CLAMP AND BRACKET KIT			



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# GEL FILLED PRODUCTS

## GELPORTS

Submersible connectors for underground reticulation. The GelPort connection system represents a revolutionary product for secondary connectors. Strip the cable and push it into the gel-filled cable port. The cable is encapsulated in PowerGel and instantly sealed.

GelPorts are corrosion resistant, with an impact resistant housing that can withstand rough installations. The gel-filled cable entry ports provide a reliable cable seal. PowerGel sealing gel was specifically developed for the electrical power industry. It is hydrophobic and provides an excellent moisture seal over a wide range of operating temperatures (-40°C to 95°C).

- Installation tool = 8mm Allen key

## GELPORT TESTING

### TESTING

Complete Unit

Connector

Chemical Resistance

UV Resistance

### TEST CONDITION

ANSI C 119.1, 2002 Report: EDR-5379, EDR-5409, EDR-5427

ANSI C119.4, 2003, Report: 502-47264, 502-47302, 502-47308

ASTM D543 to liquids: Sulphuric Acid, Sodium Sulphate, Sodium Chloride, Sodium Hydroxide, Ethylene Glycol

ASTM G-53-95, ASTM D-638-95



GPRT-300-3P

7-1201146-7

Cat No.	Back Cover Colour	Number of Cable Ports	Cable Size (mm <sup>2</sup> )	Length	Dimensions (mm)	
					Width	Height
5-1899241-7	CLEAR	3	2×16 – 150, 1×16 – 240	117	97	89
5-1899241-8		4	2×16 – 150, 2×16 – 240	149		
5-1899241-9		5	2×16 – 150, 3×16 – 240	180		
6-1899241-0		6	2×16 – 150, 4×16 – 240	212		
6-1899241-1		8	2×16 – 150, 6×16 – 240	276		
7-1201146-7	BLACK	4	4×6 – 150	149	97	89
GPRT-300-3P-OR	CLEAR	3	2×185 – 300, 1×16 – 185	128	90	105



## RAYGEL PLUS JOINT KITS

Raychem RayGel Plus Joint Kits offer quick, easy reliable sealed joints for low voltage applications. Enclosures offer a state-of-the-art sealed joint for underground, direct-buried and overhead applications.

- No cutting of main cable
- Housing is made of Halogen free UV resistant Polypropylene
- Insulating material is RayGel PowerGel Sealant
- Some kits include connector blocks or connectors



Cat No.	Connector Included	Conductor Size (mm <sup>2</sup> )		Dimensions (mm) L x W x H	Connector Size (Max mm) L x W x H
		Main	Tap		
RAYGEL-PLUS-0	NO	2-3 × 1.5-2.5 (1 × 10-50)	2-3 × 1.5 (1 × 10-16)	100 × 37 × 24	26 × 24 × 16
RAYGEL-PLUS-1	NO	3-5 × 1.5-2.5 (1 × 10-50)	3-5 × 1.5 (1 × 10-16)	139 × 51 × 24	26 × 38 × 16
RAYGEL-PLUS-2	YES	3-5 × 1.5-6	3-5 × 1.5-6	233 × 78 × 40	INCLUDED
RAYGEL-PLUS-3	YES	3-5 × 6-16	3-5 × 6-16	313 × 90 × 47	INCLUDED

## GHFC - GEL ENCLOSURES (1000V)

The GHFC gel enclosure range provides a fast and simple method for insulating and environmentally sealing low-voltage cable taps and splices made with gel compression connectors. The enclosure utilises the innovative PowerGel sealing gel to

protect the connection from moisture ingress, corrosion and pollution. Simply place the enclosure around the connection and press the enclosure together. It's that easy — no tapes, mastics, tools or mixing are required.

### FEATURES

- Easy re-entry; Raychem PowerGel peels away easily leaving a clean connection
- Ideal for street lighting and service applications
- Enclosures provide rugged protection; UV, impact and abrasion resistant
- Qualified for temperatures from -40°C to 90°C

Cat No.	Cable Size (mm <sup>2</sup> )		Dimensions (mm)		
	Main	Tap	Length	Width	Height
GHFC-1-90	16-35	2.5-10	70	41	27
GHFC-2-90	35-70	2.5-16	108	51	30
GHFC-2.5-90	50-95	16-85	179	70	40
GHFC-3-90	185	95	159	83	49



## MINI WEDGE GEL ENCLOSURE

Quickly and conveniently insulates, seals and protects Mini Wedge connections up to 600V. Can be used both overhead and for direct bury applications underground. In either case it's as simple as snapping the enclosure closed over the connection. The locating tabs ensure the connection remains in the right location if the enclosure is snagged.

\*Mini Wedge connector not included



Cat No.	Description
3-1199125-2	RAYCHEM MINI WEDGE/UDC SNOT BOX

## GELCAP SL - PERFECT FOR STREETLIGHTS

The Gelcap SL Splice Kit provides quick installation, dependable performance and easy re-entry for street lighting connections, among others. Packed with revolutionary PowerGel sealing gel, they offer a superior moisture seal over a wide conductor range.

- Temperature range -40°C to 105°C
- The cap is UV stable, insulating and offers excellent abrasion protection.
- Range Taking Connector 2 x 2.5mm<sup>2</sup>-70mm<sup>2</sup> and 1 x 2.5mm<sup>2</sup>-10mm<sup>2</sup>
- No extra materials or greases are required
- Simple Allen Key fastening



2-361372-1

Cat No.	Description
2-361372-1	RAYCHEM GELCAP TAP 2.5-70/2.5-10MM <sup>2</sup> – TWO BOLTS IN TAP HOLE

## GELWRAP

Single core GelWrap straight joints are a quick and convenient solution to insulate and seal buried electrical connections rated up to 600V. GelWraps are used around a connection or over a sheath repair. They are robust, compact and built to handle the harsh environments of a direct burial. The gel in the sleeve seals on contact, rails are simply snapped into place and self-latch. Install cable ties to secure in place.

- Moisture resistant
- Abrasion resistant
- Chemical resistant
- Seals over operating temperature ranging from -40°C to 95°C
- Compatible with solid dielectric cable insulations and connector greases
- GelWrap is flexible



Cat No.	Description	Conductor Size (mm <sup>2</sup> )	Max Conductor Dimensions (mm)		GelWrap LxD (mm)
			L	D	
GELWRAP18/4-250	LV GEL LINED WRAP SIZE 18/4MM × 250MM	2.5-95	175	25	250 × 25

\*Connector not included



## LVRG-NS-STL STREETLIGHT CONNECTION JOINT

A fast, simple and reliable connection for streetlight joints up to 16mm<sup>2</sup> Neutral Screen cables.

Main cable can be 6mm<sup>2</sup> - 16mm<sup>2</sup> with branch cable of 2.5mm<sup>2</sup> - 16mm<sup>2</sup>. The connector block is included with the RayGel product, it clips into the base of the joint enclosure to ensure correct placement and remove the risk of it being pulled out should the enclosure get snagged. This joint can be direct buried if required and is IP68 rated.

The hydrophobic nature of the Raychem PowerGel ensures any moisture present when the joint is prepared is expelled and no moisture can enter the joint in the future. This enclosure can be reentered should the connection need to be removed.



Cat No.	Application Range (mm <sup>2</sup> )		Dimensions (mm) L x W x H	Connector
	Main Cable	Branch Cable		
LVRG-NS-STL	3-5 x 6-16	3-5 x 2.5-16	313 x 90 x 47	INCLUDED

## GUROSIL-GEL FILLED JUNCTION BOX INCLUDING TERMINAL STRIP

The GUROSIL-Gel filled Junction Box is designed to protect electrical connections from the ingress of water as found in rooms with high humidity effects as well as in outdoor applications. GUROSIL-Gel is a soft-elastic hardening, amber cold casting compound that is based on hydrocarbon resins.

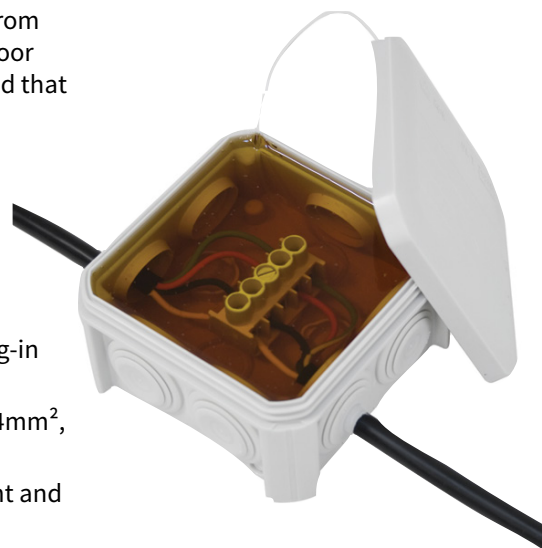
Quick and clean casting is simple with the help of customary caulking guns, so no special tools are required. It is easy to remove, repairable and self-sealing. Electrical connections can be tested and repaired quickly where required, even after installation.

### FEATURES AND BENEFITS

- IP68 proven casting system
- Provides reliable protection against humidity, mechanical shock and vibration
- Quick, easy and clean to install using customary caulking guns
- Soft-elastic, transparent, self-repairing and self-sealing
- Easy to remove (GUROSIL-Gel)
- Halogen, Silicon and Isocyanate free
- Environmentally friendly

per connection

- Cable Entry: 7 x M25 including plug-in seals for cable diameter 4-20mm
- Terminal System: Terminal block 4mm<sup>2</sup>, 5-poles, pluggable
- Enclosure Material: Shock-resistant and flame retardant plastic material
- Enclosure Light grey (RAL 7035), LxWxH: 90 x 90 x 52mm



### TECHNICAL DATA

- Nominal Voltage: 400V
- Dielectric Strength: >20kV/mm
- Operating Temperature: -40°C to +90°C
- Cable Diameter: 6 x 1mm<sup>2</sup>, 5 x 1.5mm<sup>2</sup> or 4 x 2.5mm<sup>2</sup>



Durable waterproof connections



Easy and clean to install

Cat No.	Description
JOR-53800	JUNCTION BOX, TERMINAL STRIP & GUROSIL-GEL CARTRIDGE INCLUDES MIXER
JOR-53801	GUROSIL-GEL CARTRIDGE INCLUDES MIXER, 250ML

## RESIN FILLED JOINT KITS

### GURO KITS FOR POLYMERIC INSULATED CABLES UP TO 1KV

Designed for use with LV cables, these joint kits consist of an impact resistant, transparent polypropylene snap-to-close designed housing, polymer foam for sealing, GUROFLEX environmentally friendly easy to handle two compound cold casting material and a Hellstern Ring Connector.



GURO MM5  
Install Video



These joints are easy and quick to assemble, resistant to breaks/cracks due to the elasticity of the compound, and mechanically robust due to the nature of the impact resistant polypropylene housing.

Cat No.	GURO Kit Size	No. of Cores	Main Conductor Size (mm <sup>2</sup> )	Tap Off Conductor Size (mm <sup>2</sup> )
GURO50/70KIT	MM5	4	50-70	6-70
GURO70/150KIT			70-150	
GURO150/185KIT			150-185	
GUROMM7/240	MM7	4	240	6-70
GUROMM7/3C/95MM		3	95	
GUROMM7/3C/185MMKIT			185	
GURO70-150/4-120KIT		4	70-150	4-120

### GUROFLEX LV RESIN

GUROFLEX is an environmentally friendly, non-toxic and non-hazardous casting material for 1kV cable joints. It's easy to handle (no special protective measures are required to handle it) and is a cold casting material based on hydrocarbons.

Hydrocarbon resins are generally known for their low water absorption, excellent electrical insulation properties and high elasticity over a wide temperature range without splitting and cracking. Due to its elasticity, it is well-suited to accommodate thermal expansion of insulated cables, thereby preventing tears, breaks and cracks that could permit water ingress. It is an excellent insulating material with water-repellent properties. It covers and adheres to metal components and protects them from corrosion.

GUROFLEX is prepared immediately before casting. The two components are mixed together in a double chamber bag and then the cross-linking process starts. Compared with other resin types, GUROFLEX is easy to process and generates no heat during curing. Furthermore, GUROFLEX is resistant to low temperatures as low as -20°C. Processing is possible at temperatures as low as -10°C.

GUROFLEX is suited for use in all cable joint systems with robust closures up to 1kV. It is qualified according to CENELEC HD 623. It is suitable for filled XLPE, PE, PVC and paper-insulated cables. GUROFLEX is available in double chamber bags and tins.

#### TECHNICAL DATA

- Viscosity: Component A 5000 mPa-s Component B 5000 mPa-s
- Dielectric Strength: 10kV/mm
- Density: Component A 1.36g/CM3 Component B 0.94g/CM3
- Minimum storage temperature: -20°C
- Minimum installation temperature: -10°C
- Shore hardness A: ~20
- Shelf Life: 2 years at 23°C
- Colour: Green

For MV resin see page 112.



Cat No.	Packaging	Volume (L)
730032-000	BAG	2

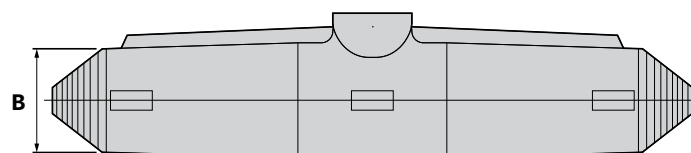


## PXE - LV RESIN STRAIGHT JOINT KITS

PXE Resin filled joints for armoured and unarmoured cables up to 1kV. The PXE range of LV Resin Joints caters for most common types and sizes of power distribution and control cables. The straight arrangements accommodate most conductor connection methods.

### FEATURES

- Joint Insulation, sealing and mechanical protection provided by proven two-part polyurethane resin
- Supplied in convenient foil packs
- Range-taking joint kits with few components for quick and simple installation
- Clear, robust, snap-together joint shells for easy positioning and filling
- Choice of kits with or without screw connectors for Copper and Aluminium conductors
- Core separator included to ensure adequate clearance between conductor connectors
- Earth bonding components included in kits for armoured cables
- Cable joints that comply with VDE standards
- Abrasive cloth, sealing tape and protective gloves included in the kit
- Performance tested to European standard EN 50393



Cat No.	Cable Conductor Size Max (mm <sup>2</sup> )		Cable Entry Dia. B (mm)
	2 & 3 Core	4 Core	
PXE-SU1	10	6	6-19
PXE-SU2	25	10	6-27
PXE-SU3	35	16	14-34
PXE-SU4	50	25	16-37
PXE-SU5	70	50	20-44

## ESJR - LV RESIN STRAIGHT JOINT KITS

The ESJR range of resin straight joints have exceptionally good range-taking capabilities, and having the connector included offers even more benefits. The kit is made up of a PXE kit and the appropriate connectors – everything you need in one kit!

### ESJ-R RESIN KIT FEATURES

- Joint Insulation, sealing and mechanical protection provided by proven two-part polyurethane resin
- Kit contains connectors
- Range-taking
- Clear, robust, snap-together joint shells



ESJ-R Install Video



Cat No.	3C NS & 4C Conductor Size Max (mm <sup>2</sup> )	Cable Entry Dia. (mm)
ESJ-R-4-10	6-10	6-27
ESJ-R-16-35	16-35	16-37



## LV RESIN JOINT KITS - STRAIGHT & BRANCH JOINTS

Resin filled joints for armoured and unarmoured cables up to 1kV.

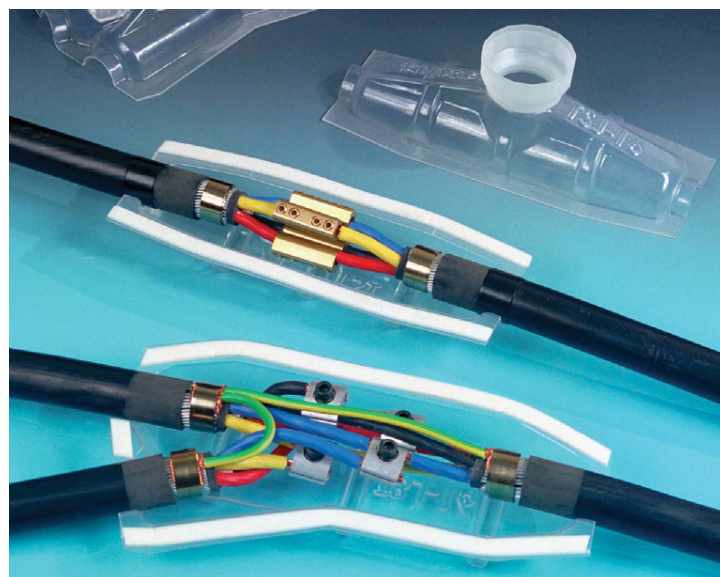
These LV Resin Joints are designed to accommodate modern mechanical connectors requiring no special installation tools. Both straight and branch joints are designed for cable ranges from 1.5mm<sup>2</sup> up to 300mm<sup>2</sup>.

### RESIN KIT FEATURES

- Joint Insulation, sealing and mechanical protection provided by proven two-part polyurethane resin supplied in convenient foil packs
- Clear, rigid high-impact joint shells allow easy viewing to aid correct installation
- Armour continuity bonding components included in every kit
- Qualified to national and international performance standards
- Joint shells are supplied complete with pre-applied foam sealing strips, fixing clips and sealing tape
- Filling the joint is easy with a convenient pouring funnel and sealing cap
- Joints are filled with a qualified and well established two-part polyurethane resin system supplied in flexible foil laminate pouches for easy mixing and pouring
- Resin Kits carry a full 2-year shelf life

### APPLICATIONS

- Joints are designed for 2, 3 and 4-core power cables with



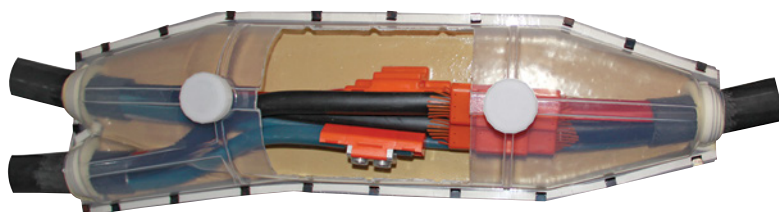
rated voltage up to 0.6/1.0 (1.2) kV

- Suitable for:
  - Copper or Aluminium (solid or stranded) conductors up to 300mm<sup>2</sup>
  - XLPE, PVC OR EPR insulation
  - Wire armour (SWA) or strip armour
  - PVC or PE sheath
  - TBJ branch joints are suitable for branch cables up to the maximum main cable conductor size for each kit

### WITHOUT CONNECTOR

Cat No.		Cable Size (mm <sup>2</sup> )		Cable Entry Dia. (mm)	
Straight Joints	Branch Joints	2 & 3 Core	4 Core	Min	Max
TSJ6	TBJ6	1.5–10	1.5–6	9	21
TSJ16	TBJ16	10–25	10–16	15	27
TSJ35	TBJ35	25–50	25–35	21	33
TSJ70	TBJ70	70–95	50–70	29	41
TSJ120	TBJ120	120–150	95–120	39	57
TSJ185	TBJ185	185–240	150–185	49	67
TSJ300	TBJ300	300	240–300	59	77

### WITH SHROUDED MECHANICAL CONNECTOR



Cat No.	Cable Size (mm <sup>2</sup> )		Cable Entry Dia. (mm)	
	Main Cable	Branch Cable	Min	Max
TBJ-1	70–150	70–150	35	67
TBJ-2	185–240	185–240	48	70
TBJ-3	300–300	300–300	70	77

## RAPID 4300 - RESIN FOR LOW & MEDIUM VOLTAGE CABLE JOINTS

The function of this casting material is to insulate and protect low and medium voltage systems where mechanical protection and prevention of water ingress from outside the joint or from within the cable are required (classification according HD 631.1 S2: LMP/LI-W: MMP-W).

RAPID 4300 is a two component hydrophobic, elastic polyurethane resin, meeting the requirements of HD 631.1 S2 and EN 50393. RAPID polyurethane resins consist of part A – a mixture of polyols, fillers and special additives - and part B – the hardener which is MDI (diphenylmethane-diisocyanate). The isocyanate is classified as a hazardous material and is labelled 'harmful' in accordance with European regulations.

Outstanding properties include excellent hydrolytic stability and most impressive hydrophobic characteristics. RAPID 4300 has an excellent curing profile at various temperatures, allowing easy handling and curing in different environments. Permanent elasticity ensures long-term stability and accommodation of cable movement. As a result of the cross-linking reaction, the resin bonds strongly to functional parts, preventing the creation of voids between hardened resin and cable insulation.

The resins are supplied with gloves and instructions, and is supplied in a sealed bag. The two components are mixed in the



double chamber bag to start the cross-linking process. The resin and hardener is most effective when mixed at room temperature for at least two minutes. The resin cures after mixing, to a tough flexible electrically inert mass. The resin has a 'pot' life of approximately 15 minutes to allow the joint to be filled, it gels in approximately 1 hour and is fully cured after 24 hours.

In ambient temperatures below 20°C follow recommendations in Technical Note below.

### TECHNICAL DATA

- Material: Resin: Polyol blend  
Hardener: Polymeric aromatic diisocyanate
- Type: Polyurethane
- Colour: Beige
- Mixing & Curing Times  
Mix time: 2 minutes. Pot life at 20°C: 15 minutes  
Gel time: Approximately 1 hour  
Cure time: 24 hours
- Reaction Temp: 60°C
- Mix Ratio: Resin to hardener: 100:36 by weight
- Specific Gravity: 1.08
- Hardness: 30 Shore D
- Dielectric Strength: 11kV/mm
- Tensile Strength: 4 MPa
- Shelf life: 24 months
- Storage Temp: 5°C min/40°C max
- Elongation at break 30%

### TECHNICAL NOTE - COLD TEMPERATURES

Resins do not cure rapidly in temperatures below 20°C. Either raise the ambient temperature or warm the joint, cable and connectors.

**Note:** Moisture can originate from a gas flame.



Cat No.	Packaging	Volume (L)
JOR-06054	BAG	0.55
JOR-06056	BAG	1.7
JOR-59216	BAG	2.4
JOR-59220	BAG	4.0



## LVSB - LOW VOLTAGE SERVICE BRANCH JOINT, RESIN FILLED

The Raychem LVSB range of joints offers a level of safety and protection to the installer for live installations that is not available in other joint styles. The connectors used are completely insulated, there are no exposed live parts, and each phase is connected completely independently of the others.

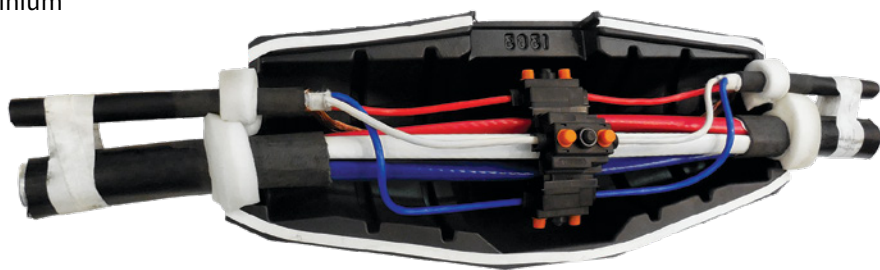
This system uses the MSIP range, connectors that use the insulation piercing technology to achieve a high pressure connection made off to the correct torque every time. The pre-torqued shear head bolts make the installation even easier, with no need to use any special tools for installation.

Having an individual connector for each phase increases safety for the installer by ensuring only one phase is exposed at any time, removing the risk of a flash over or accidental contact with any other live phases.

Intended for "live" jointing of service conductors on to LV mains cables of various types. Up to 300mm<sup>2</sup> main and up to 2 x 35mm<sup>2</sup> service conductors.

### FEATURES

- Fully shrouded connector body
- Two entry ports for service cables
- Maximum section of each of the two service conductors depends on the main cable size
- Service connections are made with a 3mm grub screw
- Main connection is made with a 19mm A/F socket
- Maximum service cable is 35mm<sup>2</sup> Copper or Aluminium
- Made to requirements of IEC 61238-1
- No need to strip the main conductor
- No exposed metal work during installation
- Insulated drive mechanism detaches at set torque when installation is complete
- Range taking connector accepts Cu & Al cable
- Can be installed under load - safer working
- Rapid Resin included



Cat No.	Main Cable Size Range (mm <sup>2</sup> )	Tail Cable Size Range (mm <sup>2</sup> )
LVSB-M1	70-185	10-35
LVSB-M2	185-300	10-35



## XLPE LV INLINE HEATSHRINK JOINTS UP TO 1KV

### LV INLINE JOINT KITS WITH MECHANICAL CONNECTORS

#### APPLICATIONS & FEATURES

- Single and multicore inline joint kits including mechanical connectors
- Complete range available
- Suitable for Al, Cu and Bimetal applications
- No need for jointing compound therefore no mixing or pouring
- Can be buried immediately, no curing time
- No shelf life on Heatshrink products



**NOTE:** Other size ranges and custom configurations available on request

Cat No.	No. of Cores	Size Range Cu (mm <sup>2</sup> )	Size Range Al (mm <sup>2</sup> )
LVJM-25/95-1	1 CORE	25-95	25-95
LVJM-35/150-1		35-150	35-150
LVJM-95/240-1		95-240	95-240
LVJM-120/300-1		120-300	120-300
LVJM-185-400/630-1		185-400	630
LVJM-630-1		630	630
LVJM-6/35-NS-4	3 CORE + NS	6-35	6-35
LVJM-25/95-NS-4		25-70/95*	25-70/95*
LVJM-95/185-NS-4		95-185*	95-185*
LVJM-120/300-NS-4		120-300*	120-300*
LVJM-185/300-NS-4	4 CORE + NS	185-300*	185-300*
LVJM-25/95-NS-5		25-95	25-95
LVJM-6/35-4		6-35	6-35
LVJM-25/95-4	4 CORE	25-70/95*	25-70/95*
LVJM-35/150-4		50-95/120*-150*	50-95/120*-150*
LVJM-70/185-4		70-185	70-185
LVJM-95/185-4		95-185*	95-185*
LVJM-120/300-4		120-300*	120-300*
LVJM-185/300-4		185-300*	185-300*
LVJM-95/185-SP5C	4 CORE – 5 CORE	95-185*	95-185*

**Note:** \* Pressed round

## EPKJ - LV INLINE JOINTS

### APPLICATIONS

- Armoured and unarmoured multi-core and multi-pair control cables
- Up to 1kV
- Duraseal connectors can be used with these joints (order separately)
- Other configurations available



### 1KV STRAIGHT JOINTS FOR PLASTIC INSULATED CONTROL CABLES – WITHOUT CONNECTOR

Cat No.	Armoured	Conductor Size (mm O.D.)	Number of Cores
EPKJ-C-11	NO		2-7
EPKJ-CA-11	YES	1-4	2-7
EPKJ-CA-14	YES		22-40

### 1KV STRAIGHT JOINTS FOR PAPER INSULATED CABLES – WITHOUT CONNECTOR

Cat No.	Joint Type	Conductor Size (mm <sup>2</sup> )	Number of Cores
EPKJ-PLA-3	STRAIGHT/INLINE	16-35	4
EPKJ-PLA-4		50-95	
EPKJ-PLA-5		70-150	
EPKJ-PLA-6		185-300	

## ESJ - 4 CORE INLINE JOINTS

### APPLICATIONS & FEATURES

- Kit contains all parts required to make off the joint
- For Copper and Aluminium applications
- Mechanical connectors ensure correct torque is reached for reliable connection



ESJ-1C Install Video



ESJ-16-35 Install Video



### WITH MECHANICAL CONNECTOR

Cat No.	Description	Size Range (mm <sup>2</sup> )
ESJ-1C	1 CORE	6-70
ESJ-4-10	4 CORE & 3 CORE + NS	4-10
ESJ-16-35	4 CORE & 3 CORE + NS	16-35



## INLINE JOINTS FOR TPS CABLE

### APPLICATIONS & FEATURES

- Perfect for TPS and smaller diameter cables
- Heatshrink tubing is cut to suitable lengths for waterproofing
- For use with Copper and Aluminium conductors



### WITHOUT CONNECTOR

Cat No.	Conductor Size (mm <sup>2</sup> )	No. of Cores
LVK01	6–16	2–4 CORES
LVK02	16–35	
TJ-1	1–4	4 CORE
TJ-2	6–10	
TJ-3	9–16	

## LJTM - LV INLINE TRANSITION JOINT KITS

### APPLICATIONS

- Jointing plastic insulated cables to paper insulated cables
- Accommodates Polymeric sheathed and Lead sheathed paper insulated cables
- For jointing 4 core cables
- Connectors are included
- Range taking connectors reduce the number of kits required to cover the conductor range



### WITH MECHANICAL CONNECTOR

Cat No.	Conductor Size (mm <sup>2</sup> )	
	Plastic Insulated Cable	Paper Insulated Cable, Lead Sheath
LJTM-4X10-50	10–50	10–50
LJTM-4X35-95	35–95	25–70
LJTM-4X35-150	35–150	35–120
LJTM-4X95-240	95–240	95–185
LJTM-4X185-300	185–300	185–300

## SINGLE PHASE LV BRANCH JOINTS

### APPLICATIONS

- Single phase branch joints for low voltage plastic cables
- DSWS Wrap-around technology with thermo-sensitive paint as visual guide
- Range taking USB Mechanical connector (-M kits only)
- Suitable for direct burial
- Branch off clip BOCL (-M & MD kits only) provides greater reliability of seal between two cables
- Temperature range -40°C to 120°C



### WITH MECHANICAL CONNECTOR

Cat No.		Conductor Size Main (mm <sup>2</sup> )	Conductor Size Tap (mm <sup>2</sup> )
Single Tail	Double Tail		
CRSM-CT1-M	CRSM-CT1-MD	25-95	16-35
CRSM-CT2-M	CRSM-CT2-MD	50-185	16-35
CRSM-CT3-M	CRSM-CT3-MD	185-300	16-35



### WITHOUT CONNECTOR

Cat No.	Conductor Size - Main (mm <sup>2</sup> )	Conductor Size - Tap (mm <sup>2</sup> )	Connector Length (mm)
CRSM-CT-1-150	16-150	1.5-35	50
CRSM-CT-50-300	50-500	35-120	100
CRSM-CT-50-500		120-185	150

## LVTM - LV TERMINATION KITS FOR 4 CORE XLPE CABLES

### APPLICATIONS

- UV Resistant (includes covering for phase and neutral conductors)
- Voltage class 1kV
- Temperature range -40°C to 120°C
- Indoor or outdoor use
- Full range of terminations available
- Complete with mechanical lugs to suit Al, Cu & Bimetal terminations



### WITH MECHANICAL CONNECTORS

Cat No.	Type	Tail Length (mm)	Size Range Cu Conductors (mm <sup>2</sup> )	Size Range Al Conductors (mm <sup>2</sup> )
LVTM-16/70-4	INDOOR	500	16-70	25-70
LVTM-35/120-4			35-120	35-120
LVTM-95/185-4			95-185	95-185
LVTM-120/300-4			120-300	120-240
LVTM-185/300-4			185-300	185-300
LVTMO-16/70-4	OUTDOOR	500	16-70	25-70
LVTMO-35/120-4			35-120	35-120
LVTMO-95/185-4			95-185	95-185
LVTMO-120/300-4			120-300	120-240
LVTMO-185/300-4			185-300	185-300





## LVTE - LV END OF RUN JOINTS FOR XLPE CABLES

### APPLICATIONS

- UV Resistant
- Perfect for direct burial
- Tail down from main cable to tap cable at end of run
- Re-enterable for use at a later date
- Temperature range -40°C to 120°C



Cat No.	Description	Main Cable (mm <sup>2</sup> )	End of Run Cable (mm <sup>2</sup> )
LVTE-16-70-4C	4 CORE TO 4 CORE END OF RUN JOINT	4 CORE 70	4 CORE 16-35
	4 CORE TO 4 × 1 CORE END OF RUN JOINT		1 CORE 16-35
LVTE-16-185-4C	4 CORE TO 4 CORE END OF RUN JOINT	4 CORE 185	4 CORE 16-35
	4 CORE TO 4 × 1 CORE END OF RUN JOINT		1 CORE 16-35
LVTE-16-300-4C	4 CORE TO 4 CORE END OF RUN JOINT	4 CORE 300	4 CORE 16-50
	4 CORE TO 4 × 1 CORE END OF RUN JOINT		1 CORE 16-50

## LESK - LOW VOLTAGE LIVE END SEAL KITS

Raychem LV live end seal kits are designed for use on LV XLPE & PILC insulated cables. The design enables the installer to safely and appropriately seal the end of a four core cable for direct burial & reliving.

### FEATURES

- Environmental sealing of LV XLPE & PILC cable
- Resistant to corrosion and decay
- Uses Raychem Heatshrink technology
- Operating temperature range -40°C to 120°C
- Kitset contains all parts required to make off a live end seal
- Adhesive lined

Cat No.	Cable Type	Application Range (mm <sup>2</sup> )
LESK-25/50	4C XLPE	25-50
LESK-70/120		70-120
LESK-150/300		150-300



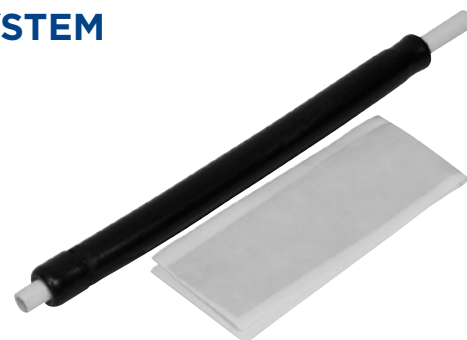
## ROLL ON JOINT SYSTEM

### RAYVOLVE RVS - TOOL FREE ROLL ON LV JOINT SYSTEM

### FEATURES

- Outer environmental seal for unarmoured and neutral screened cables
- Resistant to corrosion and decay
- Single core joints
- No heat required
- Connector not included in kit
- Fast and simple to install

Cat No.	Cable O.D. (mm)	Cable Size (mm <sup>2</sup> )	Sleeve Length (mm)	Unit
RVS-11	9-17	10-70	205	EA
RVS-12	12-23	50-120	240	EA
RVS-13	18-30	120-300	305	EA

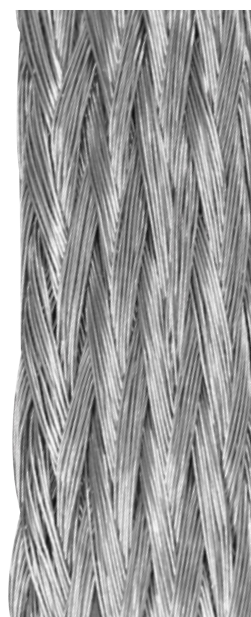
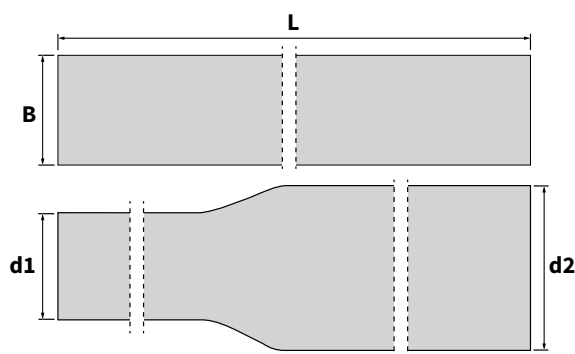


## ACCESSORIES

### EARTH BRAID

Copper braid is used for earthing applications and cable jointing where the cable needs to be fully reinstated. The tinned Copper braid is a flexible fine woven product with a tinned finish.

Sold by the metre, Earth Braid can be cut to length to reduce waste.



Cat No.	Cross-Section (mm)	Braid Construction No. of Strands	Strand Diameter (mm)	B (mm)	d1 Min Dia. (mm)	d2 Max Dia. (mm)	L
EPPA-013-1-A	7	36 × 11	0.15	10	9	20	M
EPPA-013-3-A	25	36 × 10	0.3	22	10	23	M
EPPA-013-5-A	35	36 × 14	0.3	35	28	70	M
EPPA-013-6-A	50	48 × 15	0.3	50	25	90	M

### COPPER MESH TAPE

Copper mesh is wrapped around the connection to restore the corresponding screen cross section while jointing, and connects with the external surface of the terminations. This range is suitable for

1kV to 36kV applications. The mesh is fabricated and is used to cover the joint area as an outer protection cage against mechanical abuse. This component is an integral part of many cable jointing kits.

Cat No.	Width (mm)	Roll Size (m)
EPPA-009-2000	50	2
EPPA-009-3000		3
EPPA-009-4000		4
EPPA-009-5000		5
EPPA-009-6000		6



### BRASS GAUZE

Brass gauze can be used to wrap copper conductors, and is recommended for small or loosely compacted conductors for a more secure fit in mechanical connectors.

The brass gauze is sold in pack of 3, each piece is 50mm x 70mm and the purpose is to offer improved electrical stability when joining copper cores.

Cat No.	Dimensions (mm)	Pack Size
GA5070	50 × 70	3
GA50100	50 × 100	3





## BOCL - BRANCH OFF CLIP

BOCL adhesive branch off clips provide greater reliability of seal between two cables.

### APPLICATIONS

- Sealing at point of cable break out
- Provides environmental seal via heat activated adhesives
- Clip body holds outer sheath in place while adhesive is melted and bonds
- Available in two sizes

Cat No.	Dimensions L x W x D (mm)	Size
BOCL-20-1638C0NZ	109 × 60 × 12	SMALL
BOCL-20-1068C004	65 × 28 × 10	LARGE



## ROLL SPRINGS

Also known as constant force springs, roll springs, made from fatigue resistant Stainless Steel, are used to attach a shielding braid to the tape shield of a plastic cable when terminating or jointing. The larger sizes are mainly used for

attaching earth braids to lead sheathed cables and commonly form an integral part of the MV TE joints and terminations.

Roll springs also work with copper earth braid as a clamp to hold it in place.

Cat No.	Application Range (mm)	Width Max (mm)
EPPA-034-A	12-20	13
EPPA-034-B	17-26	13
EPPA-034-C	25-40	13
EPPA-034-E	17-29	25
EPPA-034-F	30-39	25
EPPA-034-M	33-45	25
EPPA-034-G	40-60	25
EPPA-034-H	50-75	30



## GURO-CEC - PUSH ON SILICONE CABLE END CAPS

### FEATURES

- Made from Silicone Rubber
- Used to protect cable ends from humidity during storage
- High elasticity & toughness
- against crack propagation
- Weatherproof
- UV resistant
- Range taking

Cat No.	Application Range (mm)	Cable Cross Section (mm <sup>2</sup> )
GURO-CEC-20/26	20-26	4 × 10 – 5 × 16
GURO-CEC-24/34	24-34	5 × 16 – 4 × 35
GURO-CEC-30/38	30-38	4 × 35 – 4 × 70
GURO-CEC-38/48	38-48	4 × 70 – 4 × 120
GURO-CEC-44/55	44-55	4 × 120 – 4 × 185



**Note:** No heat required, simply push on



## LV LINK BOXES & PILLARS

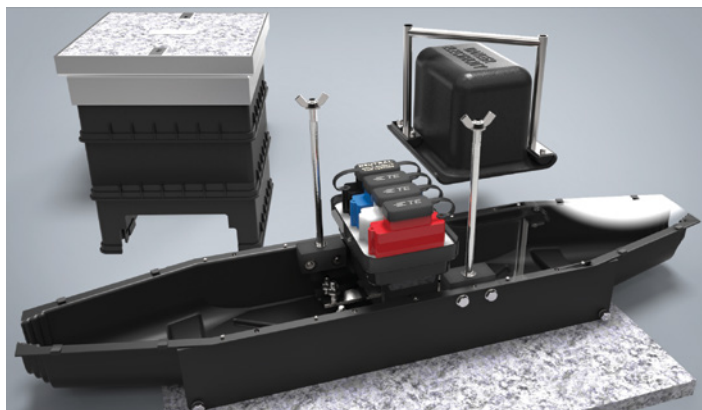
### TAPPAT LOW VOLTAGE LINK BOX KITS

Allows the network to parallel or isolate low voltage mains cables using the diving-bell principle, meaning it is housed in a totally submersible underground pit. Perfect for situations where council bylaws stipulate underground installations only.

It is a like-for-like replacement for existing bitumen-filled link boxes at the end of their asset life. Available in 2way or 4way configuration with 600amp Camlock links included.

#### FEATURES & BENEFITS

- Depth of pit can be tailored to the requirements of each installation by adding or removing enclosure modules
- Jacking screws allow lid adjustment for uneven ground levels
- Functional switching ability allows for easy sectionalising during fault conditions reducing outage times
- Touch safe fittings and no exposed live metal work
- Complies with all applicable international standards: EN50393:2006, EC60439.5:2006, Ed2.0, C.81/3:1996, Pit & Lid meet B125 & EN124 standards
- Range-taking – mains cable up to 300mm<sup>2</sup>
- Pit is made of durable HDPE plastic
- Two piece concrete lid can hold 45N/mm<sup>2</sup> & comes with an identification plate cast into it
- Stabilising base pad included with every kit
- Complete with circuit I.D. labels
- Cam Lock links tested to 600 amps
- 762mm Long x 609mm Wide x 564mm High



Cat No.	Description	Dimensions
TAP10510-NZ	TAPPAT 2 WAY LINK BOX COMPLETE - UNTAILED	457.2 × 457.2 × 564H
TAP10710-NZ	TAPPAT 4 WAY LINK BOX COMPLETE - UNTAILED	762 × 609 × 564H
TAP10710-NZ-TAILED	TAPPAT 4 WAY LINK BOX COMPLETE - TAILED (BY REQUEST ONLY)	





## B&H 4 WAY LOW VOLTAGE LINK BOX KITS

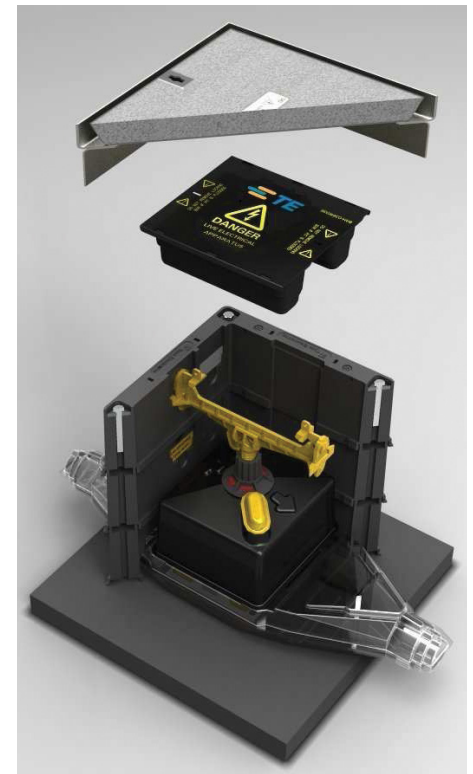
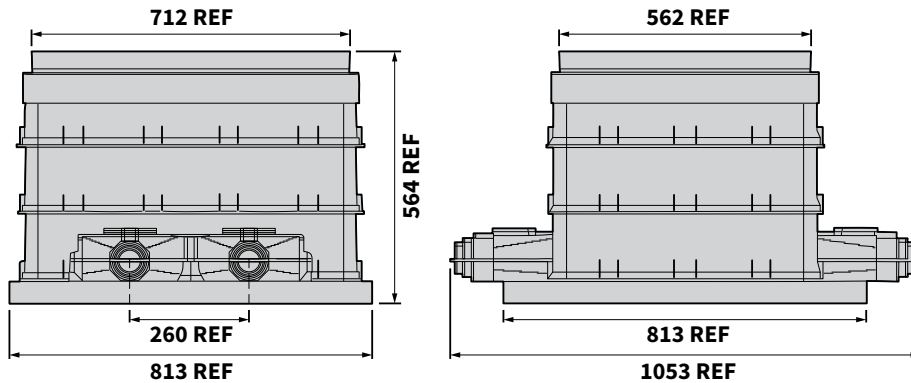
### FEATURES AND BENEFITS

- Compact modular concept reduces weight and space required for link box positioning
- Retained lightweight ABS molded lid replaces the traditional cast iron diving bell lid
- Integrated locking facility combined with the lid retaining system & toolbox, with fail-safe positioning
- Shell designed for crossing 300mm<sup>2</sup> cores with sufficient resin coverage
- Single resin casting eliminates moisture ingress issues associated with multiple cast link boxes

- Reduced number of connections improves electrical performance and product longevity
- Error-proof factory assembly due to torque and system control software and zero-fault technology

### STANDARDS

- BS EN 50393:2006
- EA Technology draft specification for 4 way underground link boxes
- BS EN 60947-1:2004
- ER C81/4 1999
- Pit frame & cover meet B125 EN124



Cat No.	Description	Dimensions (mm)
LV-LINKBOX-4W-COMPLT	4-WAY 3 & 4-CORE UNTAILED MK3 LINKBOX	562 × 712 (TOP), 1053 × 813 (BASE)

**Note:** 2 Way link box kit available on special request.



## TAPPAT LOW VOLTAGE LINK PILLAR - 2 WAY

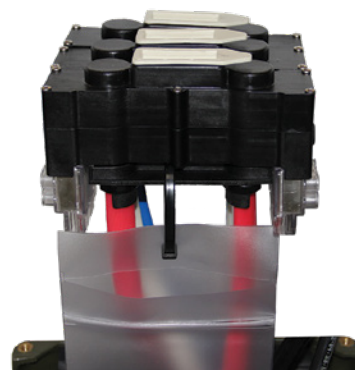
Allows greater flexibility when isolating, paralleling, back feeding or sectionalising LV cables. Perfect for placement at intermittent locations along a LV cable run as an open point between transformers or every second boundary, giving the network the ability to restore supply to customers along a faulty cable run except the customer with which the fault is located. This concept would also apply to planned outages.

Minimal disruption during routine maintenance and replacement projects will become the norm as each pillar is back fed, via the Tappat linking system, to the boundary either side of the job.

Increased safety through reduced live jointing requirements.

### FEATURES & BENEFITS

- Tinned Brass connections eliminate the possibility of corrosion
- 185mm<sup>2</sup> to 300mm<sup>2</sup> mains, up to 50mm<sup>2</sup> service connections
- Tested to 600 amps
- GelPort – main neutral
- Up to 6 service fuses can also be accommodated (2x3 phase or 6x1 phase or street lights)
- UV Stable repurposed Rotathene 6329 plastic pillar (TE-LINK-2-3-G-EP6)
- Range of locking systems available
- Low profile/unobtrusive design
- Functional switching capacity reduces customer outage minutes during fault conditions



Cat No.	Description
TE-LINK-2-3-G	TE 2 WAY SWITCH COMPLETE WITH 3 PORT GELPORT NEUTRAL CONNECTION
TE-LINK-2-3-G-EP6	TE 2 WAY SWITCH COMPLETE WITH 3 PORT GELPORT NEUTRAL CONNECTION AND SERVICE FUSES, HOUSED IN LOW PROFILE EP6 PILLAR

## TAPPAT 3 WAY LINK PILLAR

This 3-Way Open/Switching Point Link Pillar is predominantly used for standard link and isolation procedures and load balancing. The TE Link Pillar is designed to be used in a 3 phase, 400 Volt, 50 Hz MEN distribution system, to connect/disconnect or parallel LV feeders. This handy system can be easily accommodated in an ECO Pillar EP7LP3 pillar with a sturdy steel base frame and UV stable plastic shell.

### FEATURES & BENEFITS

- No bare live parts - completely encased Copper bus for worker safety
- Ability to include service connections if required
- Tinned Brass connections eliminate possibility of corrosion
- Aids quick and easy fault finding in LV

networks

- Accommodates main cables 185mm<sup>2</sup> up to 300mm<sup>2</sup> & up to 50mm<sup>2</sup> service connections
- Tested to 600 amps
- Specifically designed product for use in utility applications
- Capacity to house additional service fuses for street lights or customers
- Galvanised Steel pillar base and UV stable Rotathene 6329 plastic pillar body
- All products come with an installation instruction and components list
- Functional link and isolation capacity allowing minimal customer outage minutes during fault conditions
- Maximum flexibility control of your LV network



Cat No.	Description
TAP10511-NZ	TAPPAT 3 WAY LINK PILLAR - SWITCHGEAR ONLY (PILLAR NOT INCLUDED)
TE-LINK-3-3-G-EP6	EP6 ECO PILLAR WITH TAPPAT 3 WAY LINK SWITCHGEAR INCLUDED



## EP7LP3 - LINK PILLAR

- Designed for connecting low voltage distribution cables to other cables or to the secondary winding of a distribution transformer in a 400V, 50Hz LV circuit
- These pillars can be used as link, junction or service pillars
- Made of UV Stable repurposed Rotathene 6329
- Base structure is galvanised steel
- Copper busbar
- No bare live parts - plastic panel with sealing plugs encapsulates busbar
- Lid secured with torx security screws
- Can be supplied empty or with switchgear configuration of your choice (not limited to those listed):
  - 1x250 Amp DIN + 4x160 Amp DIN
  - 1x630 Amp DIN + 1x630 Amp DIN + 1x250 Amp DIN
  - 1x630 Amp DIN + 4x160 Amp DIN
  - 1x400 Amp DIN + 4x160 Amp DIN
  - 2x250 Amp DIN + 2x160 Amp DIN
  - 3x250, 400 or 630 Amp DIN



\*\*To have switchgear added prior to delivery, please contact us.

Cat No.	Description
EP7LP3	ECOPILLAR 3 WAY LINK PILLAR COMPLETE WITH BUSBAR & PANEL (SWITCHGEAR NOT INCLUDED)





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# XLPE COLD APPLIED TERMINATION KITS

## CSTI/CSTO - 1C COLD APPLIED TERMINATION KITS FOR XLPE CABLES

- Pre-expanded termination body with integrated stress control deflector and sealing mastic
- Extra-long silicone stress cone is integrated with the termination
- Moisture sealing at the lug is integrated
- Accommodates mechanical shear bolt lug (included in kit) or compression lug
- Easy to install spiral holdout, rip cord pulling direction towards the lug
- Outstanding weathering, UV, Ozone, fungal & Chemical Resistance
- Excellent electrical properties, including tracking resistance & dielectric strength
- Hydrophobic (water-repellent), Non-flammable, Self-extinguishing
- Retains performance over wide temperature range  $\pm 45$  to  $+150^{\circ}\text{C}$
- Excellent resistance to splitting and permanent set
- Meet requirements of all applicable international standards

**NOTE:** All single core termination kits are sets of 3

**NOTE:** Other lug configurations available on request

**NOTE:** 3C kits available on request



Cat No.		Voltage (kV)	Diameter Over Insulation (mm)		Diameter Over Sheath Max (mm)	Number of Cores	Size Range Al or Cu (mm <sup>2</sup> )
Indoor	Outdoor		Min	Max			
CSTI-3122-ML-1-13	CSTO-3122-ML-1-13	11	13.7	20.8	22	1	25-95
CSTI-3132-ML-4-13	CSTO-3132-ML-4-13		20.8	28.4	34		95-240
CSTI-3142-ML-6-17	CSTO-3142-ML-6-17		28.4	33.6	50		300-400
CSTI-3152-ML-7-17	CSTO-3152-ML-7-17		34.0	40.0	58		500-630
CSTI-5122-ML-1-13	CSTO-5122-ML-1-13	22	17.9	25.0	34	1	25-95
CSTI-5132-ML-4-13	CSTO-5132-ML-4-13		25.0	32.0	50		95-240
CSTI-5142-ML-6-17	CSTO-5142-ML-6-17		32.6	37.8	58		300-400
CSTI-5152-ML-7-17	CSTO-5152-ML-7-17		42.6	49.2	58		500-630
CSTI-6122-ML-1-13	CSTO-6122-ML-1-13	33	24.5	28.4	42	1	50-70
CSTI-6132-ML-4-13	CSTO-6132-ML-4-13		27.8	33.5	46		95-150
CSTI-6142-ML-6-17	CSTO-6142-ML-6-17		32.4	42.8	56		185-400
CSTI-6152-ML-7-17	CSTO-6152-ML-7-17		42.6	49.2	63		500-630
CSTI-6162-ML-8-21	CSTO-6162-ML-8-21		49.2	58.8	75		800-1000



## XLPE HEATSHRINK TERMINATION KITS

### IXSUF/OXSUF - 1C & 3C 11KV TERMINATION KITS FOR XLPE CABLES

- Can be designed to network specific requirements
- Complete with mechanical lugs suitable for Cu, Al or Bimetal applications
- All kits offer range taking capabilities
- Screen termination products can be included according to network specifications and cable fault current ratings if required

**NOTE:** All single core termination kits are sets of 3



Cat No.		Cable Screen/ Shield Type	Connector Type	Tail Length (mm)	Number of Cores	Size Range Al or Cu (mm <sup>2</sup> )
Indoor	Outdoor					
IXSUF-3121-M	OXSUF-3121-M	CWS	MECHANICAL	300	1	16CU/25AL-95
IXSUF-3131-M	OXSUF-3131-M	CWS				120-300
IXSUF-3141-M	OXSUF-3141-M	CWS				185-400
IXSUF-3151-M	OXSUF-3151-M	CWS				500-630
IXSUF-3121-JEK-M	OXSUF-3121-JEK-M	CTS				16CU/25AL-95
IXSUF-3321-M	OXSUF-3321-M	CWS	MECHANICAL	750	3	16CU/25AL-95
IXSUF-3331-M	OXSUF-3331-M	CWS				120-300
IXSUF-3341-M	OXSUF-3341-M	CWS				185-400
IXSUF-3111-JEK	OXSUF-3111-JEK	CTS				16CU/25AL-35
IXSUF-3121-JEK	OXSUF-3121-JEK	CTS				16CU/25AL-95
IXSUF-3111	OXSUF-3111	CWS	CONNECTOR NOT INCLUDED	300	1	16-35
IXSUF-3121	OXSUF-3121	CWS				16-95
IXSUF-3131	OXSUF-3131	CWS				95-240
IXSUF-3141	OXSUF-3141	CWS				240-500
IXSUF-3151	OXSUF-3151	CWS				500-800
IXSUF-3161	OXSUF-3161	CWS	CONNECTOR NOT INCLUDED	700	3	800-1200
IXSUF-3311	OXSUF-3311	CWS				16-35
IXSUF-3321	OXSUF-3321	CWS				16-95
IXSUF-3331	OXSUF-3331	CWS				95-300
IXSUF-3341	OXSUF-3341	CWS				240-500

**CWS** = Copper Wire Screen

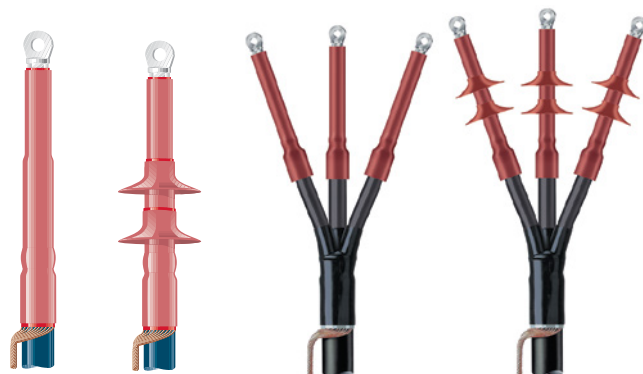
**CTS** = Copper Tape Screen

**JEK** = Jacket Erosion Kit

## HVTI/HVTO - 11KV TERMINATION KITS FOR XLPE CABLES

- Extended creepage as standard in HVTI/HVTO kits
- Kits are range taking
- Customised creepage distances are available for extreme environments & to retrofit to existing terminations
- M = Mechanical Connector with M13 hole  
M17 = Mechanical Connector with M17 hole

**NOTE:** All single core termination kits are sets of 3



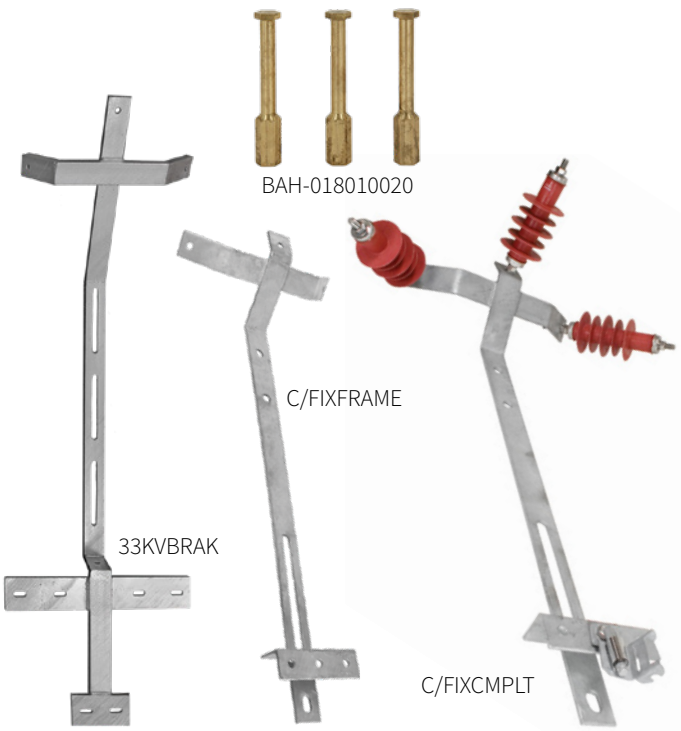
Cat No.		Connector Included	Number of Cores	Tail Length (mm)		Size Range Al or Cu (mm <sup>2</sup> )
Indoor	Outdoor			Indoor	Outdoor	
HVTI-12A-1XI	HVTO-12A-1XO	CONNECTOR NOT INCLUDED	1	400	500	16-35
HVTI-12B-1XI	HVTO-12B-1XO					25-95
HVTI-12C-1XI	HVTO-12C-1XO					120-300
HVTI-12D-1XI	HVTO-12D-1XO					185-400
HVTI-12E-1XI	HVTO-12E-1XO					500-800
HVTI-12F-1XI	HVTO-12F-1XO					800-1200
HVTI-12B-1XI-M	HVTO-12B-1XO-M	MECHANICAL	1	400	500	25-95
HVTI-12B-1XI-M17	HVTO-12B-1XO-M17	M17 HOLE MECHANICAL				25-95
HVTI-12C-1XI-M	HVTO-12C-1XO-M	MECHANICAL				120-300
HVTI-12C-1XI-M17	HVTO-12C-1XO-M17	M17 HOLE MECHANICAL				120-300
HVTI-12D-1XI-M	HVTO-12D-1XO-M	MECHANICAL				185-400
HVTI-12D-1XI-M17	HVTO-12D-1XO-M17	M17 HOLE MECHANICAL				185-400
HVTI-12E-1XI-M	HVTO-12E-1XO-M	MECHANICAL	3	700	700	500-630
HVTI-12E-1XI-M17	HVTO-12E-1XO-M17	M17 HOLE MECHANICAL				500-630
HVTI-12E-1XI-M21	HVTO-12E-1XO-M21	M21 HOLE MECHANICAL				500-630
HVTI-12A-3XI	HVTO-12A-3XO	CONNECTOR NOT INCLUDED	3	700	700	16-35
HVTI-12A-3XI-900	HVTO-12A-3XO-900			900	900	16-35
-	HVTO-12A-3XO-1000			-	1000	16-35
HVTI-12B-3XI	HVTO-12B-3XO			700	700	25-95
HVTI-12B-3XI-1000	-			1000	-	25-95
HVTI-12C-3XI	HVTO-12C-3XO			700	700	120-300
HVTI-12C-3XI-900	-	MECHANICAL	3	900	-	120-300
-	HVTO-12C-3XO-1000			-	1000	120-300
HVTI-12D-3XI	HVTO-12D-3XO			700	700	185-400
HVTI-12B-3XI-M	HVTO-12B-3XO-M			700	700	25-95
HVTI-12B-3XI-M17	HVTO-12B-3XO-M17	M17 HOLE MECHANICAL				25-95
HVTI-12C-3XI-M	HVTO-12C-3XO-M	MECHANICAL				120-300
HVTI-12C-3XI-M-1200	-	MECHANICAL	3	1200	-	120-300
HVTI-12C-3XI-M17	HVTO-12C-3XO-M17	M17 HOLE MECHANICAL		700	700	120-300
HVTI-12D-3XI-M	HVTO-12D-3XO-M	MECHANICAL				185-400
HVTI-12D-3XI-M17	HVTO-12D-3XO-M17	M17 HOLE MECHANICAL				185-400



## CRUCIFIX BRACKETS 11KV & 33KV

Galvanised Steel crucifix bracket for 11kv or 33kv applications. Terminations can be installed using stand off insulators or surge arrestors, the option is yours. The crucifix frame is also sold separately.

Cat No.	Voltage for Use (kV)	Description
BAH-018010020		BRASS EARTH STUD M12 (SOLD INDIVIDUALLY)
C/FIXFRAME		GALVANISED CRUCIFIX FRAME ONLY
C/FIXCMPLT	11	GALVANISED CRUCIFIX FRAME C/W STAND OFFS & UKR90
C/FIXCMPLT1		GALVANISED CRUCIFIX FRAME C/W SURGE ARRESTORS & UKR90
33KV1CBRAK	33	GALVANISED CRUCIFIX SINGLE CABLE BRACKET
33KVBRAK		GALVANISED CRUCIFIX 3 CORE CABLE BRACKET



## 11KV POLE TOP TERMINATION PACKAGES FOR XLPE CABLES

- Packaged kit containing: Terminations
- Mechanical range-taking lugs for conductors and screen
- Stand off insulators or surge arrestors
- Crucifix bracket
- Universal cable clamp

Cat No.	Description	Size Range Al or Cu (mm <sup>2</sup> )
PTP-11-25/95	11KV POLE TOP PACKAGE WITH STAND OFF INSULATORS	16CU/25AL-95
PTP-11-95/240		95-240
PTP-11-120/300		120-300
PTPA-11-25/95	11KV POLE TOP PACKAGE WITH CLASS 1 SURGE ARRESTORS	16CU/25AL-95
PTPA-11-95/240		95-240
PTPA-11-120/300		120-300

**Note:** Various surge arrestor classes and configurations available

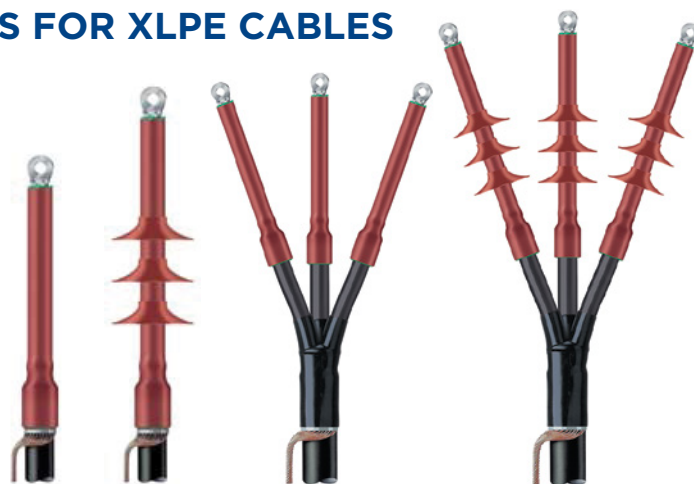


## IXSUF/OXSUF - 22KV TERMINATION KITS FOR XLPE CABLES

- Can be designed to network specific requirements
- Complete with mechanical lugs suitable for Cu, Al or bimetal applications
- Lugs and kits are range taking
- Screen termination products can be included according to network specifications & cable fault current ratings if required

**NOTE:** Available without connectors if required (delete -M from part number)

**NOTE:** All single core termination kits are sets of 3

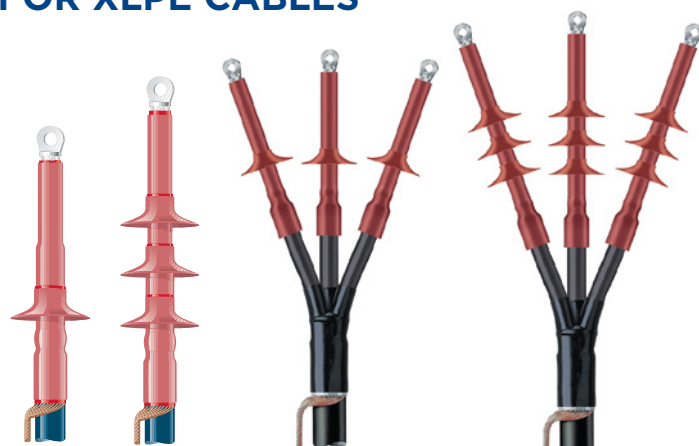


Cat No.		Connector Type	Tail Length (mm)		Number of Cores	Size Range Al or Cu (mm <sup>2</sup> )
Indoor	Outdoor		Indoor	Outdoor		
IXSUF-5121-M	OXSUF-5121-M	MECHANICAL	340	440	1	25-70
IXSUF-5131-M	OXSUF-5131-M					70-240
IXSUF-5141-M	OXSUF-5141-M					185-400
IXSUF-5151-M	OXSUF-5151-M					500-630
IXSUF-5321-M	OXSUF-5321-M	MECHANICAL	750	850	3	25-50
IXSUF-5331-M	OXSUF-5331-M					70-150
IXSUF-5341-M	OXSUF-5341-M					185-400
IXSUF-5121	OXSUF-5121	CONNECTOR NOT INCLUDED	340	440	1	25-70
IXSUF-5131	OXSUF-5131					70-240
IXSUF-5141	OXSUF-5141					185-400
IXSUF-5151	OXSUF-5151					400-800
IXSUF-5321	OXSUF-5321	CONNECTOR NOT INCLUDED	750	850	3	25-50
IXSUF-5331	OXSUF-5331					70-150
IXSUF-5341	OXSUF-5341					185-400

## HVTI/HVTO - 22KV TERMINATION KITS FOR XLPE CABLES

- Extended creepage as standard in HVTI/HVTO kits
- Kits are range-taking
- Customised creepage distances are available for extreme environments & to retrofit to existing terminations

**NOTE:** All single core termination kits are sets of 3



Cat No.		Connector	Number of Cores	Tail Length (mm)		Size Range Al or Cu (mm <sup>2</sup> )
Indoor	Outdoor			Indoor	Outdoor	
HVTI-24B-1XI	HVTO-24B-1XO	CONNECTOR NOT INCLUDED	1	700	450	25-70
HVTI-24C-1XI	HVTO-24C-1XO			400	500	70-185
HVTI-24D-1XI	HVTO-24D-1XO			400	500	185-400
HVTI-24E-1XI	HVTO-24E-1XO			400	500	400-630
HVTI-24F-1XI	HVTO-24F-1XO			400	500	800-1000
HVTI-24B-1XI-M	HVTO-24B-1XO-M	MECHANICAL	1	700	450	25-95
HVTI-24C-1XI-M	HVTO-24C-1XO-M			400	500	95-240
HVTI-24D-1XI-M	HVTO-24D-1XO-M			400	500	185-400
HVTI-24E-1XI-M	HVTO-24E-1XO-M			400	500	500-630
HVTI-24B-3XI	HVTO-24B-3XO	CONNECTOR NOT INCLUDED	3	800	800	25-70
HVTI-24C-3XI	HVTO-24C-3XO			800	800	70-185
HVTI-24D-3XI	HVTO-24D-3XO			800	800	185-400
HVTI-24B-3XI-M	HVTO-24B-3XO-M	MECHANICAL	3	800	800	16-95
HVTI-24C-3XI-M	HVTO-24C-3XO-M			800	800	95-240
HVTI-24D-3XI-M	HVTO-24D-3XO-M			800	800	185-400



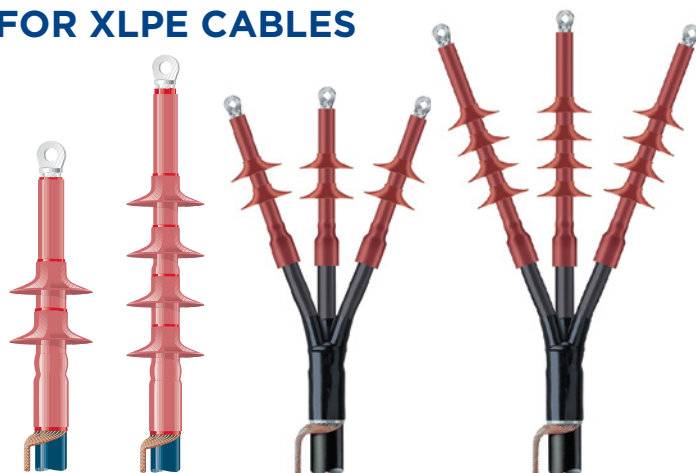
## HVTI/HVTO - 33KV TERMINATION KITS FOR XLPE CABLES

- Can be designed to network specific requirements
- Lugs (where included) and kits are range-taking
- Screen termination products can be included according to network specifications & cable fault current ratings if required

**NOTE:** All single core termination kits are sets of 3

**NOTE:** For 3 core kits, order a single core kit and a separate trifurcating kit

**NOTE:** Other lug configurations available on request



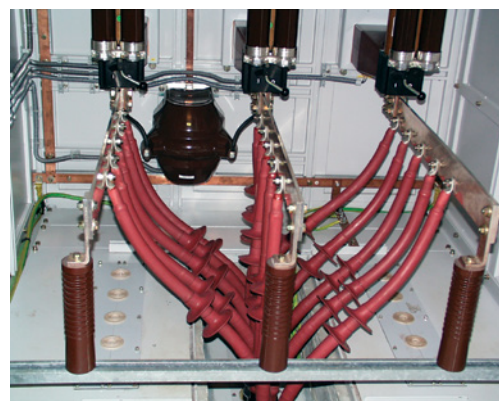
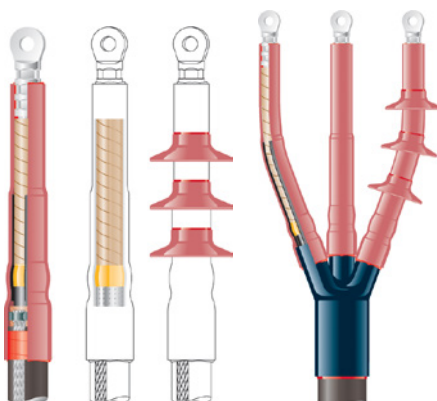
Indoor	Cat No.		Connector	Number of Cores	Tail Length (mm)		Conductor Size (mm <sup>2</sup> )
	Indoor	Outdoor			Indoor	Outdoor	
HVTI-36C-1XI		HVTO-36C-1XO	CONNECTOR NOT INCLUDED	1	500	700	50-95
HVTI-36D-1XI		HVTO-36D-1XO					120-185
HVTI-36E-1XI		HVTO-36E-1XO					240-500
HVTI-36F-1XI		HVTO-36F-1XO					630-1000
HVTI-36C-1XI-M		HVTO-36C-1XO-M	MECHANICAL	1	500	700	50-95
HVTI-36D-1XI-M		HVTO-36D-1XO-M					120-185
HVTI-36E-1XI-M		HVTO-36E-1XO-M					185-400
HVTI-36F-1XI-M		HVTO-36F-1XO-M					500-630
HVTI-36G-1XI-M17X2		HVTO-36G-1XO-M17X2	MECHANICAL, 2 X M17 HOLES	1	500	700	800
HVTI-36G-1XI-M21		HVTO-36G-1XO-M21	MECHANICAL, 1 X M21 HOLE	1	500	700	800

## PILC TERMINATION KITS

- Can be designed to network specific requirements
- Complete with mechanical lugs suitable for Cu, Al or Bimetal applications (kits with suffix -PTM only)
- Screen termination products can be included according to network specifications and cable fault current ratings if required

**NOTE:** Other kit sizes are available on request

**NOTE:** All single core termination kits are sets of 3



## 11KV TERMINATION KITS FOR MIND PAPER SCREENED/BELTED (PILC) CABLES

Indoor	Cat No.	Outdoor	Connector Type	Number of Cores	Tail Length (mm)	Size Range Al or Cu (mm <sup>2</sup> )
EPKT-3578-PT	EPKT-3579-ODK10-PT		CONNECTOR NOT INCLUDED	1	700	50–95
EPKT-3578-PT-SP	-					16–35
EPKT-3583-PT	EPKT-3583-ODK6-PT					95–120
EPKT-3588-PT	EPKT-3588-ODK8-PT					150–240
EPKT-3593-PT	EPKT-3593-ODK9-PT					300–500
EPKT-3598-PT	EPKT-3598-ODK9-PT					630–1000
EPKT-3667-PT	EPKT-3943-PT		CONNECTOR NOT INCLUDED	3	700	16–70
EPKT-3667-PT-800					800	16–70
EPKT-3679-PT	EPKT-3955-PT				700	95–185
EPKT-3679-PT-1200	EPKT-3955-PT-1200				1200	95–185
EPKT-3679-PT-800	-				800	95–185
EPKT-3685-PT	EPKT-3961-PT				700	240–400
-	EPKT-3961-PT-800		MECHANICAL	3	800	240–400
EPKT-3667-PTM	EPKT-3943-PTM				700	16–70
EPKT-3679-PTM	EPKT-3955-PTM					95–185
EPKT-3685-PTM	EPKT-3961-PTM					185–300

**Note:** Earthing kits are outlined on page 92 of this catalogue

## 22KV TERMINATION KITS FOR MIND PAPER SCREENED (PILC) CABLES

Indoor	Cat No.	Outdoor	No. of Cores	Tail Length (mm)	Size Range Al or Cu (mm <sup>2</sup> )
-	EPKT-24B-3MO-H3		3	800	25–50
EPKT-24B-3MI-H4	-		3	1200	25–50
EPKT-24C-3MI-H2	-		3	650	70–185
EPKT-24C-3MI-H4	EPKT-24C-3MO-H4		3	1200	70–185
EPKT-24D-3MI-H3	EPKT-24D-3MO-H3		3	800	240–300

**Note:** Earthing kits are outlined on page 92 of this catalogue

## 33KV TERMINATION KITS FOR MIND PAPER SCREENED (PILC) CABLES

Cat No.		No. of Cores	Type of Connector	Tail Length (mm)		Size Range Al or Cu (mm <sup>2</sup> )
Indoor	Outdoor			Indoor	Outdoor	
EPKT-6578-PT	EPKT-6853-PT	1	CONNECTOR NOT INCLUDED	700	800	35-70
EPKT-6583-PT	EPKT-6858-PT					95-150
EPKT-6588-PT	EPKT-6888					185-300
EPKT-6593-PT	EPKT-6868-PT					400-630
EPKT-6598-PT	EPKT-6898-PT					800-1000
EPKT-6593-PTM	-	1	MECHANICAL	700	800	500-630
EPKT-6638-PT	EPKT-6914-PT	3	CONNECTOR NOT INCLUDED	700	800	35-70
EPKT-6644-PT	EPKT-6920-PT					95-150
EPKT-6650-PT	EPKT-6926-PT					185-300
EPKT-6656-PT	EPKT-6932-PT					400
EPKT-6638-PTM	EPKT-6914-PTM					35-70
EPKT-6644-PTM	EPKT-6920-PTM	3	MECHANICAL	700	800	95-150
EPKT-6650-PTM	EPKT-6926-PTM					185-300

**Note:** Earthing kits are outlined on page below.

## EARTHING KITS & ACCESSORIES

### EARTHING KITS FOR PAPER LEAD ARMOUR, COPPER TAPE SCREEN & SWA



Cat No.	Cable Type	Conductor Size (mm <sup>2</sup> )
BAH-018010020	BRASS EARTH STUD, M12 (SOLD INDIVIDUALLY)	
EAKT-1668		16-70
EAKT-1670	PAPER LEAD ARMOUR	95-185
EAKT-1671		240-400
AEK-1		16-50
AEK-2	XLPE STEEL WIRE ARMOUR (SWA)	70-185
AEK-3		185-300
SEK-1	XLPE COPPER TAPE SCREEN	16-185
SEK-2		240-630

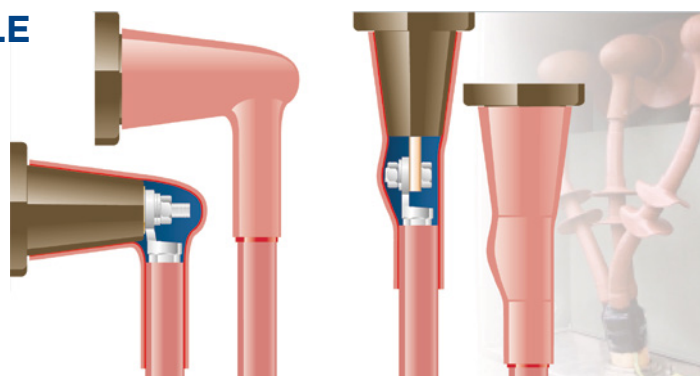


## INSULATION BUSHING KITS

### 11KV BUSHING BOOTS HEATSHRINKABLE

THE BUSHING BOOT SIZE RANGE INFORMATION LISTED BELOW IS APPLICABLE ONLY TO TERMINATIONS INSTALLED USING MECHANICAL LUGS.

- Heat shrinkable bushing boots
- Right angle or inline versions available
- Wide size application range



RSRB-404x - RIGHT ANGLE

RSRB-402x - INLINE

Cat No.		Description	XLPE (mm <sup>2</sup> )	PILC (mm <sup>2</sup> )
Inline	Right Angle			
RSRB-4022	RSRB-4042	SET OF 3	-	10-35
RSRB-4024	RSRB-4044		16-95	50-95
RSRB-4026	RSRB-4046		120-300	95-300
SPEC-1408	-	BUSHING BOOTS INLINE (3 SET) FOR HAZEMEYER/REYROLLE SWITCHGEAR	35-300	-

**Note:** For bushing boots rated to 22 or 33kV please contact TransNet

### 11KV & 22KV BUSHING BOOTS COLD APPLIED

- Push on cold applied bushing boots
- Suits right angle or inline bushing applications
- Wide application range
- Silicone material
- All RCAB products are supplied in sets of 3



RCAB-5120 - INLINE

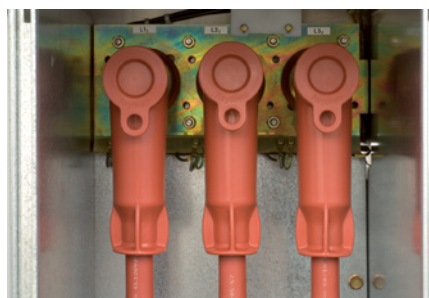
RCAB-4120 - RIGHT ANGLE & INLINE

Cat No.	Voltage Class (kV)	Description	Accessories	Cable Size (mm <sup>2</sup> )	Application
RCAB-4120	11	INLINE/RIGHT ANGLE	EPPA-212 (GREASE)	35-400	46-70MM BUSHING
RCAB-5120	22	INLINE		35-300	46-61MM BUSHING

## ELBOWS - SF<sub>6</sub> INSULATED SWITCHGEAR

This insulated adapter provides perfect sealing, electrical insulation and an electrical connection between all Raychem terminations and SF<sub>6</sub> insulated switchgear up to 24kV. They are designed to fit bushing profiles according to EN 50181 type C.

RICS adapters are tested to CENELEC HD 629.1 S2:2006 requirements.



Cat No.	Description	Bushing Type	Application Range (mm <sup>2</sup> )
RICS3133	ELBOW 11KV RIGHT ANGLE COLD APPLIED, SET OF 3	C	70-300
RICS5133	ELBOW 22KV RIGHT ANGLE COLD APPLIED, SET OF 3	C	185-240 (11KV POLYMERIC) 95-185 (22KV POLYMERIC) 120-240 (11KV PILC)

## SCREENED ELBOW TERMINATION KITS

### SCREENED ADAPTOR SYSTEM DEAD BREAK 12/24KV (250A/400A)

Separable screened adaptors designed to connect single core polymeric cables to medium voltage equipment (transformers, switchgear, motors etc) up to 24kV.

Boasting the cold applied technology known as Rayvolve Sealing, used in conjunction with a pressure sensitive mastic, the Rayvolve sleeve is simply rolled into place, sealing the elbow from the environment.

**NOTE:** RSES-645x series also suitable for 33kV, refer to TransNet for information.



Cat No.	Type	Bushing Type	Connector Type	Integrated Voltage Detection Point	Cross Section (mm <sup>2</sup> )		Diameter Over (mm)		
					12kV	24kV	Round Stranded	Round Solid	Insulation
RSSS-5201	STRAIGHT	A	COMPRESSION	YES	16	-	-	-	13.5-17.4
RSSS-5202				YES	25	-	-	-	13.5-17.4
RSSS-5203				YES	35	-	-	-	13.5-17.4
RSSS-5251				NO	50-95	16-95	5.6-12.9	5.2-11.0	15.3-25.0
RSSS-5252	STRAIGHT	A	MECHANICAL	NO	-	70-150	9.3-15.0	8.7-13.8	21.9-28.5
RSSS-VD-5251				YES	50-95	16-95	5.6-12.9	5.2-11.0	15.3-25.0
RSSS-VD-5252				YES	-	70-150	9.3-15.0	8.7-13.8	21.9-28.5
RSES-5201				NO	16	-	-	-	13.5-17.4
RSES-5202	ELBOW	A	COMPRESSION	NO	25	-	-	-	13.5-17.4
RSES-5203				NO	35	-	-	-	13.5-17.4
RSES-5251				NO	50-95	16-95	5.6-12.9	5.2-11.0	15.3-25.0
RSES-5252				NO	-	70-150	9.3-15.0	8.7-13.8	21.9-28.5
RSES-VD-5251	ELBOW	A	MECHANICAL	YES	50-95	16-95	5.6-12.9	5.2-11.0	15.3-25.0
RSES-VD-5252				YES	-	70-150	9.3-15.0	8.7-13.8	21.9-28.5
RSES-6451				YES	-	70-95	-	-	22.4-35.5
RSES-6452				YES	-	95-240	-	-	22.4-35.5
RSES-6254	ELBOW	B	COMPRESSION	YES	-	185-300	-	-	22.4-35.5



## ELBOWS - SCREENED SEPARABLE ELBOW CONNECTION SYSTEM

The Raychem RSTI family of screened separable elbows provide perfect sealing, electrical insulation and electrical connection to switchgear. The range offers solutions right up to 42kV with stand alone and piggy back elbows available should they be required.

Designed and tested to meet the requirements of all applicable international standards.

### NOTES

Supplied as a set of 3

C1 Bushings are rated at 630A

C2 Bushings are rated at 1250A

RSTI Maximum current is 800A each



Cat No.	Elbow Type	Cross Section (mm <sup>2</sup> )			Core Insulation Diameter (mm)			Voltage Class (kV)	Bushing Type
		12kV	24kV	36kV	12kV	24kV	36kV		
RSTI-5851-NZ	SWITCHGEAR CONNECTOR	25-95	35-70	-	12.7-25.0	12.7-25.0	-	11/22	C1/C2
RSTI-5853-NZ		95-240	95-185	-	17.0-32.6	17.0-32.6	-		
RSTI-5855-NZ		185-300	185-300	-	21.3-34.6	21.3-34.6	-		
RSTI-CC-5851-NZ	COUPLING CONNECTOR	25-95	35-70	-	12.7-23.4	12.7-23.4	-	11/22	C1/C2
RSTI-CC-5853-NZ		95-240	95-185	-	17.0-30.1	17.0-30.1	-		
RSTI-CC-5855-NZ		185-300	185-300	-	21.2-34.6	21.2-34.6	-		
RSTI-CC-5856-NZ		240-400	-	-	21.2-34.6	-	-		
RSTI-3951-NZ	SWITCHGEAR CONNECTOR	400	-	-	28.9-36.4	-	-	11	C1/C2
RSTI-3952-NZ		500	-	-	28.9-36.4	-	-		
RSTI-3953-NZ		630	-	-	34.0-45.4	-	-		
RSTI-3954-NZ		800	-	-	34.0-45.4	-	-		
RSTI-CC-3951-NZ	COUPLING CONNECTOR	400	-	-	28.9-36.4	-	-	11	C1/C2
RSTI-CC-3952-NZ		500	-	-	28.9-36.4	-	-		
RSTI-CC-3953-NZ		630	-	-	34.0-45.4	-	-		
RSTI-CC-3954-NZ		800	-	-	34.0-45.4	-	-		
RSTI-5951-NZ	SWITCHGEAR CONNECTOR	-	400	-	-	34.0-45.4	-	22	C1/C2
RSTI-5952-NZ		-	500	-	-	34.0-45.4	-		
RSTI-5953-NZ		-	630	-	-	39.1-59.0	-		
RSTI-5954-NZ		-	800	-	-	39.1-59.0	-		
RSTI-CC-5951-NZ	COUPLING CONNECTOR	-	400	-	-	34.0-45.4	-	22	C1/C2
RSTI-CC-5952-NZ		-	500	-	-	34.0-45.4	-		
RSTI-CC-5953-NZ		-	630	-	-	39.1-59.0	-		
RSTI-CC-5954-NZ		-	800	-	-	39.1-59.0	-		
RSTI-6851-NZ	SWITCHGEAR CONNECTOR	-	-	35-95	-	-	22.4-35.5	33	C1/C2
RSTI-6852-NZ		-	-	95-150	-	-	22.4-35.5		
RSTI-6855-NZ		-	-	185-300	-	-	28.9-42.0		
RSTI-CC-6851-NZ	COUPLING CONNECTOR	-	-	35-95	-	-	22.4-35.5	33	C1/C2
RSTI-CC-6852-NZ		-	-	95-120	-	-	22.4-35.5		
RSTI-CC-6855-NZ		-	-	300	-	-	28.9-42.0		
RSTI-6951-NZ	SWITCHGEAR CONNECTOR	-	-	400	-	-	34.0-45.4	33	C1/C2
RSTI-6952-NZ		-	-	500-630	-	-	39.1-59.0		
RSTI-6953-NZ		-	-	800	-	-	39.1-59.0		
RSTI-CC-6951-NZ	COUPLING CONNECTOR	-	-	400	-	-	34.0-45.4	33	C1/C2
RSTI-CC-6952-NZ		-	-	500-630	-	-	39.1-59.0		
RSTI-CC-6953-NZ		-	-	800	-	-	39.1-59.0		

## ELBOWS - SCREENED SEPARABLE SURGE ARRESTOR

The insulation of the screened surge arrestor is made of a highly modified silicone rubber characterised by high tracking resistance, elongation at break, and non-flammability.

A thin walled screen is permanently bonded onto the insulation and protects the connection system against unintentional contact.

The active part is a metal oxide arrestor

which meets the requirements of IEC-60099-4 for separable and dead-front arrestors.

The combination of a screened connector and a surge arrestor exceeds CENELEC HD 629.1 S2 requirements, which includes BS, VDE and other international specifications.

Easily accessible rear plug with capacitive test point.



Cat No.	Elbow Type	Length (mm)	Voltage Class (kV)	Note
RSTI-CC-68SA1210	COUPLING CONNECTOR ARRESTOR	285	11	1, 2, 3
RSTI-CC-68SA2410		400	22	1, 2, 4
RSTI-CC-68SA3610		520	33	5
RSTI-68SA1210	SWITCHGEAR ARRESTOR	285	11	-
RSTI-68SA2410		400	22	-
RSTI-68SA3610		520	33	-

### NOTES:

1. Can be used as a piggy back on RSTI-58 type elbows
2. Can be used as a piggy back on RSTI-CC-58 type elbows
3. Can be used as a piggy back on RSTI-39 type elbows, with the addition of support pin RSTI-SA-PIN
4. Can be used as a piggy back on RSTI-59 type elbows, with the addition of support pin RSTI-SA-PIN
5. Can be used as a piggy back on RSTI-69 type elbows, with the addition of support pin RSTI-SA-PIN

## ELBOWS - ELB-15-210 15KV, 200A LOADBREAK ELBOW

Designed to terminate underground cables to high-voltage apparatus such as transformers and switchgear that are equipped with bushings. Fully shielded and fully submersible, designed in accordance with IEEE 386 standard

For use with extruded (XLPE or EPR) solid dielectric cable from 35mm<sup>2</sup> to 120mm<sup>2</sup> with insulation diameters from 9.4mm to 26.9mm.

### KEY FEATURES

- Peroxide cured EPDM rubber ensures low tension set and high dielectric strength
- 100% factory production tested for partial discharge and AC Hipot per IEEE 386 standard
- Capacitive test point
- Fits 11kV cables up to 120mm<sup>2</sup>
- Molded semiconducting shield provides ground shield continuity in accordance with IEEE 592



ELB-15-	1	2	3	4
<b>1. Current Rating / Test Point Code</b>				
200	200AMP WITHOUT TEST POINT			
210	210AMP WITH TEST POINT			
<b>2. Cable Insulator O.D. Range (mm)</b>				
A	14.6–18.8			
B	16.2–23.0			
C	21.1–26.9			
D	23.6–31.0			
<b>3. Compression Lug &amp; Cable Size (mm<sup>2</sup>)</b>				
Code	Str / Comp	Compact	Solid	
2	35	50	50	
10	50	70	70	
20	70	95	95	
30	95	120	120	
40	120	150	150	
<b>4. Jacket Sealing</b>				
Code	Type			
BLANK	NO JACKET SEAL			
ES	INTEGRAL JACKET SEAL			



## ELBOWS - ELB-25-210 25KV, 200A LOADBREAK ELBOW

Designed to terminate underground cables to high-voltage apparatus such as transformers and switchgear that are equipped with bushings. Fully shielded and fully submersible, designed in accordance with IEEE 386 standard.

For use with extruded (XLPE or EPR) solid dielectric cable from 35mm<sup>2</sup> to 120mm<sup>2</sup> with insulation diameters from 9.4mm to 26.9mm.

This elbow includes a copper top compression connector to connect the cable to the loadbreak probe.

### KEY FEATURES

- Can be ordered with optional Integral Jacket Seal
- Peroxide cured EPDM rubber for low tension set and high dielectric strength
- 100% factory production tested for partial discharge & AC Hipot per IEEE386
- Capacitive test point provided on elbow
- Fits 22kV cables up to 120mm<sup>2</sup> (stranded)
- Molded semiconducting shield provides ground shield continuity per the requirements of IEEE 592



ELB-25-		1		2		3		4	
1. Current Rating / Test Point Code						3. Compression Lug & Cable Size (mm <sup>2</sup> )			
200	200AMP WITHOUT TEST POINT								
210	210AMP WITH TEST POINT								
2. Cable Insulator O.D. Range (mm)									
A	15.5–22.2								
B	18.3–25.0								
C	22.4–30.1								
D	26.4–33.1								
								4. Jacket Sealing	
								Code	Type
								BLANK	NO JACKET SEAL
								ES	INTEGRAL JACKET SEAL

## ELBOWS - ELB-15/28 SERIES, 600/900AMP 15/28KV CLASS T-BODY ELBOW

Designed to terminate underground cables to high-voltage apparatus such as transformers and switchgear. Fully shielded and fully submersible, designed in accordance with IEEE 386 standard.

For use with extruded (XLPE or EPR) solid dielectric cable from 35mm<sup>2</sup> to 630mm<sup>2</sup> with insulation diameters from 16.25mm to 49.9mm.

There are two models that have capacitive test points molded into the elbow body. 900A ratings can be achieved by ordering the kit with a copper shearbolt terminal.

### KEY FEATURES

- Peroxide cured EPDM rubber for low tension set and high dielectric strength
- 100% factory production tested for partial discharge & AC Hipot per IEEE386
- Optional capacitive test point provided
- Fits 11/22kV cables up to 630mm<sup>2</sup>
- Molded semiconducting shield provides ground shield continuity per the requirements of IEEE 592
- Meets IEEE 386-2006 requirements
- 900A capability is available

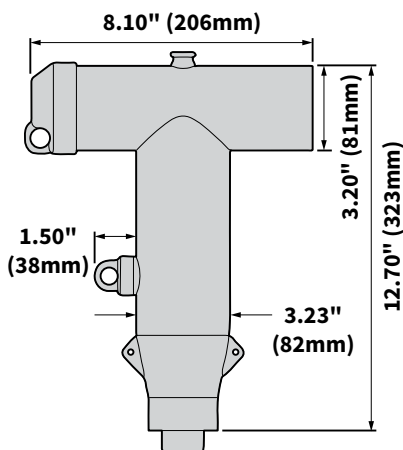


### ORDERING NOTES

- To include a sealing kit, add "-ESA" suffix for heat-shrinkable and "-CES" suffix for cold applied closure. "-GES" suffix for cold applied GelWrap ES closure.
- If using copper tape shield cable, sealing/grounding ELB-35-600-GRDx (heat-shrink) or ELB-600-CES-GRDX (cold applied), (x = 1, 2, or 3) is required and ordered separately.

### ORDERING INFORMATION:

ELB-15-28-		1	2	3
1. Current Rating / Test Point Code		2. Cable Insulator O.D. Range (mm)		3. Shear Bolt & Cable Size
600	600AMP WITHOUT TEST POINT	A	16.3–19.3	Code      Type      Compression, Compact, Strand (mm <sup>2</sup> )
610	600AMP WITH TEST POINT	B	18.3–21.5	
900	900AMP WITHOUT TEST POINT	C	19.9–24.6	-C1      COPPER      35–95
910	900AMP WITH TEST POINT	D	23.1–27.1	-C2      COPPER      95–240
		E	24.9–29.0	-C3      COPPER      240–300
		F	27.4–32.5	-C4      COPPER      300–500
		G	31.0–36.1	-C5      COPPER      500–630
		H	34.5–39.6	-A1      ALUMINIUM      35–150
		J	37.6–43.2	-A2      ALUMINIUM      185–300
		K	41.7–46.7	-A3      ALUMINIUM      400–500
		L	45.2–49.9	-A4      ALUMINIUM      500–630



### ORDERING FORMULA EXAMPLE:

The part number for a 15/28 kV Elbow, 600 A with test point, an insulation OD of 43.2mm, and 500mm<sup>2</sup> stranded cable is ELB-15/28-610K-C4 (or with AL Shearbolt ELB-15/28-610K-A3).

ELB-15/28-	1	2	3	Part Number Would Be:
15/28 KV ELBOW	600AMP WITH TEST POINT	41.7-46.7MM INSULATION OD	500MM <sup>2</sup> STRANDED CONDUCTOR	ELB-15/28-610-K-C4 (suffix -A3 if AL conductor)
ELB-15/28-	610	K	C4	



## ELBOWS - ELB-35 SERIES 600/900AMP, 35KV CLASS T-BODY ELBOW

Designed to terminate underground cables to high-voltage apparatus such as transformers and switchgear. Fully shielded and fully submersible, designed in accordance with IEEE 386 standard.

For use with extruded (XLPE or EPR) solid dielectric cable from 50mm<sup>2</sup> to 630mm<sup>2</sup> with insulation diameters from 23.6mm to 54.5mm.

ELB-35-610 has a capacitive test point molded into it, 900A ratings can be achieved by ordering the kit with a copper shearbolt terminal.

### KEY FEATURES

- Peroxide cured EPDM rubber for low tension set and high dielectric strength
- 100% factory production tested for partial discharge & AC Hipot per IEEE386
- Optional capacitive test point provided
- Fits 35kV cables up to 630mm<sup>2</sup>
- Molded semiconducting shield provides ground shield continuity per the requirements of IEEE 592
- Meets IEEE 386-2006 requirements
- 900A capability is available



### ORDERING NOTES

- To include a sealing kit, add "-ESA" suffix for heat-shrinkable and "-CES" suffix for cold applied closure. "-GES" suffix for cold applied GelWrap ES closure.
- If using copper tape shield cable, sealing/grounding ELB-35-600-GRDx (heat-shrink) or ELB-600-CES-GRDX (cold applied), (x = 1, 2, or 3) is required and ordered separately.

### ORDERING INFORMATION:

ELB-35-

1

2

3

11.20" (284mm)

3.20" (81mm)

1.60" (41mm)

3.70" (94mm)

14.60" (371mm)

1. Current Rating / Test Point Code

600 600AMP WITHOUT TEST POINT

610 600AMP WITH TEST POINT

900 900AMP WITHOUT TEST POINT

910 900AMP WITH TEST POINT

2. Cable Insulator O.D. Range (mm)

E 23.6–26.4

F 24.9–28.3

G 26.4–29.8

H 27.8–31.5

J 29.5–33.1

K 31.0–34.9

L 32.6–35.4

M 34.4–39.0

N 37.7–40.5

P 38.9–41.7

Q 40.0–42.8

R 42.3–45.3

S 45.1–47.6

T 46.9–50.0

U 49.1–52.2

V 51.4–54.5

3. Shear Bolt & Cable Size

CodeTypeCompression, Compact, Strand (mm<sup>2</sup>)

-C1COPPER35–95

-C2COPPER95–240

-C3COPPER240–300

-C4COPPER300–500

-C5COPPER500–630

-A1ALUMINIUM35–150

-A2ALUMINIUM185–300

-A3ALUMINIUM400–500

-A4ALUMINIUM500–630

### ORDERING FORMULA EXAMPLE:

The part number for a 35 kV Elbow, 600 A with test point, an insulation OD of 44.6mm, and 500mm<sup>2</sup> stranded cable is ELB-35-610R-C4 (or with AL Shearbolt ELB-15/28-610K-A3).

ELB-35	1	2	3
35 KV ELBOW	600 AMP WITH TEST POINT	42.3–45.3MM INSULATION OD	500MM <sup>2</sup> STRANDED CONDUCTOR
ELB-35-	610	R	-C4

### Part Number Would Be:

ELB-35-610-K-C4  
(suffix -A3 if AL conductor)



## MVJB - MEDIUM VOLTAGE JUNCTION BOX

The MVJB with set of Raychem screened separable connectors facilitates safe, easy and quick connection and disconnection of MV cables up to 24 kV.

### KEY FEATURES

- Application in grid connection and wind turbines in on shore and off shore environment
- Branching point for cross section combinations from 25 to 300 mm<sup>2</sup>
- Kitted to meet your requirements, contact TransNet to discuss
- Capable of 2 x switchgear connection elbows and up to 1 x piggy back connection elbows per phase
- Full metal encapsulation
- Easy accessibility to the capacitive test points
- Monitoring and detection of voltage
- Tested according to CENELEC HD.629.1 S2:2006, + A1:2008 and IP66 test degree of protection with integrated bottom plate

### TECHNICAL DATA

- Protection class: IP66 with integrated bottom plate (suffix -02 only), suffix -01 has no protection class
- Application: Non buried
- Box size: (LxHxW) (mm) 670x1150x435
- Material: Mild and Stainless Steel
- Cable connection: Compression or mechanical lug
- Impulse withstand voltage (kV): 125
- AC withstand voltage (kV): 57
- DC withstand voltage (kV): 76
- Short circuit current (kA/1s): 22

**Cat No.** MVJB-501A-02-NZ01 (Does not include RSTIs or cable clamps).

- To select elbows refer to page 95
- To select cable clamps refer to page 332



## SCREENED ELBOW ACCESSORIES

### RSTI ACCESSORIES

A range of accessories used in conjunction with the RSTI range.



Cat No.	Bushing Type	Description
RSTI-68DEP	-	DEAD END (DUMMY) PLUG
RSTI-N66RC	C1/C2	DEAD END RECEPTACLE TYPE C BUSH
RSTI-68TRA	-	TEST ROD
RSTI-68TP	-	SCREENED ELBOW TERMINATING PLUG
EPPA-064-60	-	GREASE FOR RSTI ELBOW RANGE
RSTI-68EA25	-	EARTHING ADAPTOR FOR RSTI ELBOW RANGE
3-361372-2	-	TEST ROD KIT FOR RSTI ELBOW RANGE. SEE NOTE

#### NOTE: Test Rod Kit Includes:

- 1 set of Test Rods
- 1 set of Terminating Plugs
- 1 set of Earthing Plugs
- Grease for elbows, installation twine, cleaning tissues

## RPIT - PLUG IN TERMINATIONS

### RPIT - PLUG IN TERMINATION SYSTEM FOR GAS INSULATED SWITCHGEAR 42KV

The increasing popularity of gas insulated switchgear called for more appropriate connection systems for standardised bushings in accordance with EN 50181. The RPIT range has been developed to fill this need.

#### FEATURES

- Separable inline connection for high current, gas insulated switchgear up to 42kV
- Termination mates interfaces in accordance with EN 50180 (and EN 50181 for inner cone connections)
- Contact parts are designed for stranded circular Aluminium or Copper conductors in accordance with IEC60228

**NOTE:** Release form with specific cable details to be filled in before product can be ordered

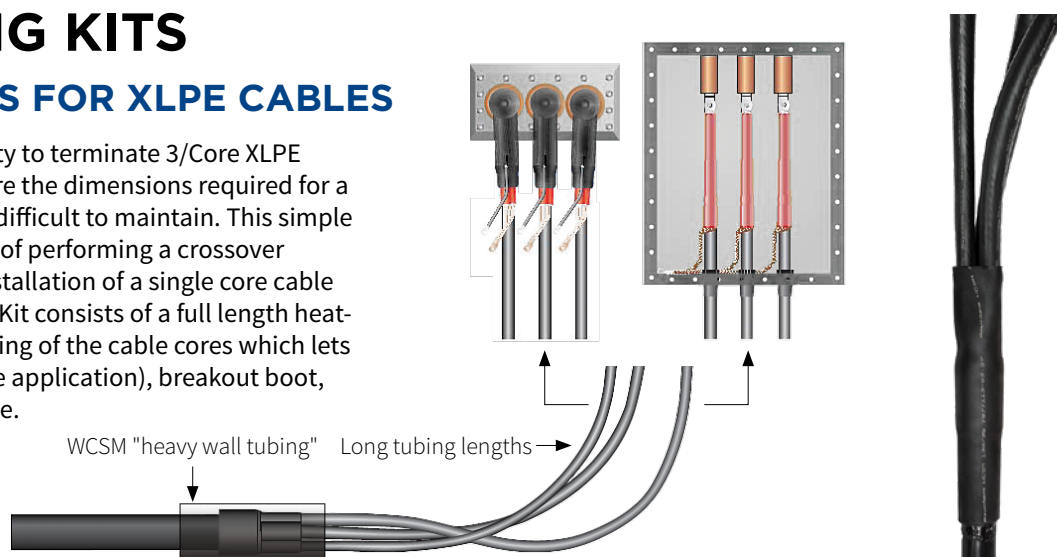


Cat No.	Size	Nominal Current (A)	System Voltage (kV)	Cross Section (mm <sup>2</sup> )	Dia. over Conductor (mm)	Dia. over Insulation (mm)
RPIT-321X	2	800	12	120-400	12.0-24.6	21.0-33.0
RPIT-521X			24	50-400	7.6-24.6	21.0-39.0
RPIT-621X			36/42	50-400	7.6-24.6	23.5-42.0
RPIT-331X	3	1250	12	240-630	17.0-32.5	26.0-40.0
RPIT-531X			24	150-630	13.0-32.5	26.0-42.5
RPIT-631X			36/42	70-630	7.6-32.5	26.0-50.0
RPIT-831X			52	50-500	7.6-27.6	26.0-55.0

## TRIFURCATING KITS

### TRIFURCATING KITS FOR XLPE CABLES

Trifurcating kits provide the facility to terminate 3/Core XLPE cable into small cable boxes where the dimensions required for a standard 3/Core termination are difficult to maintain. This simple solution gives you the advantage of performing a crossover outside the cable box, and the installation of a single core cable accessories rather than a 3/Core. Kit consists of a full length heat-shrink tube (to allow for re-jacketing of the cable cores which lets you cut to length to suit an on site application), breakout boot, phase markers & protection sleeve.



Cat No.		Voltage Class (kV)	Size Range (mm <sup>2</sup> )
750mm Tail	1500mm Tail		
TRKT-11-16/35-750	TRKT-11-16/35-1500	11	16-35
TRKT-11-35/150-750	TRKT-11-35/150-1500		35-150
TRKT-11-185/400-750	TRKT-11-185/400-1500		185-400
TRKT-22-16/35-750	TRKT-22-16/35-1500	22	16-35
TRKT-22-35/150-750	TRKT-22-35/150-1500		35-150
TRKT-22-185/400-750	TRKT-22-185/400-1500		185-400
TRKT-33-50/95-750	TRKT-33-50/95-1500	33	50-95
TRKT-33-95/240-750	TRKT-33-95/240-1500		95-240
-	TRKT-33-185/400-1500		185-400

**Note:** For longer tail lengths such as 2m tails indicate as per example TRKT-11-185/400-2000.



## XLPE JOINT KITS

### 11KV INLINE JOINT KITS FOR XLPE CABLES

- Can be designed to network specific requirements
- Complete with mechanical connectors suitable for Cu, Al or Bimetal applications
- Screen termination products can be included according to network specifications and cable fault current ratings if required

**NOTE:** 1 Core kits contain 1 joint only, 3 Core kits contain 1 x 3C joint

**NOTE:** Size transition joints available on request

Cat No.	Number of Cores	Size Range Al or Cu (mm <sup>2</sup> )
MXSU-3111	1C-1C	16/25-95
MXSU-3131		95-240
MXSU-3132		150-300
MXSU-3141		240-400
MXSU-3151		500
MXSU-3161		630
MXSU-3171		800
MXSU-3181		1000
MXSU-3311	3C-3C	16/25-95
MXSU-3331		95-240
MXSU-3332		150-300
MXSU-3341		240-400
MXSU-3311-1C	3C-1C	16/25-95 & 16-95
MXSU-3331-1C		95-240
MXSU-3332-1C		150-300
MXSU-3341-1C		240-400



### 11/22KV INLINE JOINTS FOR 3 CORE XLPE ARMoured CABLES

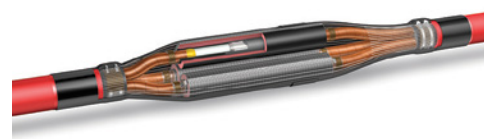
**NOTE:** 1 Core kits contain 1 joint only, 3 Core kits contain 1 x 3C joint

**NOTE:** Size transition joints available on request

Cat No.	Voltage Class (kV)	Number of Cores	Screen Type	Size Range Al or Cu (mm <sup>2</sup> )
MXSW-3311	11	3	CTS	16-25/95
MXSW-3311-CWS			CWS	35-95
MXSW-3331			CTS	95-240
MXSW-3331-CWS			CWS	95-240
MXSW-3332			CTS	150-300
MXSW-3332-CWS-SP			CWS	150-300
MXSW-3341-CWS			CWS	185-400
MXSW-5311-CWS			CWS	25-95
MXSW-5331	22	3	CTS	95-240
MXSW-5331-CWS			CWS	95-240
MXSW-5332			CTS	150-300
MXSW-5341-CWS			CWS	185-400

**CWS** = Copper Wire Screen

**CTS** = Copper Tape Screen



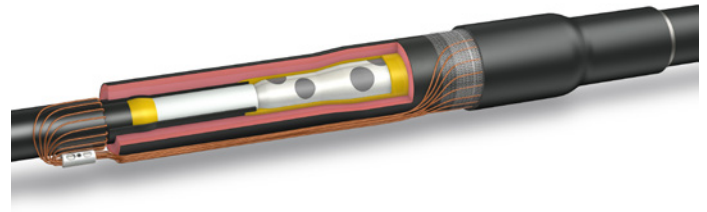
## 11KV SIZE TRANSITION JOINTS FOR 1C & 3C XLPE UNARMoured CABLES

Pre-engineered range taking heat-shrinkable tubings incorporating precisely engineered impedance stress control. MXSU joints are supplied complete with mechanical phase and screen connectors suitable for a wide range of conductor sizes. Suitable for polymeric non-armoured cables. Conforms to CENELEC and IEC standards.

**NOTE:** 1 Core kits contain 1 joint only, 3 Core kits contain 1 x 3C joint

**NOTE:** Size transition joints available on request

Cat No.	Number of Cores	Size Range Al or Cu (mm <sup>2</sup> )
MXSU-3131-T2	1C-1C	25/95 – 95/240
MXSU-3141-T4		95/240 – 185/400
MXSU-3151-T6		185/400–500
MXSU-3161-T6		185/400–630
MXSU-3161-T7		500–630
MXSU-3181-T8		630–1000
MXSU-3321-TS	3C-3C	CU: 16/95 – 95/240 AL: 25/95 – 95/240
MXSU-3341-TS		95/240 – 185/400
MXSU-3331-1/C-TS	3C-1C	3C = 95–240 1C = CU: 16/95 – 95/240 AL: 25/95 – 95/240
MXSU-3341-1/C-TS		3C = 185–400 1C = 95–240



## 22KV INLINE JOINTS FOR XLPE CABLES

- Can be designed to network specific requirements
- Complete with mechanical connectors for conductor and screen wires
- Connectors suitable for Cu, Al or bimetal applications

**NOTE:** 1 Core kits contain 1 joint only, 3 Core kits contain 1 x 3C joint

**NOTE:** Size transition joints available on request

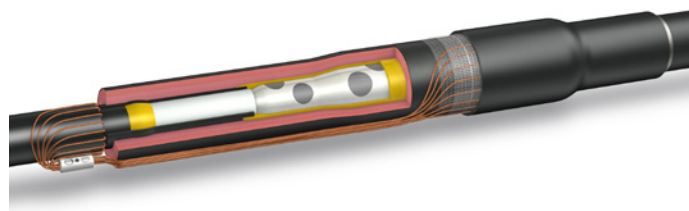
Cat No.	No. of Cores	Size Range Al or Cu (mm <sup>2</sup> )
MXSU-5111	1C-1C	35–95
MXSU-5131		95–240
MXSU-5141		240–400
MXSU-5151		500
MXSU-5161		630
MXSU-5171		800
MXSU-5181		1000
MXSU-5311	3C-3C	35–95
MXSU-5331		95–240
MXSU-5341	3C-1C	185–400
MXSU-5311-1C		25–95
MXSU-5331-1C		95–240
MXSU-5341-1C		240–400





## 22KV SIZE TRANSITION JOINTS FOR 1 CORE XLPE UNARMoured CABLES

Pre-engineered range taking heat-shrinkable tubings incorporating precisely engineered impedance stress control. MXSU joints are supplied complete with mechanical phase and screen connectors suitable for a wide range of conductor sizes. Suitable for polymeric non-armoured cables. Conforms to CENELEC and IEC standards.



**NOTE:** 1 Core kits contain 1 joint only, 3 Core kits contain 1 x 3C joint

**NOTE:** Size transition joints available on request

**NOTE:** Other configurations available on request

Cat No.	Number of Cores	Size Range Al or Cu (mm <sup>2</sup> )
MXSU-5131-T2	1C-1C	25/95 – 95/240
MXSU-5141-T4		95/240 – 185/400
MXSU-5151-T6		185/400–500
MXSU-5161-T6		185/400–630
MXSU-5161-T7		500–630
MXSU-5171-T8		630–800
MXSU-5181-T8		630–1000

## 33KV INLINE JOINTS FOR XLPE CABLES

- Can be designed to network specific requirements
- Complete with mechanical connectors for conductor & screen wires
- Connectors suitable for Cu, Al or bimetal applications

**NOTE:** 1 Core kits contain 1 joint only, 3 Core kits contain 1 x 3C joint

**NOTE:** Size transition joints available on request

**NOTE:** Standard Screen = up to 13kA, Heavy Duty Screen = up to 26kA



Cat No.	No. of Cores	Screen	Size Range Al or Cu (mm <sup>2</sup> )
MXSU-6111	1C-1C	STANDARD SCREEN	35–95
MXSU-6121			70–150
MXSU-6131			150–300
MXSU-6141			240–400
MXSU-6151			500
MXSU-6161			630
MXSU-6171			800
MXSU-6181			1000
MXSU-6131-HDS	1C-1C	HEAVY DUTY SCREEN	150–300
MXSU-6141-HDS			240–400
MXSU-6151-HDS			500
MXSU-6161-HDS			630
MXSU-6171-HDS	3C-3C	STANDARD SCREEN	800
MXSU-6311			1000
MXSU-6321			150–300
MXSU-6331			240–400
MXSU-6341	3C-1C	STANDARD SCREEN	35–95
MXSU-6311-1C			70–150
MXSU-6321-1C			150–300
MXSU-6331-1C			240–400
MXSU-6341-1C			

## 33KV SIZE TRANSITION JOINTS FOR 1 CORE XLPE UNARMoured CABLES

Pre-engineered range taking heat-shrinkable tubings incorporating precisely engineered impedance stress control. MXSU joints are supplied complete with mechanical phase & screen connectors suitable for a wide range of conductor sizes with no shelf life. Suitable for polymeric non-armoured cables. Conforms to CENELEC & IEC standards.

**NOTE:** Standard Screen up to 13kA, Heavy Duty Screen up to 26kA.

**NOTE:** 1 Core kits contain 1 joint only, 3 Core kits contain 1 x 3C joint

**NOTE:** Size transition joints available on request

Cat No.	No. of Cores	Screen	Size Range Al or Cu (mm <sup>2</sup> )
MXSU-6141-T4	1C-1C	STANDARD SCREEN	95/240 – 240/400
MXSU-6151-T6			185/400–500
MXSU-6161-T6			185/400–630
MXSU-6161-T7			500–630
MXSU-6171-T8			630–800
MXSU-6181-T8			630–1000
MXSU-6151-T6-HDS	1C-1C	HEAVY DUTY SCREEN	185/400–500
MXSU-6161-T6-HDS			500–630
MXSU-6161-T7-HDS			185/400–630
MXSU-6171-T8-HDS			630–1000



## XLPE BRANCH JOINT KITS

### 11KV BRANCH JOINTS FOR 1 CORE XLPE UNARMoured CABLES

Pre-engineered range taking heat-shrinkable tubings incorporating precisely engineered impedance stress control. MXSB joints are supplied complete with mechanical phase and screen connectors suitable for a wide range of conductor sizes.



Cat No.	Conductor Cross Section (mm <sup>2</sup> )
MXSB-12A-1XU-2XU	35–95
MXSB-12B-1XU-2XU	95–150
MXSB-12C-1XU-2XU	150–300

### 22KV BRANCH JOINTS FOR 1 CORE XLPE UNARMoured CABLES

Pre-engineered range taking heat-shrinkable tubings incorporating precisely engineered impedance stress control. MXSB joints are supplied complete with mechanical phase and screen connectors suitable for a wide range of conductor sizes.



Cat No.	Conductor Cross Section (mm <sup>2</sup> )
MXSB-24A-1XU-2XU	35–95
MXSB-24B-1XU-2XU	95–150
MXSB-24C-1XU-2XU	150–300

### 33KV BRANCH JOINTS FOR 1 CORE XLPE UNARMoured CABLES

33kV kits available on request.

## XLPE REPAIR JOINT KITS

### 11KV REPAIR JOINTS FOR 1C XLPE CABLES

- Eliminates the need for two joints in a cable fault situation
- Complete with 440mm long mechanical connectors to allow for damaged cable removal
- Reduces trench excavation and re-instatement
- Complete with mechanical screen connectors
- Connectors suitable for Cu or Al conductors



**NOTE:** 1 Core kits contain 1 joint only, 3 Core kits contain 1 x 3C joint

**NOTE:** Size transition joints available on request

Cat No.	No. of Cores	Size Range Al or Cu (mm <sup>2</sup> )
MXSU-3111-L	1C-1C	25-95
MXSU-3131-L		95-240
MXSU-3132-L		150-300
MXSU-3141-L		185-400
MXSU-3311-L	3C-3C	16/25-95
MXSU-3331-L		95-240
MXSU-3332-L		150-300
MXSU-3341-L		240-400

### 22KV REPAIR JOINTS FOR XLPE CABLES

- Eliminates the need for two joints in a cable fault situation
- Reduces trench excavation and re-instatement
- Complete with 440mm long mechanical connectors to allow for damaged cable removal
- Complete with mechanical screen connectors
- Connectors suitable for Cu or Al conductors



**NOTE:** 1 Core kits contain 1 joint only, 3 Core kits contain 1 x 3C joint

**NOTE:** Size transition joints available on request

Cat No.	No. of Cores	Size Range Al or Cu (mm <sup>2</sup> )
MXSU-5111-L	1C-1C	25-95
MXSU-5131-L		95-240
MXSU-5132-L		150-300
MXSU-5141-L		185-400
MXSU-5311-L	3C-3C	16/25-95
MXSU-5331-L		95-240
MXSU-5332-L		150-300
MXSU-5341-L		185-400

## 11KV & 33KV CROSS BOND JOINTS

- Also includes mechanical connectors for cross bond leads
- Heatshrink joint, resin encased – resin shell and resin included
- Link boxes with SVLs are available for different voltage classes and provide active over-voltage protection that contributes directly to improved reliability of the system
- SVLs are made of zinc oxide and are designed to meet the requirements of IEC 60099-4



**NOTE:** -C refers to a coax cross bond cable

**NOTE:** Kits shown have a maximum of 95mm<sup>2</sup> cross bond lead, other sizes available on request

Cat No.	Voltage (kV)	Size Range Al or Cu (mm <sup>2</sup> )	Cross Bond Lead Size Range (mm <sup>2</sup> )
MXSU-3151-XBR	11	500	35–95
MXSU-3161-XBR		630	35–95
MXSU-6131-XBR		150–300	35–95
MXSU-6141-XBR		240–400	35–95
MXSU-6151-XBR	33	500	35–185
MXSU-6161-XBR		630	35–95
MXSU-6171-XBR		800	35–95
MXSU-6171-XBR-C		800	35–95
MXSU-6181-XBR-C		1000	35–185

## CROSS BONDING & SECTIONALISATION FOR HV CABLE SYSTEMS

Link boxes are used with cable joints and terminations to provide easy access to shield breaks for test purposes and to limit voltage build-up on the sheath. The link box optimises loss management in the cable shield on cables grounded both sides.

### DESIGN

- Made of Stainless steel
- Compact design
- 1ph and 3ph link boxes
- Hermetically sealed – resists water pressure up to 1 bar (20 psi), lugs & bonding cables are heatshrink sealed inside and outside
- Suitable for – Single point bonding, Cross bonding, Direct grounding, Grounding through SVL, Combined direct & SVL grounding, Cross bonding & transposition
- Link box – ZnO sheath voltage limiter, 3kV and 6kV protection levels, Same outer dimensions for both levels



### APPLICATION

- Can be installed in pits or vaults and on structures or poles
- Use with single core or concentric bonding lead
- Cross section up to 120mm<sup>2</sup>

Cat No.	Type	No. of Phases	Sheath Voltage Limiter (kV)	Length	Dimensions (mm)	
					Width	Height
EPPA-055-0/3-30	DIRECT GROUNDING	3	-	310	310	255
EPPA-055-3/3-30	CROSS BONDING	3	3	310	310	255
EPPA-055-6/3-41	CROSS BONDING	3	6	310	310	255

**Note:** Other designs are available, please contact your local rep or customer service for more information.

# PILC JOINT KITS

## 11KV INLINE JOINT KITS FOR MIND PAPER SCREENED/BELTED (PILC) CABLES WITH MECHANICAL MONNECTORS

- Designed for paper insulated lead sheathed cables (PILC)
- Can be designed to network specific requirements
- Complete with mechanical connectors suitable for Cu, Al or Bimetal applications
- 'Split V' Type mechanical connectors are provided for larger conductor size joints to reduce core bending



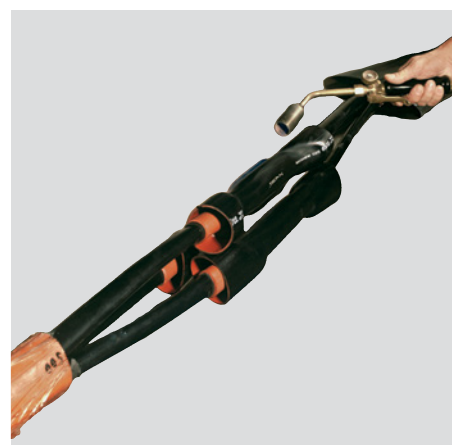
Cat No.	No. Cores	Connector Type	Notes	Size Range PILC (mm <sup>2</sup> )
HVSA-M-16-35	3	MECHANICAL		16-35
HVSA-M-25-95-SP				25-95
HVSA-M-50-95				50-95
HVSA-M-95-185	3	'SPLIT V' MECHANICAL		95-185
HVSA-M-240-300				185-300
HVSA-M-16-35-ST	3	MECHANICAL		16-35
HVSA-M-50-95-ST				50-95
HVSA-M-95-185-ST	3	'SPLIT V' MECHANICAL	SHEATH TESTABLE UP TO 5KV	95-185
HVSA-M-185-300-ST				185-300

## 22KV INLINE JOINTS FOR 3 CORE PILC CABLES

**NOTE:** Available on request

## 33KV INLINE JOINTS FOR 3 CORE PILC CABLES

- Designed for paper insulated lead sheathed cables (PILC)
- Can be designed to network specific requirements
- Complete with mechanical connectors suitable for Cu, Al or Bimetal applications
- 'Split V' Type mechanical connectors are provided for larger conductor size joints to reduce core bending



Cat No.	Description	Size Range Al or Cu (mm <sup>2</sup> )
EPKJ-36A-3SB-3SB-MSP	(SPECIAL) WITH MECHANICAL CONNECTORS	50-70
EPKJ-36A-3SB-3SB-W		50-70
EPKJ-36B-3SB-3SB-W	ARMoured CABLE JOINT WITHOUT CONNECTORS	95-150
EPKJ-36C-3SB-3SB-W		185-400



# TRANSITION JOINT KITS

## 11KV TRANSITION JOINTS TO JOIN PILC CABLE TO XLPE CABLE

- Complete with mechanical connectors for conductor and screen wires
- Connectors suitable for Cu, Al or bimetal applications
- Excellent for fault situations and reduces inventory
- Eliminates the need for special machining of connectors when connecting with existing imperial type PILC cables, saving time



**NOTE:** Other sizes available on request

Cat No.	Type	Size Range XLPE (mm <sup>2</sup> )	Size Range PILC (mm <sup>2</sup> )
MXSU-12A/3X-3B	3 CORE XLPE TO 3 CORE PILC	CU: 16-95 / AL: 25-95	CU: 16-70 / AL: 25-70
MXSU-12B/3X-3B		CU: 50-150 / AL: 50-150	CU: 70-120 / AL: 70-120
MXSU-12C/3X-3B		CU: 95-240 / AL: 95-240	CU: 95-185 / AL: 95-185
MXSU-12D/3X-3B		CU: 150-300 / AL: 150-300	CU: 150-240 / AL: 150-240
MXSU-12E/3X-3B		CU: 185-400 / AL: 185-400	CU: 240-300 / AL: 240-300
MXSU-12B/3B-3X-TS1		CU: 16-70 / AL: 25-70	CU: 95-185 / AL: 95-185
MXSU-12B/3X-3B-TS		CU: 95-240 / AL: 95-240	CU: 25-70 / AL: 25-70
MXSU-12D/3B-3X-TS1		CU: 95-240 / AL: 95-240	CU: 240-300 / AL: 240-300
MXSU-12D/3X-3B-TS		CU: 240-400 / AL: 240-400	CU: 240-400 / AL: 240-400
MXSU-12A/1X-3B	1 CORE XLPE TO 3 CORE PILC	CU: 16-95 / AL: 25-95	CU: 16-70 / AL: 25-70
MXSU-12B/1X-3B		CU: 70-150 / AL: 70-150	CU: 70-120 / AL: 70-120
MXSU-12C/1X-3B		CU: 95-240 / AL: 95-240	CU: 95-185 / AL: 95-185
MXSU-12D/1X-3B		CU: 150-300 / AL: 150-300	CU: 150-240 / AL: 150-240
MXSU-12E/1X-3B		CU: 185-400 / AL: 185-400	CU: 240-300 / AL: 240-300
MXSU-12B/3B-1X-TS2		CU: 95-240 / AL: 95-240	CU: 16-70 / AL: 25-70
MXSU-12B/1X-3B-TS		CU: 95-240 / AL: 95-240	CU: 16-70 / AL: 16-70
MXSU-12D/3B-1X-TS1		CU: 95-240 / AL: 95-240	CU: 240-300 / AL: 240-300
MXSU-12D/1X-3B-TS		CU: 240-400 / AL: 240-400	CU: 95-185 / AL: 95-185

## 22KV TRANSITION JOINTS TO JOIN PILC CABLE TO XLPE CABLE

- Complete with mechanical connectors for conductor and screen wires
- Connectors suitable for Cu, Al or bimetal applications
- Excellent for fault situations and reduces inventory
- Eliminates the need for special machining of connectors when connecting with existing imperial type PILC cables, saving time



**NOTE:** Other sizes available on request

Cat No.	Description	Connector	Size Range XLPE (mm <sup>2</sup> )	Size Range PILC (mm <sup>2</sup> )
EPKJ-24C-1XU-1HL	1 CORE XLPE – 1 CORE PILC	NOT INCLUDED	95-240	95-240
MXSU-24A/1XU-3SB	1 CORE XLPE – 3 CORE PILC	MECHANICAL	25-95	25-70
MXSU-24B/1XU-3SB			50-150	70-120
MXSU-24C/1XU-3SB			95-240	95-185
MXSU-24D/1XU-3SB			150-300	150-240
MXSU-24E/1XU-3SB			240-400	240-300
MXSU-24A/3XU-3SB	3 CORE XLPE – 3 CORE PILC	MECHANICAL	25-95	25-70
MXSU-24B/3XU-3SB			70-150	50-120
MXSU-24C/3XU-3SB			95-240	95-185
MXSU-24D/3XU-3SB			150-300	150-240
MXSU-24E/3XU-3SB			240-400	240-300



## 33KV TRANSITION JOINTS TO JOIN PILC CABLE TO XLPE CABLE

- Available with mechanical connectors for conductor and screen wires
- Connectors available for Cu, Al or bimetal applications
- Excellent for fault situations and reduces inventory
- Eliminates the need for special machining of connectors when connecting with existing imperial type PILC cables, saving time
- Suitable for HSL cable types



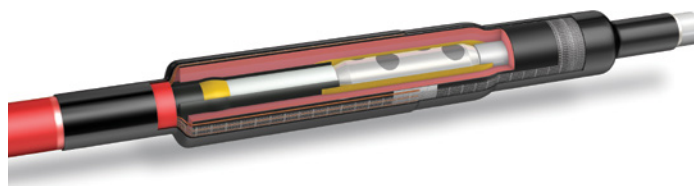
**NOTE:** Other sizes available on request

Cat No.	Description	Connector	Size Range Al or Cu (mm <sup>2</sup> )
EPKJ-36C-1XU-1HL-M	1 CORE XLPE – 1 CORE PILC	MECHANICAL	185–400
EPKJ-36D-1XU-1HL		NOT INCLUDED	500–630
EPKJ-36D-1XU-1HLMST2		MECHANICAL	XL 630, PL 240/400
EPKJ-36E-1XU-1HL-M	1 CORE XLPE – 3 CORE PILC		630–800
EPKJ-36A-1XU-3SB		NOT INCLUDED	50–70
EPKJ-36A-1XU-3SB-M			50–70
EPKJ-36C-1XU-3SB-M	1C XLPE – 3C HSL	MECHANICAL	185–400
EPKJ-36D-1XU-3HL-M			XL 630, HSL 400
EPKJ-36D-1XU-3SB-SPM			XL 630, PL 240/400

## LIVE END SEAL KITS

### 11/22KV LIVE END SEALS FOR PILC AND XLPE CABLES

TE Connectivity (TE)'s Raychem MXSE product is designed very closely to MXSU inline joints with an application range from 16-1000mm<sup>2</sup>. No special crimping tools are required for the installation. The cable can be energised immediately after installation.



The live end seals allow partially installed networks to be energised, and therefore enable the detection of damage as soon as it occurs. The end seals protect the cable against moisture ingress.

Cat No.	Voltage Class (kV)	Conductor Cross Section (mm <sup>2</sup> )	No. of Cores	Cable Type
MXSE-12A-3SB	11	16–70	3	PILC
MXSE-12C-3SB		95–185		
MXSE-12E-3SB		240–400		
MXSE-3111		16–70	1	XLPE
MXSE-3131		95–240		
MXSE-3141		240–400		
MXSE-3311	22	16–70	3	XLPE
MXSE-3331		95–240		
MXSE-3341		240–400		
MXSE-5131		16–185	1	XLPE
MXSE-5141		240–400		
MXSE-5311		16–95 CU, 25–95 AL	3	XLPE
MXSE-5331		95–240		
MXSE-5341		240–400		

# GUROFLEX RESIN

## GUROFLEX MV RESIN

GUROFLEX MV is a two-component cold-pour insulating compound. After mixing and pouring it cures to a soft rubbery solid that will not melt or flow. It has excellent electrical characteristics and is suitable for a wide range of bulk insulation applications in medium voltage electrical power equipment.

Because GUROFLEX MV is a cold pour material there are none of the serious hazards associated with the heating and pouring of conventional bitumen or oil-based insulating compounds. One of the outstanding advantages of its chemical make-up is that GUROFLEX MV is nonhazardous and does not contribute to environmental problems. The liquid components are not subject to any safety classification.

The curing reaction of GUROFLEX MV is insensitive to temperature, making it feasible to mix and pour the compound in very cold or hot ambient conditions. The cured compound can be cut out of the enclosure if connections have to be changed at a later date. No heat is required.

GUROFLEX MV has undergone extensive testing based on the requirements of CENELEC cable accessory performance standard HD 629.1 (including the requirements of IEC 60502-4) for rated voltages up to 36kV. Additional testing has included impulse voltage withstand at 250kV (prescribed level for 52kV cable systems).

### KEY FEATURES

- For medium voltage applications
- Isocyanate and solvent free
- Easy to use
- No temperature rise during reaction
- Cures to a soft solid – no leakage problems
- Installation down to -10°C possible



### TECHNICAL DATA

Colour	Blue
Shelf Life	24 months
Reaction Temperature	none
Pot Life at 23°C	40 minutes
Storage Temperature	-20°C min/40°C max
Hardness	10 Shore A
Tensile Strength	0.5 MPa
Elongation at Break	140%
Dielectric Strength	25kV/mm

For GUROFLEX LV resin see page 66.

Cat No.	Packaging	Volume (L)
GUROFLEX-MV-6.3L-TIN	TIN	6.3
GUROFLEX-MV-C10000	TIN	10



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# GENERAL TOOLING REQUIREMENTS



## TOOL SUPPLEMENT CATALOGUE

For additional tooling options, please see your copy of the TransNet Tool catalogue. Don't have one? Contact us for a copy now!

### CATALOGUE INCLUDES

- Assembly & Construction Tooling
- Cable & Wire Cutters, Strippers, Cable Preparation & Installation Tools
- Cordless, Electrical, & Hydraulic Tools
- Crimping Tools – Hand, Cordless, & Hydraulic
- General Hand Tools
- Live Line Tools
- Socketry, Spanners, & Wrenches
- Test, Measurement, & Torque Tools
- VDE 1000V Insulated Tools
- PPE Gear

### TOOLS FOR

- Apprentices
- Cable Jointers
- Electrical Fitters
- EV Servicepeople
- Linemen
- Servicepeople
- Technicians
- Telecommunications
- Tradespeople

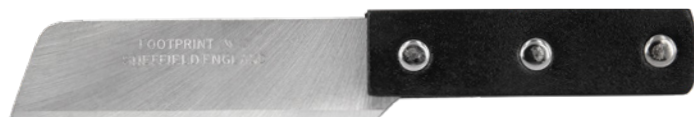


## CABLE JOINTING TOOLS

### GENERAL JOINTING TOOLS



Cat No.	Description
EXRM-0607	RAYCHEM KNIFE WITH WOODEN HANDLE



Cat No.	Description
GT/F00182	JOINTERS HACK KNIFE IN HOLSTER



Cat No.	Description
LE-325	HEAVY DUTY WORK KNIFE IN HOLSTER WITH SAFETY LOCK, BELT LOOP & SHARPENER. 234MM LONG (80MM BLADE)



Cat No.	Description
503	1000V RATED CABLE STRIPPING KNIFE



Cat No.	Description
IT/120-CS	POLYMERIC HACK KNIFE



Cat No.	Description
764	INSULATED DEPTH GAUGE SAW



Cat No.	Description
IT/HSO1810	1000V INSULATED JUNIOR HACKSAW



Cat No.	Description
IT/HSO1820	1000V INSULATED 12" HACKSAW



Cat No.	Description
128-xxx	1000V INSULATED RATCHET CABLE CUTTER, *x = size: 290 = 185mm <sup>2</sup> AL/150mm <sup>2</sup> CU 310 = 240mm <sup>2</sup> AL/CU



Cat No.	Description
SC-13	SEMICON PLIERS



Cat No.	Description
HRIPS	RIPPER STRIPPER



Cat No.	Description
116-240	1000V RATED WATERPUMP PLIER 240MM



Cat No.	Description
725-200	INSULATING WEDGE 200 × 25 × 10MM



Cat No.	Description
714-170	INSULATING WEDGE 170MM LONG



Cat No.	Description
IT/120-CG1C	CABLE CORE GUARD HAMSTER



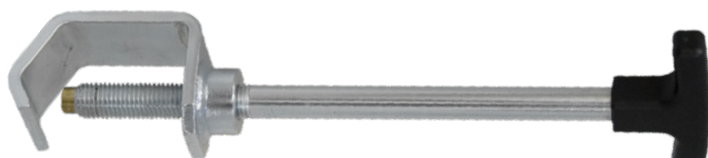
Cat No.	Description
IT-1000-003	MASTIC POSITIONING WEDGE TOOL



Cat No.	Description
EE/TCC-D	D TYPE CONTINUITY BOND



Cat No.	Description
223	1000V INSULATED MECHANICAL CONNECTOR HOLDER, APPLICATION RANGE 15-40MM



Cat No.	Description
IT-1000-019	MECHANICAL CONNECTOR HOLDING TOOL - LARGE, APPLICATION RANGE 15-60MM OD



Cat No.	Description
IT/360/xMM	1000V INSULATED ALLEN KEY T-BAR



Cat No.	Description
IRW13/17	1000V INSULATED RATCHET SPANNER



Cat No.	Description
280-260	1000V INSULATED REVERSIBLE RATCHET 1/2" DRIVE



Cat No.	Description
316-xx	ISO SOCKET 1000V 1/2" DRIVE *x = size: 8, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 21, 22, 24, 30mm



Cat No.	Description
321-xx	ISO LONG SOCKET 1000V 1/2" DRIVE *x = size: 8, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 21, 22, 23, 24, 27, 30, 32mm



Cat No.	Description
CABLEJOINTINGKIT TOOLROLLBAG1	CABLE JOINTER 1000V TOOL KIT HOUSED IN A HANDY CANVAS TOOL ROLL EMPTY CANVAS TOOL ROLL ONLY

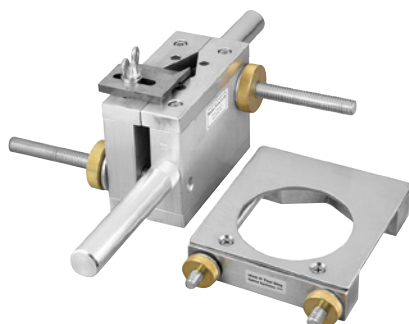
## SPECIALIST STRIPPING TOOLS



Cat No.	Description
MARK-I-TOOL	INSULATION STRIPPER 19.1-50.8MM *TOOL STOP SOLD SEPARATELY



Cat No.	Description
2850-TOOL	SECONDARY MID-SPAN STRIPPER



Cat No.	Description
MARK-II	INSULATION STRIPPER 44.5-76.2MM *TOOL STOP SOLD SEPARATELY



Cat No.	Description
MARK-X-TOOL-STOP	TOOL STOP ACCESSORY FOR SQUARE CUT *X = MODEL I OR II

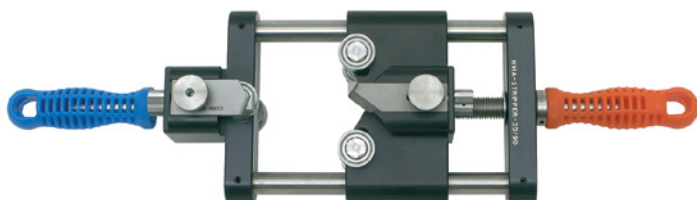




Cat No.	Description
1700-SS	SEMICON SCORER 12.7-50.8MM WITH SQUARE/ SPIRAL CUT & DIAL LOCKING SET SCREW



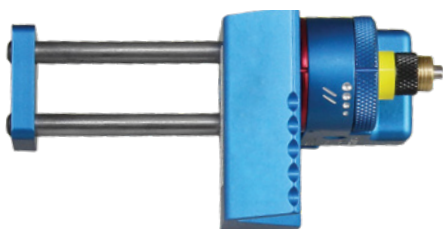
Cat No.	Description
2750-TOOL	SECONDARY STRIPPER 7.9-34.9 MM² CUTTER, 240MM² AL/CU



Cat No.	Description
HVIA-TOOL-35/90	CABLE INSULATION & SCREEN STRIPPING TOOL FOR 35-90MM OD



Cat No.	Description
KMS-K	HEAVY DUTY CABLE SHEATH STRIPPER
KMS-K-BLADE	5PACK, SPARE BLADES



Cat No.	Description
SCS	SEMICON SCORING TOOL



Cat No.	Description
KMS-K-INT	CABLE SHEATH CUTTER
KMS-K-INT-BLADE	5 PACK, SPARE BLADES



Cat No.	Description
WS76	SEMICON SHAVING TOOL



Cat No.	Description
2-361372-7	CHAMFERING TOOL





Cat No.	Description
3-361372-0	ULTIMATE MV CABLE PREPARATION TOOL KIT



Cat No.	Description
3-361372-1	BASIC MV CABLE PREPARATION TOOL KIT



Cat No.	Description
GT/125200	INSULATION STRIPPER, T HANDLE



Cat No.	Description
GT/130xxx	INSULATION STRIPPER INSERT FOR USE WITH GT/125200 T HANDLE * xxx = Cable size and Voltage, contact us for part numbers



Cat No.	Description
HVSTRIPPINGKIT	MV CABLE STRIPPER SET FOR SEMI CON LAYERS



GURO-CEC - PUSH ON SILICONE CABLE END CAPS

FEATURES

- Made from Silicone Rubber
- Used to protect cable ends from humidity during storage
- High elasticity & toughness against crack propagation
- Weatherproof
- UV resistant
- Range taking

Cat No.	Application Range (mm)	Cable Cross Section (mm <sup>2</sup> )
GURO-CEC-20/26	20–26	4 × 10 – 5 × 16
GURO-CEC-24/34	24–34	5 × 16 – 4 × 35
GURO-CEC-30/38	30–38	4 × 35 – 4 × 70
GURO-CEC-38/48	38–48	4 × 70 – 4 × 120
GURO-CEC-44/55	44–55	4 × 120 – 4 × 185



**Note:** No heat required, simply push on



## CABLE SPIKER

The "ACVOKE" Cable Spiker provided by UK based Accles and Shelvoke is a high quality durable safety tool used worldwide. This cartridge powered tool developed for the electrical industry has long been used in New Zealand.

The "ACVOKE" Cable Spiker is a cartridge powered tool which when fired drives a steel spike through high voltage electricity cables short circuiting the

power and making the cable dead and therefore safe to work on.

TransNet offers tool servicing and repair, please contact customer service or your local rep for details.

Spare parts can also be purchased for in house servicing. All parts are listed in the table below.

### CHOOSING THE RIGHT CARTRIDGE

**RED** – Heavy, for use with older cable types and steel wire armoured cables

**GREEN** – Medium, for lead covered and all armoured cables up to 3' 3/8" OD

**SILVER** – Light, for Aluminium sheathed cables up to 300mm<sup>2</sup> and small diameter plastic covered cables

**YELLOW** – Extra light, for small polymeric cables with no outer metallised sheath



#FA7900  
GREEN  
CARTRIDGE



#FA7910  
RED  
CARTRIDGE



#FA7920  
SILVER  
CARTRIDGE



#FA7925  
YELLOW  
CARTRIDGE



Cat No.	Description
FA2183	STEEL WASHER



Cat No.	Description
FA2184	POLY WASHER



Cat No.	Description
FA2189	TAPER PIN



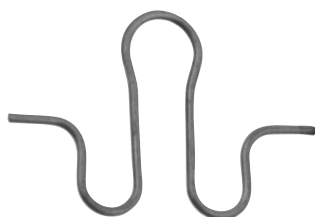
Cat No.	Description
FA2202	HAMMER SPRING



Cat No.	Description
FA2215	LANYARD & PIN



Cat No.	Description
FA2216	PISTON PUNCH



Cat No.	Description
FA2218	LOCATING SPRING



Cat No.	Description
FA2222	CLEANER



Cat No.	Description
FA2233	CABLE SPIKER TOOL



## HYDRAULIC CABLE SPIKER KIT

The CSTE hydraulic cable spiker is designed for use on single and three core mains cable up to 11kV. It is important this unit is not used on cables above 11kV as mechanical features of the cutting blade may be exceeded.

### FEATURES

- Does not require an explosive cartridge
- Robust design
- Suitable for up to 102mm overall diameter cable
- Independent insulated earth supplied 6m x 50mm<sup>2</sup>
- Fully insulated 6m hydraulic hose
- Packed in robust storage case with humidity control
- Diamond shaped chisel head
- Spike depth indicator helps achieve correct penetration every time



Cat No.	Description
CSTE	TE HYDRAULIC CABLE SPIKER UP TO 11KV PVC SHEATHED CABLES

## GAS TORCH SETS

The Raychem gas torch sets allow you to install Heatshrink products correctly using specialised tools approved by TE. These sets are available in both standard and Piezo (self igniting) styles.

### STANDARD SET CONTENTS

The standard Raychem gas torch set features a plastic composite single valve handle with high quality brass metal parts. Suitable for rapid installation of heat-shrinkable materials this set offers maximum burning efficiency and the best available balance of surface pre-heat.

- FH-1630-S-HNZ handle
- 5m long high pressure hose
- 3 Nozzles - Flame diameters 17mm, 28mm & 38mm
- Regulator
- Cut off valve
- Raychem carry case

### PROMATIC SET CONTENTS

Featuring the patented Piezo electric ignition, universal handle, advanced design, and ergonomic appearance, the Promatic is a world-beating system for all possible heating tasks where efficiency and professional workmanship are the most important requirements.

- Piezo handle
- 5m long high pressure hose
- 4 Nozzles - Flame diameters 18mm, 28mm, 38mm & 50mm
- Regulator
- Cut off valve
- Raychem carry case



Cat No.	Description
3-361373-3	STANDARD GAS TORCH SET WITH 5M HOSE, 3 NOZZLES, REGULATOR, CUT OFF VALVE & CARRY CASE
3-361373-2	PROMATIC GAS TORCH SET WITH 5M HOSE, 4 NOZZLES, REGULATOR, CUT OFF VALVE & CARRY CASE



# LOAD LIFTING TOOLS & ACCESSORIES

## WIRE GRIPS

Used to maintain temporary tension on cables until they can be permanently terminated. These grips are to be used for pulling lines up to tension only, and are not to be used as anchors. To select the correct wire grip simply determine the type of wire or cable to be tensioned, the size of that wire or cable and the maximum safe load required, all of this information is outlined in the table.

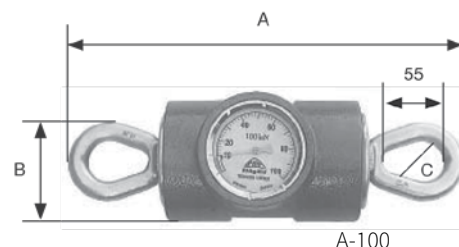
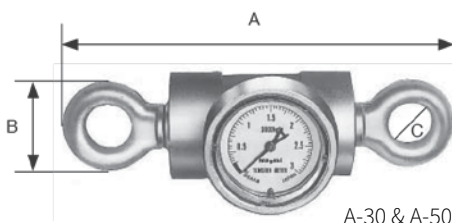
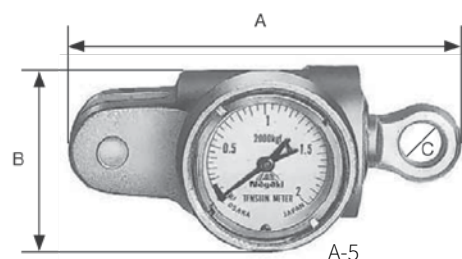
The grips have different jaw contours based on the type of wire or cable they are designed to be used on. The jaw length and contour determined ensures the least amount of damage or deformation of the cable or wire.



Cat No.	Description	Type of Conductor	Eye Size	Safe Load	Conductor Dia Range (mm)	Weight (kg)
TN500G	MINI-GRIP	STEEL ROD, BARBED WIRE & MESSENGER WIRE	STANDARD	0.5T	1-10	0.3
TNABC	TNABC-GRIP	AERIAL BUNDLED CONDUCTOR	LARGE	0.85T	4 × 35 – 4 × 95	3
TNSD-L-1000C	SD-L-GRIP	STEEL ROD, COPPER CABLE & MESSENGER WIRE			2.6-15	0.6
MESSEN-L-GRIP	MESSEN-L-GRIP	COPPER CABLE & MESSENGER WIRE	LARGE	1.0T	4-12	0.7
TNS-1000CL	1TON-L-GRIP	BARE COPPER CABLE, COVERED CONDUCTOR & MESSENGER WIRE			4-22	1.1
TNS-2000CL	2TON-L-GRIP	BARE COPPER CABLE, COVERED CONDUCTOR & MESSENGER WIRE			4-22	1.3
TN2000MAL	AL-MIDDLE-GRIP	BARE ALUMINIUM & BARE COPPER CABLE			5-25	1.8
TN2000MCL	MIDDLE-L-GRIP	COPPER CABLE, COVERED CONDUCTOR & MESSENGER WIRE	LARGE	2.0T	5-25	1.8
TN2000LAL	AL-LARGE-GRIP	BARE ALUMINIUM & BARE COPPER CABLE			16-32	2
TN2000LCL	LARGE-L-GRIP	COPPER CABLE & COVERED CONDUCTOR			16-32	2.1

## TENSION METERS

Used for measurement of tension and load when building and re-sagging lines. Small, strong and lightweight — Nagaki Tension Meters are available in a range of sizes and strengths.



Cat No.	Description	Graduation	Dimensions (mm)			Weight (kg)
			A	B	C	
A-5	500 KG	100N (10KG)	110	65	16	0.7
A-30	3.0 TON	500N (50KG)	150	80	28	2
A-50	5.0 TON	1KN (100KG)	260	95	28	3
A-100	10 TON	2KN (200KG)	360	100	38	7

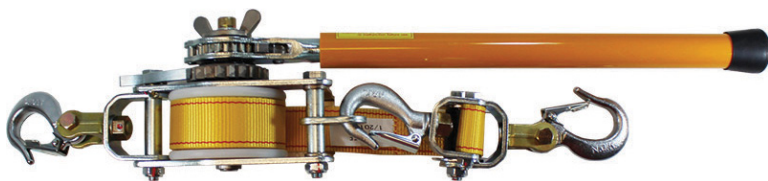


## STRAP HOISTS

Perfect for tasks such as pulling slack wire, tensioning cables, tightening guy wires or placing transformers etc, these units feature a nylon strap.



1702-20N



N1500P-EX



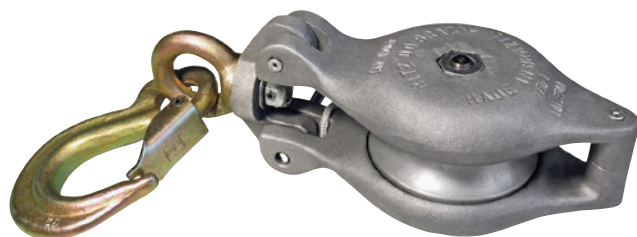
LUGALL 2-A

Cat No.	Description
2-A	LUGALL STRAP HOIST 1TON
2-B	LUGALL STRAP (SHOTGUN) HOIST 1-1.5TON
3-A	LUGALL STRAP HOIST 1.5TON
N-1500P	STRAP HOIST 1.5TON, LENGTH 470-1940MM
N-1500P-EX	STRAP HOIST 1.5TON, LENGTH 500-2000/3500MM
1702-20N	KLEIN HOWE WIRE TOOL (NYLON STRAP)

## SNATCH BLOCKS

With a 5/8" diameter, 16mm O.D. rope capacity and weighing just 1.2kg, these versatile units are a must have.

Cat No.	Description
2230-1	RITZ SNATCH BLOCK, RATED WORK LOAD 1250LB



# HOTSTICKS & ACCESSORIES

RITZGLAS insulated hot sticks are available in many forms. They are made to the highest quality and offer effective protection for operators working on energised systems.

## TRIANGULAR TELESCOPIC STICKS

The RITZGLAS Triangular Telescopic Hotstick was designed to make work with overhead electrical systems faster and easier for the operator. The standard aluminium universal head means it can accommodate standard fittings.

- Triangular shape requires no twisting to lock each section
- Each VTT Hot stick comes with a rubber ring and seal to secure the end fitting for storage and transportation
- Also available with metric measuring markers, useful for vertical span measurements (specify M when ordering)
- Modular system enables the operator to use only the number of sections required for each job. All sections are available separately in order to replace damaged sections of a stick
- Assembled with epoxy-resin reinforced fibreglass poles, the VTT range complies with ASTM F-1826/99 and IEC 62193/03

Cat No.	Description
VTT-2	STANDARD TELEPOLE 1.42–2.58M
VTT-3	STANDARD TELEPOLE 1.49–3.8M
VTT-4	STANDARD TELEPOLE 1.52–5.00M
VTT-5	STANDARD TELEPOLE 1.57–6.42M
VTT-6	STANDARD TELEPOLE 1.64–7.77M
VTT-7	STANDARD TELEPOLE 1.68–9.14M
VTT-8	STANDARD TELEPOLE 1.72–10.5M
VTT-9	STANDARD TELEPOLE 1.76–12.05M



## MEASURING TRIANGULAR TELESCOPIC STICKS

Cat No.	Description
VTT-1/4M	MEASURING TELEPOLE 1.54–5.10M
VTT-1/7M	MEASURING TELEPOLE 1.68–9.14M
VTT-1/8M	MEASURING TELEPOLE 1.72–10.5M
VTT-1/9M	MEASURING TELEPOLE 1.76–12.05M



## TRIANGULAR TELESCOPIC STICK SPARE PARTS

Standard Stick Section	Measuring Stick Section				Description
	VTT-1/4M	VTT-1/7M	VTT-1/8M	VTT-1/9M	
VT-1	VT1M-4	VT1M-7	VT1M-8	VT1M-9	1ST SECTION
VT-2	VT2M-4	VT2M-7	VT2M-8	VT2M-9	2ND SECTION
VT-3	VT3M-4	VT3M-7	VT3M-8	VT3M-9	3RD SECTION
VT-4	VT4M-4	VT4M-7	VT4M-8	VT4M-9	4TH SECTION
VT-5	-	VT5M-7	VT5M-8	VT5M-9	5TH SECTION
VT-6	-	VT6M-7	VT6M-8	VT6M-9	6TH SECTION
VT-7	-	VT7M-7	VT7M-8	VT7M-9	7TH SECTION
VT-8	-	-	VT8M-8	VT8M-9	8TH SECTION
VT-9	-	-	-	VT9M-9	9TH SECTION





## GRIP ALL CLAMPSTICKS

Made from RITZGLAS, Grip All Clampsticks are the most versatile tool in a line workers hands. The Grip All stick puts an easy-to-control finger on an insulated pole. Primarily designed for installing hot-line and grounding clamps, it proves useful in many other applications with various end fittings.

Commonly called a 'shotgun' the operating mechanism incorporates a sliding hand grip that opens the hook to grasp a clamp eye screw and retract it into the tool head. A thumb latch then must be depressed to release the locked hand grip so it can open the hook.



Cat No.	Description
C403-0291	STANDARD GRIPALL STICK 1.35M
C403-0292	GRIPALL STICK 2.04M
C403-0293	GRIPALL STICK 2.58M

## UNIVERSAL STICKS

The RITZGLAS Universal Sticks (also known as Sectional sticks) are made up of foam filled unicellular Polyurethane, dielectrically tested to 100kV/ft according to ASTM F711. In order to make handling, storage and transportation more practical, the Sectional Hotstick is made up of standardised sectional elements which

are interchangeable and attached with quick spring-action locking pins.

- The total length can be increased or reduced by adding or removing sections thus altering the working voltage class
- 38mm OD handle and middle sections, 32mm OD top section



Cat No.	No. of Pieces	Max Length (m)
VMR-15	1	1.25
VMR-30	2	2.70
VMR-45	3	3.95
VMR-70	4	5.20
VMR-90	5	6.45

## UNIVERSAL STICK SPARE PARTS

Cat No.	Description
VMR-I	INTERMEDIARY SECTION POLE
VMR/L-I	INTERMEDIARY SECTION POLE
VMR-P	BASE SECTION POLE
VMR/L-P	BOTTOM SECTION POLE
VMR-S	END ELEMENT STICK
VMR/L-S	LIGHT END ELEMENT STICK



## HOTSTICK STORAGE BAGS

Cat No.	Type of Stick	To Fit Stick
SLT-2/3	SINGLE PIECE STICKS	VTT-2 & VTT-3
SLT-4/5		VTT-4 & VTT-5
SLT-6/7		VTT-6 & VTT-7
SLT-8/9		VTT-8 & VTT-9
SLD-15/B	MULTI PIECE STICKS	VMR-15
SLD-30/B		VMR-30
SLD-45/B		VMR-45
SLD-70/B		VMR-70
SLD-90/B		VMR-90



SLT - Single piece sticks



SLD - Multi piece sticks

## CLEANING, REPAIR & MAINTENANCE

### HOTSTICK REPAIR KITS

Repair damage to hotstick surfaces to ensure integrity of dielectric strength and insulation capabilities. These repair and reglossing kits offer protection to the surface of the hotstick to seal them from contaminants.

Cat No.	Description
H1917	AB CHANCE BOND PATCHING KIT
C400-2364	AB CHANCE MOISTURE EATER II, 1GAL
RT400-0803	RITZ GLOSS RESTORER KIT



H1917



C400-2364

### LIVE LINE CLEANERS

In order to keep live line gloving equipment in the best working condition it is important to keep it clean. These products will remove dirt and contaminants without damaging the integrity of the equipment.

Cat No.	Description
S4	LIQUID RUBBER CLEANER, 1GAL
C400-2365	AB CHANCE EPOXIGLASS CLEANING KIT
S-1	DISPOSABLE SILICONE WIPING CLOTH
M1904	AB CHANCE REUSEABLE SILICONE WIPING CLOTH



S-1



M1904



C400-2365



S4



## HOTSTICK TOOL ACCESSORIES

All Tools listed in this section have the universal head for perfect connection to universal hot sticks. These tools have been selected because of the work they enable Linemen to do when working with the Hotstick method. Each tool is designed to do a

specific task even when angles and working positions present a challenge.

There are many more universal tools available on request, please contact customer service for details.

### TNHSFP

Pigtail hand & hotstick disconnect head.

Cat No.	Weight (kg)	Details
TNHSFP	0.03	UV STABILISED STURDY PLASTIC FUSE PULLER WITH PIGTAIL HEAD. HAND OR HOTSTICK OPERATED



### DUALPULLER

Disconnect head, dual fitting.

Cat No.	Weight (kg)	Details
DUALPULLER	0.13	SERVICE FUSE AND DDO DISCONNECT IN ONE



### M4455-9

Ritz disconnect tool for DDO.

Cat No.	Weight (kg)	Details
M4455-9	0.06	USED FOR OPERATING SWITCHES, OPENING ENCLOSED CUTOUTS ETC.



### M4455-71

AB Chance disconnect head.

Cat No.	Weight (kg)	Details
M4455-71	0.09	POINTED DISCONNECT USED TO OPERATE CERTAIN TYPES OF DISCONNECT SWITCH





## FC-P101770-01

Tool for extracting fuse base from NZI ceramic pole fuse

Cat No.	Weight (kg)	Details
FC-P101770-01	0.87	USED TO REMOVE AND REPLACE THE FUSE BASE IN AN NZI CERAMIC POLE FUSE



## K293-TOOL

Tool for extracting fuse base from K293 FSD unit

Cat No.	Weight (kg)	Details
K293-TOOL	0.12	USED TO REMOVE AND REPLACE THE FUSE BASE IN A K293 FUSE SWITCH DISCONNECT



## M4455-26A

Ritz fine tooth pruning saw.

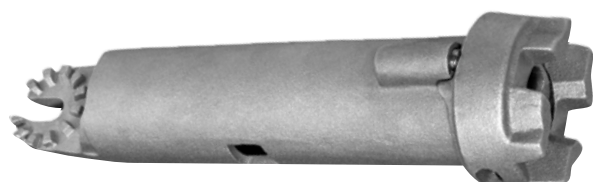
Cat No.	Weight (kg)	Details
M4455-26A	0.36	USED FOR CUTTING TREES THAT ARE CLOSE TO ENERGISED LINES



## M4455-29/B

Ritz clamp stick head with plastisol covered jaws.

Cat No.	Weight (kg)	Details
M4455-29/B	0.3	152MM UNIVERSAL CLAMP STICK HEAD, FOR INSTALLATION AND REMOVAL OF EYESCREW GROUNDING CLAMPS ON ENERGISED OR DE-ENERGISED SYSTEMS





## M4455-77

Ritz HRC fuse puller 2.7-38mm O.D.

Cat No.	Weight (kg)	Details
M4455-77	0.97	USED TO INSTALL OR REMOVE FUSES FROM 13-38MM OD WHILST LINES ARE ENERGISED. FULLY ADJUSTABLE AND ABLE TO BE PRESET WITHOUT LOCKING SO IT WILL ALIGN WITH THE FUSE DURING THE PULLING OPERATION



## M4455-92

Ritz conductor cleaning brush with adaptor.

Cat No.	Weight (kg)	Details
M4455-92	0.53	64MM DIAMETER SEMI-TUBULAR SHAPE CONDUCTOR CLEANING BRUSH WITH SWIVEL HEAD AND UNIVERSAL FITTING ALLOW LINEMEN TO CLEAN THE ENTIRE CIRCUMFERENCE OF THE ENERGIZED CONDUCTOR



## TNGPSSA

Adaptor for Go-Pro camera mounting case.

Cat No.	Weight (kg)	Details
TNGPSSA	0.06	USED TO ASSESS ASSETS FOR MAINTENANCE OR UNDER FAULT CONDITIONS TO DOCUMENT DAMAGE ETC



## TNWG4/32

Diameter measuring gauge 4-32mm O.D.

Cat No.	Weight (kg)	Details
TNWG4/32	0.09	USED TO IDENTIFY AND ACCURATELY MEASURE OVERHEAD CONDUCTORS



# LIVE LINE ROPE

## HY-DEE BRAIT ROPE

Hy-Dee is an 8-strand bi-polymer rope with extraordinary dielectric properties. The rope is nubby which provides excellent grip, and treated with a proprietary chemical mixture Yale calls Aralube-dielectric.



This treatment is the key to Hy-Dee Brait's wet dielectric performance and allows us to make the highest dielectric strength rope commercially available. Easy to splice with a tucking procedure or by the quick splice method illustrated.

Hy-Dee Brait complies to ASTM F1701-12 which calls for a maximum leakage of 250 micro-amperes at any time during the wet test. Electrodes are 1 foot apart, shielded and the test is conducted at 50KV-AC.

This product is 100% lot tested for dielectric conformance.

Cat No.	Size (inch)	Roll Length (ft)
3/8HYDEE	3/8	380
63071	9/16	600
7112932R	1/2	600
7112940R	5/8	600
7112948R	3/4	985

# TEMPORARY LIGHTS

## BATTERY POWERED LED FLOODLIGHTS

The perfect portable work light. Available in 20W and 50W this rechargeable battery powered LED floodlight with a sturdy stand is a must have for all tradesmen.

### FEATURES

- Slim & compact design for ease of storage
- USB outlet to charge other devices
- 4-5 hour battery run time
- Two light level settings - 100% & 50%
- Bluetooth connection function to play music
- Rechargeable Li-ion battery
- 12V DC & 230V AC charger
- Optional magnetic base that clips onto the light



LEDPORT-MAGBASE



Cat No.	Base Mount	Lumens	Power	IP Rating	Charger
LEDPORT-MAGBASE	STAND	OPTIONAL MAGNETIC BASE			
LEDPORT-20W-BATT		1600	20W	IP54	12V DC/230V AC
LEDPORT-50W-BATT		3500	50W	IP54	12V DC/230V AC



## PORTABLE LIGHT STAND - 2X45W LEDS

This industrial light stand (ILS) is engineered to cater for the commercial user where durability is of key importance.

### FEATURES

- Telescopic stand to offer a range of working heights, approximately 1250mm–2500mm
- Easy to assemble and put away, fits into small storage areas
- Long 12m lead
- Power source 230V AC
- Cool running temperature
- \*DC model available on special order

Cat No.	Lumens	Power	Supply Voltage
LEDILS-2500	6000	2 × 45W	230V AC



## PORTABLE LIGHT STAND - 400W LEDS

This light kit is the epitome of temporary light stands. With an air extendable hydraulic telescopic stand the light can be positioned up to 5m\* above the work site. All the components to run this light (AC and DC) are included in the kit.

### SPECIFICATIONS

- IP65 Rating
- 1.6m up to 5m\* when extended
- LxWxH when packed in case = 800x520x320mm
- Stand Weight = 17.85kg
- Packed in Case Weight = 32.85kg

### KIT CONTENTS

- 400W LED light fitting
- Air extendable light stand
- Bicycle track pump
- Battery leads
- 400W inverter
- Storage bag for stand
- Tough plastic carry case

\*Height of stand only, not including lights



Cat No.	Lumens	Power	Supply Voltage
LEDILS-5M-200	21,000	200W	230V AC OR 12V DC
LEDILS-5M-400	42,000	400W	



# LADDERS

## EXTENSION LADDERS

Made in Palmerston North, New Zealand – Pelco ladders are well known and trusted for their quality and reliability. Available in laminate and fibreglass.

**LAMINATE** – Pelco's patented design of Ladder stile features strong, stringy Mountain Ash edges bonded to a light weight Pine core with a fully encased fibreglass rod bonded in. Centre laminate timber which is not under bending stress is scalloped out to reduce weight without reducing strength. This design produces Ladder stiles which are strong, lightweight, hard wearing and rigid.

**FIBREGLASS** – Pelco fibreglass ladders are the best for linesmen, they are safe, durable and user friendly. The essential elements of any Ladder – Strength,



Stability, Durability, Weight and Cost are all interrelated. The designers at PELCO believe they have achieved the best possible balance of all these factors, with the emphasis on Safety.



Cat No.	Type	Length (m)	Weight (kg)	Top Style
GRE42NB	FIBREGLASS	4.2–7.5	25	BECKET
GRE51NB		5.1–9.0	32	
EL63	LAMINATE/PAINTED	6.3–11.4	41	

# POP'N'WORK POP UP WORK SHELTERS

## POP'N'WORK UMBRELLAS

Pop'n'Work Umbrellas have heavy duty frames that can withstand strong winds.

### FEATURES

- Eight panel umbrella with a two piece pointed pole
- 25 degree tilt pole versions available
- Standard colour is yellow, other colours available on special order
- 10 oz Yellow vinyl laminate fabric
- Flame retardant to meet CPAI-84 requirements
- UV treated, waterproof and rot resistant
- Two piece Aluminium pole with Steel spreaders and ribs



Cat No.	Size	Type
5484MS	54"X 54"	SQUARE FOUR PANEL UMBRELLA, WITH SEALED SEAMS. COMPLETE WITH TWO PIECE TILTING POLE AND STORAGE BAG
8492M	84" DIA	OCTAGONAL EIGHT PANEL UMBRELLA, WITH SEALED SEAMS. COMPLETE WITH TWO PIECE TILTING POLE AND STORAGE BAG
UCCS	84" DIA	UMBRELLA AND KOOL KLAMP SYSTEM, 8492M UMBRELLA, TWO PIECE TILTING POLE WITH FOUR HEAVY DUTY SUCTION CLAMPS AND STORAGE BAG
STN2-SD	-	LIGHTWEIGHT UMBRELLA STAND, FOLD-UP LEGS. 1M X 1M OPEN BASE
STN1-HD	-	HEAVY DUTY UMBRELLA STAND WITH EXPANDABLE BASE TO 48" x 78"





## POP'N'WORK TENTS

Pop'N'Work tents provide a safe and comfortable work environment to increase productivity and reduce weather related delays. Made from a lightweight, UV protective polyester that is water repellent and flame resistant to CPAI-84 standards. Pitched roof provides extra headroom and structural strength to hang tools and lights.

### FEATURES

- Sizes from 4' x 4' up to 12' x 10'
- Two year guarantee on the frame
- Set up in seconds
- No loose parts
- Lightweight and durable
- Convenient - POP'N'WORK Quick-Pack, tent rolls up into carrying case, no separate bag
- Exclusive POP'N'WORK unified frame made with cold rolled steel and fibreglass is virtually unbreakable
- Beyond just adding a logo we can engineer a tent to your specific application
- Tie downs for windy weather
- One or two door options

- Screen windows with flap
- Vent ports
- Floor available

### Type - AERIAL BUCKET TENTS

Supplied With Fibreglass Non-conductive Dielectric Frames

### Type - FX TENTS

Include X frame on back wall for added stability. Frames made from cold rolled steel and fibreglass, virtually unbreakable frames. Hi-vis covers, flame retardant, UV treated and water repellent.

### Type - GS TENTS

Include two full side wall tension frames for added stability. Frames made from cold rolled steel and fibreglass, virtually unbreakable frames. Hi-vis covers, flame retardant, UV treated and water repellent. SIP models feature split rear ground strut

**NOTE:** Customise your Pop'n'Work tent by adding your logo, for more information and costs associated with this option please contact our customer service team.



Cat No.	Imperial Size D x W (ft)	Metric Size D x W (m)	Type	Height (m)	Details
4800D	4 x 4	1.2 x 1.2	AERIAL BUCKET TENT	-	CANOPY WITH WINDOW, DETACHABLE CURTAIN WALLS C/W FRAME AND MOUNTING BRACKETS
4800DC	4 x 4	1.2 x 1.2		-	CANOPY WITH WINDOW, C/W FRAME AND MOUNTING BRACKETS
4800DP	4 x 4	1.2 x 1.2		-	CANOPY WITH WINDOW, FIXED CURTAIN WALLS C/W FRAME AND MOUNTING BRACKETS
4800DS	4 x 4	1.2 x 1.2		-	CANOPY C/W FRAME AND MOUNTING BRACKETS
GS-4411A	4 x 4	1.2 x 1.2	GROUND TENT	2.0-1.8	'A' SHAPE FRONT DOOR
GS4412	4 x 4	1.2 x 1.2		2.0-1.8	ROLL UP FRONT DOOR
GS4423	4 x 4	1.2 x 1.2		2.0-1.8	ROLL UP FRONT DOOR & 'A' SHAPE REAR DOOR
GS-4423SIP	4 x 4	1.2 x 1.2		2.0-1.8	ROLL UP FRONT & 'A' SHAPE REAR DOORS, SPLIT REAR GROUND STRUT
GS4423VT	4 x 4	1.2 x 1.2	VERSA TENT	1.8-1.5	SLOPED ROOF, ROLL UP FRONT & 'A' SHAPE REAR DOORS
PEDPAL2	4 x 5	1.2 x 1.6	COMPACT TENT	1.6	SINGLE 'A' SHAPE FRONT DOOR
GS-6411A	6 x 4	1.8 x 1.2	GROUND TENT	2.0-1.8	'A' SHAPE FRONT DOOR
GS-6423SIP	6 x 4	1.8 x 1.2	GROUND TENT	2.0-1.8	ROLL UP FRONT & 'A' SHAPE REAR DOORS, SPLIT REAR GROUND STRUT
GS-6523VT-F	6 x 5	1.8 x 1.6	VERSA TENT	2.0-1.8	SLOPED ROOF, ROLL UP FRONT & 'A' SHAPE REAR DOORS
GS-6611A	6 x 6	1.8 x 1.8	GROUND TENT	2.0-1.8	'A' SHAPE FRONT DOOR
GS6623CV	6 x 6	1.8 x 1.8	GROUND COVER ONLY	-	FULL WIDTH ROLL UP DOOR & SLIT DOOR
GS-6623SIP	6 x 6	1.8 x 1.8	GROUND TENT	2.0-1.8	ROLL UP FRONT & 'A' SHAPE REAR DOORS, SPLIT REAR GROUND STRUT
GS-8623	8 x 6	2.4 x 1.8		2.3-1.8	ROLL UP FRONT & 'A' SHAPE REAR DOORS
GS-8723VT-F	8 x 7	2.4 x 2.1	VERSA TENT	2.3-2.0	SLOPED ROOF, ROLL UP FRONT & 'A' SHAPE REAR DOORS
GS-8811A	8 x 8	2.4 x 2.4	GROUND TENT	2.3-1.8	ROLL UP FRONT DOOR
GS-8823SIP	8 x 8	2.4 x 2.4		2.3-1.8	ROLL UP FRONT & 'A' SHAPE REAR DOORS, SPLIT REAR GROUND STRUT
GS10823	10 x 8	3.0 x 2.4		2.6-2.0	ROLL UP FRONT & 'A' SHAPE REAR DOORS
FX101011	10 x 10	3.0 x 3.0		2.6-2.3	'A' SHAPE FRONT DOOR
FX121023	12 x 10	3.6 x 3.0		2.6-2.3	ROLL UP FRONT & 'A' SHAPE REAR DOORS
GS-16822HDD	16 x 8	4.8 x 2.4		2.6-2.1	2X ROLL UP ZIPPER DOORS & SIDE VELCRO OPENING FLAP
SA48	-	-	SUCTION CUPS	-	2PC SET SUCTION CUPS W/WEBBING TENSIONING STRAPS



PAGE	CATEGORY
<b>138</b>	<b>INSULATING COVERS</b>
<b>138</b>	MVLC - Medium Voltage Line Cover
<b>138</b>	MVCC - Medium Voltage Conductor Cover
<b>139</b>	RRBB - Interphase Insulating Barrier Board
<b>139</b>	MVFT - Medium Voltage Fusion Tape
<b>139</b>	Panther Tails - Low Voltage Conductor Cover
<b>PAGE</b>	<b>ASSET PROTECTION</b>
<b>140</b>	BCAC - Bushing Connection Animal Cover
<b>140</b>	BCAC - Bushing Connection Protection Cover
<b>141</b>	Transformer Busbar Cover
<b>141</b>	Bird-B-Gone
<b>141</b>	Bird Blocker
<b>PAGE</b>	<b>MONITORING SYSTEMS</b>
<b>142</b>	GRID20/20 - Optanode Distribution Transformer Monitoring System



# INSULATING COVERS

## MVLC - MEDIUM VOLTAGE LINE COVER

- State-of-the-art insulation to help prevent electrical outages caused by tree/wildlife contact with lines
- Designed to insulate existing bare lines without replacing the conductor, perfect for problem areas
- Can be applied to live lines as long as all live working requirements are adhered to and the correct application tool is used
- The tool forms, closes and feeds the MVLC along the conductor with speed and consistency
- Three sizes cover conductors from 16–800mm<sup>2</sup>
- Based on TE's Raychem products field proven experience with HV products in harsh environments
- UV stable as well as tracking and erosion resistant



Cat No.	Voltage Class (kV)	Conductor Size (mm <sup>2</sup> )	Spool Length (m)	Substation Installation Tool	Overhead Installation Tool
MVLC-14-A/U	15	UP TO 99	100	MVLC-HAND-TOOL-14	MVLC-14-TOOL-100
MVLC-14-A/241	25				
MVLC-18-A/U	15	UP TO 185	75	MVLC-HAND-TOOL-02	MVLC-18-TOOL-03-2006
MVLC-18-A/241	25				
MVLC-38-A/U	15	UP TO 800	50	MVLC-HAND-TOOL-02	MVLC-38-TOOL-03-2006
MVLC-38-A/241	25				

## MVCC - MEDIUM VOLTAGE CONDUCTOR COVER

Raysulate Medium Voltage Conductor Covers (MVCC) provide high quality electrical insulation for substation leads and jumpers. These covers are made from a non-tracking silicone material that is suitable for harsh medium voltage outdoor environments. MVCC covers are split for easy installation.

### FEATURES

- Flexibility allows installation on tight bends which makes it ideal for substation applications
- Designed to protect energised conductors from flashovers due to contact with birds and animals.
- Suitable for applications up to 25kV phase to earth
- Two sizes will fit conductors with diameters ranging from 12–28mm



Cat No.	Conductor Diameter Range (mm)	Colour	Length (m)
MVCC-10/0.40	11	RED	30.4
MVCC-G10/0.40		GREY	
MVCC-19/0.75	12–19	RED	15.2
MVCC-G19/0.75		GREY	
MVCC-25/1.0	19–28	RED	7.6
MVCC-G-25/1.0		GREY	

## RRBB - INTERPHASE INSULATING BARRIER BOARD

### FEATURES

- Excellent tracking resistance
- Excellent machining properties
- No impregnated fibres

### APPLICATIONS

The use of RRBB (Rigid Red Barrier Board) barriers allows switchgear cabinets to be protected against interphase flashovers that can be caused by contaminants, moisture and animals.

The RRBB board is made from a homogenous polymer and has excellent track resistance, especially following a power-arc. It can be easily fabricated into a shape; it produces less nuisance dust and less tooling wear than other boards.



Cat No.	Width	Dimensions (mm)	
		Length	Thickness
RRBB-6	1220	1220	6

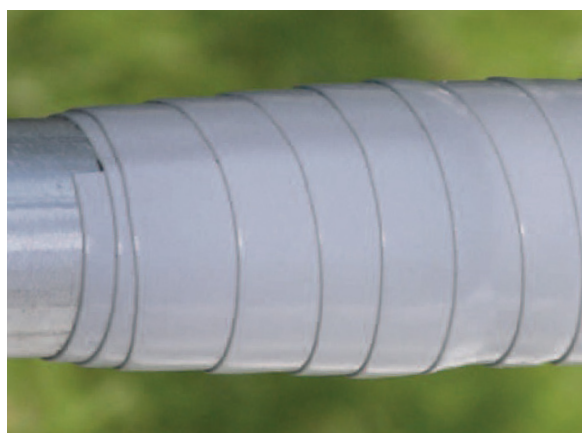
Contact us for more information on exact application requirements.

## MVFT - MEDIUM VOLTAGE FUSION TAPE

Medium Voltage Fusion Tape (MVFT) is a self amalgamating tape which provides insulation enhancement and protection against accidentally induced discharge. MVFT tape is designed to combine the integrity of a Silicone polymer with the versatility of a wrap around product.

MVFT tape is quick and easy to install. It sticks to itself and other insulating materials but, it does not adhere to metal or porcelain, allowing easy removal for maintenance. One layer of MVFT tape, 2/3 overlapped will provide AC voltage withstand to at least 15 kV increasing to 35 kV if a second layer is applied.

Cat No.	Colour	Width (mm)	Length (m)
MVFT-G-2-12	GREY	50	11



## PANTHER TAILS - LOW VOLTAGE CONDUCTOR COVER

Panther Tails are flexible conductor covers with a unique two tone design for ease of visual inspection. Perfect for LV applications, Panther Tails meet the requirements of AS 4202 Class I, appendix B.

Supplied in a roll of 60m, with a special zip lock style fastening system, Panther Tails are quick and easy to install and can be cut to fit the required area exactly.

Cat No.	Colour	Material	Dimensions
TPP15	BLACK/YELLOW	EVA	60M X 15MM





# ASSET PROTECTION

## BCAC - BUSHING CONNECTION ANIMAL COVER

- For use on bushings from 11 to 33kV
- Fit a wide range of bushing skirt diameters in both substation and network applications
- Fast and easy to install, no cutting required
- Can be installed live
- Feathered edges mean conductors can exit cover both vertically and horizontally
- Feathered edges act as thermal scan sites for true temperature evaluation of covered hardware
- Proven Raychem polymer material offers rugged, non tracking, UV resistant products which ensures long term performance in even the harshest environmental conditions

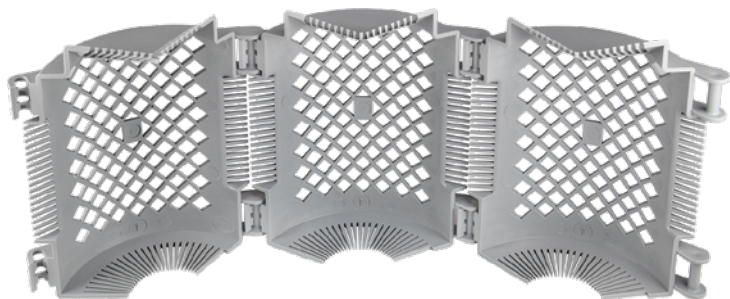
Cat No.	Colour	Max Shed Diameter (mm)	Cover Height (mm)
BCAC-5D/8-01	RED	122	203
BCAC-7D/10-01	RED	172	266



## BCAC - BUSHING CONNECTION PROTECTION COVER

Designed to prevent animal caused outages on pole-top transformer bushings ranging from 15kV to 35kV.

- For use on bushings up to 35kV
- Visual inspection of connection and oil levels
- Conductors and leads exit easily through cover
- Robust latching and hinging mechanisms
- Reliable Outage Protection, proven over many years
- Fast and versatile installation, double hinged design and facility for conductors to exit from both the top and side interfaces without need to trim the cover
- High performance materials are used in the BCAC cover design, UV stabilised, track resistant polymer ensures excellent performance even in the most extreme environmental conditions



Cat No.	Colour	Insulator Core Range	Insulator Shed Range	Cover Size
BCAC-P-IC-5D/6	GREY	38-81MM	63-127MM	127MM DIA, 152MM HIGH
BCAC-G-IC-7D/12	GREY	76-124MM	95-178MM	178MM DIA, 305MM HIGH

## TRANSFORMER BUSBAR COVER

- Used to cover extended 11kV
- Termination tails where upgraded Transformers are installed
- Installs onto the Transformer bushing and covers the extended tail down to the existing termination
- Allows for multiple cables out of the bottom base of the cover

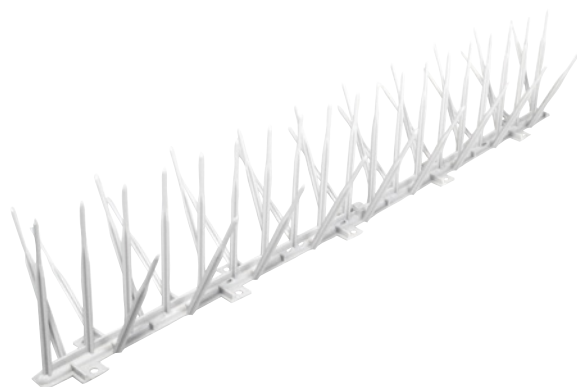
Cat No.	Shape
TX-BC-1	OUTDOOR STYLE BUSHING
TX-BC-2	STRAIGHT BUSHING



## BIRD-B-GONE

This range of products offers protection from contact of the network with animals and birds. Reducing the instance of animal strikes will improve the reliability of the network as well as offer the network protection from over current situations.

Cat No.	Colour	Size
BBG2000-5GRY	GREY	2' LONG × 5" WIDE



## BIRD BLOCKER

Designed for installation on power lines anywhere along the span or near the cross arm to prevent birds from landing or settling on the lines.

- Suits most cable sizes
- Will keep vertical orientation and face upwards
- UV stabilised with good electrical insulation properties
- Rubber stoppers used on either side of the Bird Blocker to fix in place on the line
- Can install multiple Bird Blockers "in series" along the line (where this is done, use rubber stoppers for every 10 Bird Blockers installed)

Cat No.	Size (mm)	Base Material	Base Colour	Cable Size
BB-BL	500 × 153	HDPE	BLACK	5MM OD - 240MM <sup>2</sup>
RS-BL	35 × 26	EPDM		



BB-BL



RS-BL



# MONITORING SYSTEMS

## GRID20/20 - OPTANODE DISTRIBUTION TRANSFORMER MONITORING SYSTEM



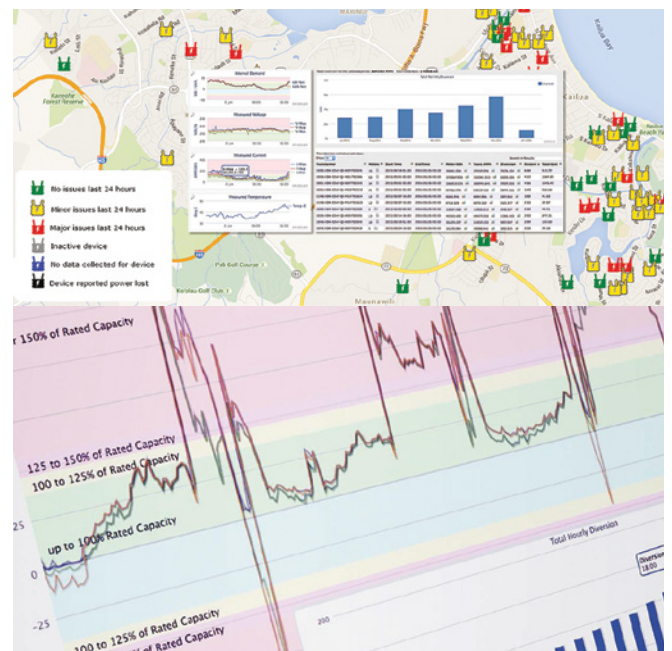
Powerful intra-grid intelligence in the palm of your hand

- Distribution Transformer Health Monitoring
- Quick and easy, plug & play deployment
- Designed for Pole-mount and Pad-mount Transformers
- Reverse energy (Distributed Generation)
- SCADA integration DNP3/Webservices API
- LV Distribution analysis
- Outage Notification (Last-Gasp)
- Energy Balancing and theft detection
- Easiest and most complete solution for asset feedback on LV network

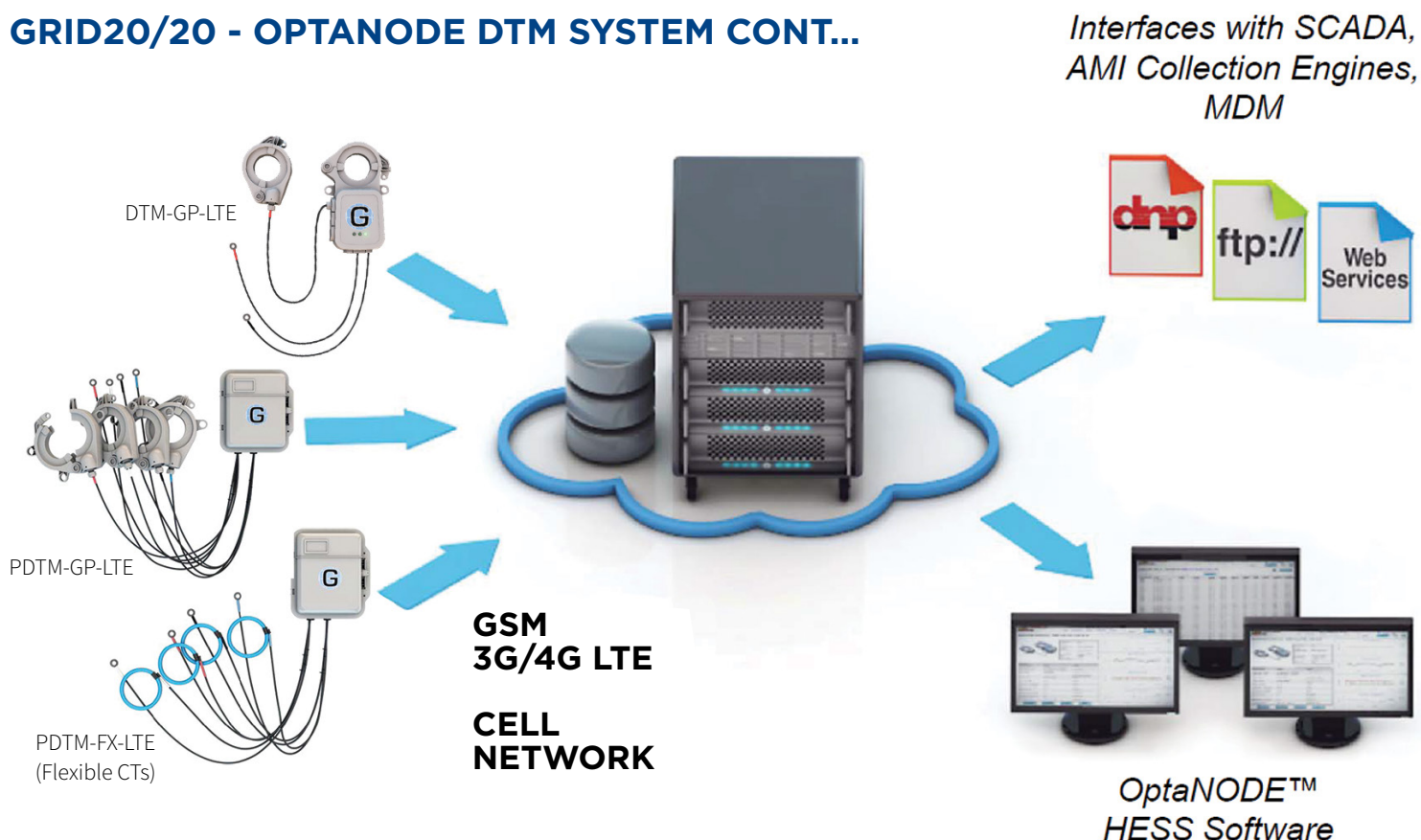
**GRID20/20**<sup>®</sup>  
Optimize Energy Efficiency

Datapoint	(per phase where applicable)
BI-DIRECTIONAL ENERGY (0.5% ANSI CLASS)	[KWHR] ACTIVE ENERGY [KVAHR] APPARENT ENERGY [KVARHR] REACTIVE ENERGY
RMS VOLTAGE	[V] INSTANTANEOUS; MAXIMUM; MINIMUM
RMS CURRENT*	[A] INSTANTANEOUS; MAXIMUM; MINIMUM
LINE CYCLE PERIOD	[SECONDS] 1/HZ
TEMPERATURE	[C] INTERNAL TEMP SENSOR
POLLING INTERVAL	[MINS] 5/15/30/60

\*Standard 1000A max. Optional 'High Current' version 3200A Max



## GRID20/20 - OPTANODE DTM SYSTEM CONT...



### KEY ADVANTAGES

- Self-contained/Maintenance Free unit: Metering, Sensing, and Communications fully integrated.
- High accuracy of monitored transformer parameters within all ranges of operation.
- Speed and simplicity of installation. No on-site calibration.
- AMI, SCADA, MDM, 3rd party platforms integration via DNP3, FTP, Web-services and MultiSpeak Interfaces.
- Reduced complexity – all backhaul infrastructure is operated by Grid20/20 meaning no on-site expertise required.
- Web Based, secure graphical user interface available anywhere in the world.
- Suitable for permanent pole-top & pad-mount installations.
- Complete solution designed purely for network LV visibility.
- Outage notification – know when and where an outage has happened instantly (Last-gasp).
- Alert notification for current/voltage/outage notifications (email/sms).

OptaNODE Distribution Transformer Monitor (DTM) enables standard transformers to become 'smart transformers' with simple retrofittable hardware.

OptaNODE DTM and PDTM devices grant utilities a clear vision of the LV network and distribution transformer health with a complete monitoring system designed specifically for utility distribution monitoring.

It's fast and easy to install, compact and robust with accurate patented outdoor rated, UV stable current sensors. Voltage, Current, Demand and Temperature feedback is aggregated and sent wirelessly (4G/3G/LTE) to Grid20/20 servers for real-time analytics and reporting.

The HESS (Head End Server System) hosted by Grid20/20 in a leading US Datacentre provides storage of the collected data plus analytics and reporting designed specifically around the asset health of distribution transformers and LV network. Overloaded and underutilised transformers are detected instantly and current/voltage issues are concisely identified.

Grid20/20 provides bi-directional energy feedback on transformers connected to Distributed Generation (wind/solar) ensuring distribution transformers are still operating within their design constraints. Energy balancing to detect theft of energy, end-of-feeder voltage detection available also.

Code	Phases	Voltage (AC)	Max Current
DTM-GP-LTE	1	216-264	1000A
DTM-FX-LTE			1000A
DTM-GP-LTE-HC			3600A
PDTM-GP-LTE	3	100-600	1000A
PDTM-FX-LTE			1000A
PDTM-GP-LTE-HC			3600A
PDTM-TERMTAIL			GRID 20/20 VOLTAGE SENSING LEAD

**GRID20/20®**  
Optimize Energy Efficiency







PAGE	CATEGORY
146	Nylon Cable Glands IP68 - Haupa
147	<b>CCG - PREMIUM INDUSTRIAL GLANDS</b>
147	CCG A2 Compression Gland for Flexible Cables
148	CCG CW Captive Component Gland
149	CCG Varitex Compression Glands for Copper Tape VSD Cables
150	CCG BW Captive Cone Gland for SWA Cables IP2X
PAGE	<b>CCG - EXPLOSION PROOF GLANDS</b>
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153	CCG E1EX~QS Barrier Gland for Steel & Aluminium
PAGE	<b>CCG GLAND ACCESSORIES</b>
154	CCG Brass (Nickel Plated) Screw On Earth Tag
154	Hex Spanner
154	Insulation Sleeve
154	Sealing Gasket - Metric
154	Terminal Connector
154	C-Spanner
154	Wire Bending Tool
155	Neoprene Shroud - Short
155	L.S.O.H Shroud (Grey) - Long
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PAGE	<b>CABLE GLANDS</b>
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159	Rayflate - Accessories
159	Hauff-Technik - Cable Entries HSI 90
160	Hauff-Technik - Cable Entries HSI 150
160	Hauff-Technik - Press Seals
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## IP RATING

### WHAT IS AN IP RATING?

The following information is an extract from AS/NZ 1939 which gives the degrees of protection relating to IP rating. An IP rating is made up of two numbers, the first relating to solid objects and dust ingress and the second to water ingress.

#### FIRST NUMERAL OF AN IP RATING (AS/NZ 1939) SOLID OBJECTS/DUST PROTECTION

0	Non-protected
1	Protected against solid objects greater than 50mm
2	Protected against solid objects greater than 12mm
3	Protected against solid objects greater than 2.5mm
4	Protected against solid objects greater than 1.0mm
5	Dust protected
6	Dust tight

#### SECOND NUMERAL OF AN IP RATING (AS/NZ 1939) WATER PROTECTION

0	Non-protected
1	Protected against dripping water
2	Protected against dripping water when tilted up to 15 degrees
3	Protected against spraying water
4	Protected against splashing water
5	Protected against water jets
6	Protected against heavy seas
6D	Protected against driving rain
7	Protected against the effect of immersion
8	Protected against submersion

## NYLON CABLE GLANDS IP68 - HAUPA

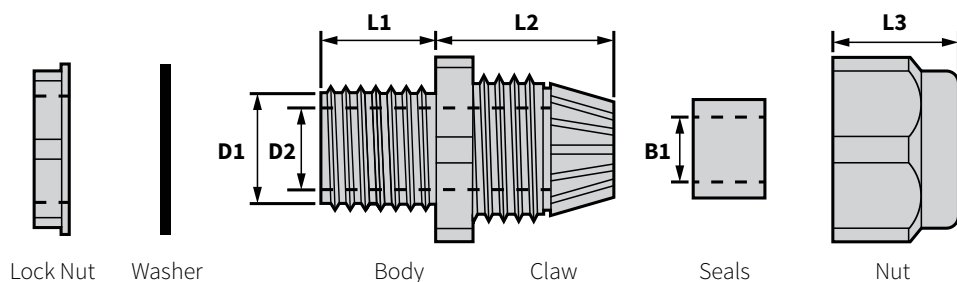
Cable glands protect electric equipment (for example switches or junction boxes) against mechanical treatment, dust and humidity, while also creating a firm connection between cable and box. Haupa cable glands have an IP68 rating (dust and

waterproof).

Haupa cable glands are available in standard black for metric threads (light grey and PG threads available on special order).

### TECHNICAL PROPERTIES

- Temperature range: – 40°C to + 85°C
- Vibration protection: integrated anti- twist protection for vibration firm assembly
- Fire Class: according to UL 94 V-2
- Protection Category: IP68
- Material: Polyamide 6.6
- Properties: Integrated strain relief, easy to install, RoHS conformant
- Delivery: completely assembled, includes lock nut



Cat No.	Thread	Cable Range	D1	D2	B1	L1	L2	L3	Washer Size	Colour	Weight (g)	Bag
250080	M12	3–6.5	12	8.3	6.9	7.9	19.6	13.6	15	BLACK	17.9	10
250082	M16	5–10	16	10.9	9.6	15.5	23.4	16.9	22	BLACK	17.9	10
250088	M20	10–14	20	15	14.8	15	28.5	18.5	27	BLACK	19.1	10
250090	M25	13–18	25	18.6	18.4	15.2	29.4	22.3	33	BLACK	18.8	10
250092	M32	18–25	32	25	25	14.7	34.5	25.7	42	BLACK	15.8	10
250094	M40	22–32	40	33.7	33.1	18.4	41.7	31.3	54	BLACK	21.3	5
250096	M50	30–38	50	41.9	40	17.8	44.2	31.3	61	BLACK	16.0	5
250098	M63	34–44	61	55	43.2	18.5	44.6	32.7	66	BLACK	12.5	5

All dimensions are in mm.

\*Nylon glands come complete with locknut and seal



## CCG - PREMIUM INDUSTRIAL GLANDS

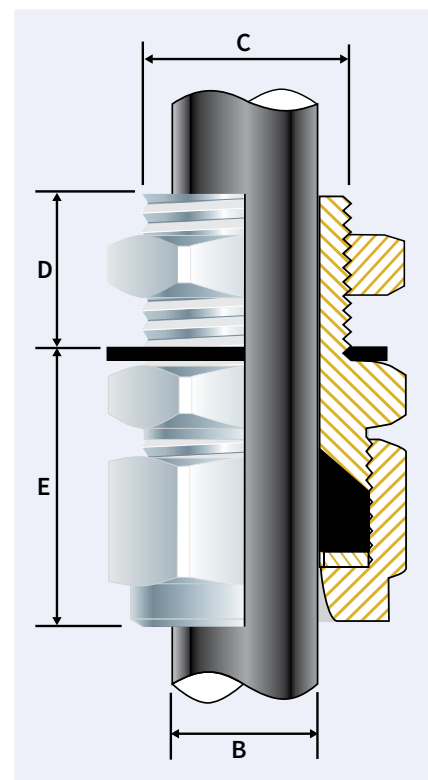
### CCG A2 COMPRESSION GLAND FOR FLEXIBLE CABLES

#### FEATURES

- For indoor and outdoor use.
- Seals the cable sheath to IP68
- Specially formulated elastomeric seals
- Wide sealing range
- Precision manufactured from high quality brass and nickel plated, available in Aluminium or Stainless Steel on request
- Complete with high quality brass locknuts and IP gasket

#### TECHNICAL DATA

Gland Material	Brass (Nickel Plated) BS 2874, EN12164 Aluminium ASTM BS221, Stainless Steel 316
Seal Material	Thermoplastic Elastomer (Silicone on request)
Cable Type	Unarmoured
Sealing Area	Outer Sheath
Optional Accessories	Locknut, Shroud, Earth Tag, Adaptor/Reducer
Ingress Protection	IP66/68
Operating Temperature	-30°C to 130°C
Standards	ANZS 3000, BS 6121-5, BS 7671, BS 7430, IEC 60364-5-54, SANS 0142



Cat No.	Gland Size Reference	Entry Thread		Cable Details		Max Length (E)	Hexagonal Details Max	
		Metric (C)	Min (D)	Min (B)	Max (B)		Flats	Corners
TN-053500-16	00-16	M16 × 1.5	10	1.0	6.0	20	17	19
TN-053500	00-20SS	M20 × 1.5	10	3.0	8.0	20	24	27
TN-0535-0	0-20S	M20 × 1.5	10	7.0	11.0	20	24	27
TN-053501	1-20	M20 × 1.5	10	11.0	15.5	24	27	31
TN-053502	2-25	M25 × 1.5	10	15.0	20.5	25	35	40
TN-053503	3-32	M32 × 1.5	10	20.0	26.5	30	42	48
TN-053504	4-40	M40 × 1.5	10	26.0	34.5	30	52	60
TN-053505	5-50	M50 × 1.5	10	34.0	44.5	42	65	75
TN-053506	6-63	M63 × 1.5	10	44.0	57.0	48	82	94
TN-053507	7-75	M75 × 1.5	20	56.0	68.0	50	96	110
TN-053508	8-80	M80 × 2.0	20	65.0	74.0	55	96	110
TN-053509	9-90	M90 × 2.0	20	73.0	82.0	60	110	125
TN-053510	*10-100	M100 × 2.0	20	81.0	92.0	74	-	-
TN-053511	*11-110	M110 × 2.0	20	91.0	102.0	92.5	-	-
TN-053512	*12-120	M120 × 2.0	28	101.0	110.0	92.5	-	-
TN-053513	*13-130	M130 × 2.0	28	109.0	120.0	92.5	-	-

All dimensions are in mm.

\*Sizes 10 to 13 are of round slotted material, for use with CCG 'C' spanner.

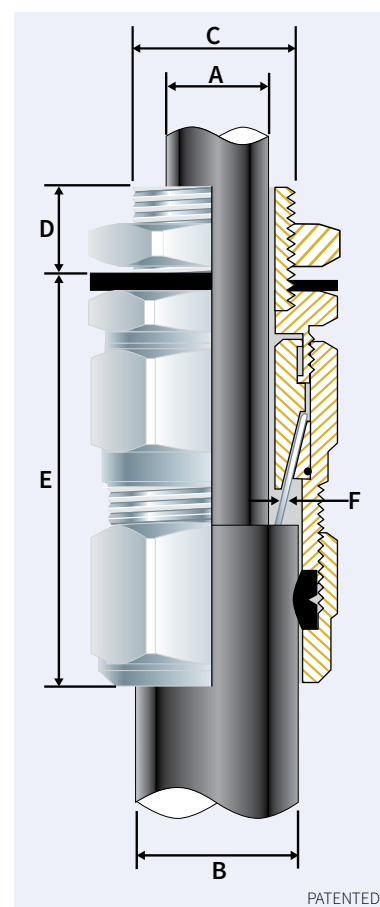
## CCG CW CAPTIVE COMPONENT GLAND FOR SWA & ALUMINIUM ARMoured CABLES

### FEATURES

- For indoor and outdoor use
- Two piece handling, no loose parts
- Freely rotating captive cone and cone ring, providing an armour clamp and earth bond without twisting the armouring
- Patented disconnect armour clamp system for ease of inspection
- Provides a seal on the outer sheath of the cable sealing to IP66
- Precision manufactured from high quality brass and nickel plated. Complete with high quality brass locknut. Also available in Aluminium and Stainless Steel

### TECHNICAL DATA

GLAND MATERIAL	Brass (Nickel Plated) BS 2874, EN 12164 Aluminium ASTM B221, Stainless Steel 316
SEAL MATERIAL	Thermoplastic Elastomer
CABLE TYPE	Steel Wire Armour / Aluminium Armour Wire
ARMOUR CLAMPING	Captive Rotating Cone
SEALING AREA	Outer Sheath
OPTIONAL ACCESSORIES	Shroud, Adaptor/Reducer, Locknut, Earth Tag
INGRESS PROTECTION	IP66
OPERATING TEMPERATURE	-30°C to 130°C
STANDARDS	ANZS 3000, BS6121-5, BS 7671, BS 7430, IEC 60364-5-54, SANS 0142



PATENTED

Cat No.	Gland Size Reference	Entry Thread		Cable Details			Max Length (E)	Armour Dia.		Hex Details Max	
		Metric (C)	Min (D)	Max (A)	Min (B)	Max (B)		Min (F)	Max (F)	Flats	Corners
TN-051200-16	*00-16SS	M16 × 1.5	10	8.0	8.0	13.5	41	0.9	-	24	27
TN-051200	*00-20SS	M20 × 1.5	10	8.0	8.0	13.5	41	0.9	-	24	27
TN-0512-0	*0-20SS	M20 × 1.5	10	12.0	11.5	16.0	43	0.9	1.25	24	27
TN-051201	*1-20	M20 × 1.5	10	15.5	14.5	21.0	47	0.9	1.25	27	31
TN-051202	*2-25	M25 × 1.5	10	20.5	20.5	27.0	56	1.25	1.6	35	40
TN-051203	*3-32	M32 × 1.5	10	26.5	26.5	33.5	57	1.60	2.0	42	48
TN-051204	4-40	M40 × 1.5	15	34.5	33.0	43.0	68	1.60	2.0	52	60
TN-051205	5-50	M50 × 1.5	15	44.5	42.5	52.5	72	2.0	2.5	65	75
TN-051206	6-63	M63 × 1.5	15	57.0	52.0	65.5	89	2.0	2.5	80	90
TN-051207	7-75	M75 × 1.5	15	68.0	65.0	78.0	97	2.5	3.0	96	110
TN-051208	8-80	M80 × 2.0	20	73.0	77.5	82.0	98	2.5	3.0	100	115
TN-051209	9-90	M90 × 2.0	20	81.0	81.0	91.0	123	3.0	3.5	110	125
TN-051210	**10-100	M100 × 2.0	20	91.0	90.0	101.0	124	3.0	3.5	-	-
TN-021211	**11-110	M110 × 2.0	20	98.0	100.0	114.0	134	3.0	4.0	-	-
TN-051212	**12-120	M120 × 2.0	20	103.0	103.0	118.0	136	3.0	4.0	-	-
TN-051213	**13-130	M130 × 2.0	20	115.0	113.0	124.0	140	3.0	4.0	-	-

All dimensions are in mm.

• Supplied with fixed cone and bush.

\*For use with CCG Handi Fit Boxes.

\*\*Size 10 is of round slotted material, for use with CCG 'C' Spanner.



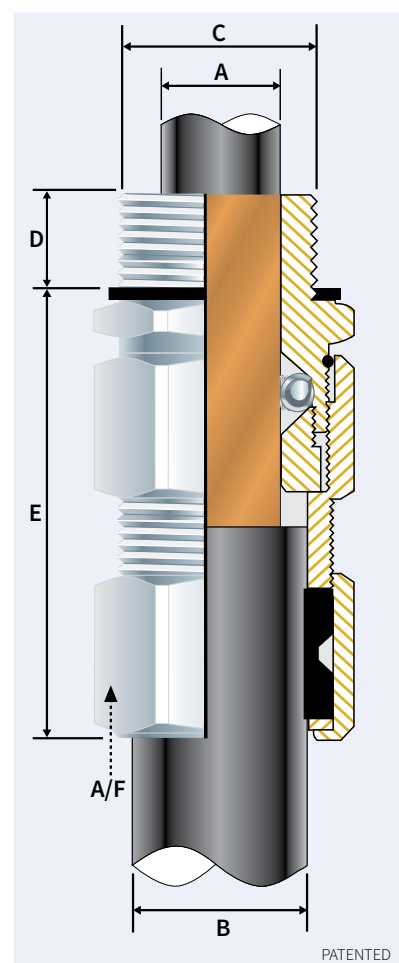
## CCG VARITEX COMPRESSION GLANDS FOR COPPER TAPE VSD CABLES

### FEATURES & BENEFITS

- For use indoors, outdoors and in hazardous areas
- Two piece handling, no loose parts
- Independent tightening of coil induces an inspectable positive contact on copper tape
- Factory fitted captive elastomeric seal for built-in safety
- Seals on the outer sheath of the cable to IP66/68
- Precision manufactured from high quality brass (nickel plated) or stainless steel (on request)
- Complete with brass locknut and sealing gasket

### TECHNICAL DATA

GLAND MATERIAL	Brass (Nickel Plated), or Stainless Steel (on request)
SEAL MATERIAL	Thermoplastic Elastomer (Silicone on request)
CABLE TYPE	Copper Tape VSD (Variable Speed Drive)
SEALING AREA	Compression Seal and O-ring
OPTIONAL ACCESSORIES	Adaptor/Reducer, Earth Tag and Shroud
HAZARDOUS AREA CLASSIFICATION	ANZEx: Zone 1, 2, 21 and 22 Ex e IC, Ex tD A21
CERTIFICATION	Australian/New Zealand/IEC ANZEx 09.4086X
STANDARDS	AS/NZS 60079-0, AS/NZS 60079-7, AS/NZS 61241.0, AS/NZS 61241.1. AS60529
OPERATING TEMPERATURE	-20°C to +80°C
INGRESS PROTECTION	IP66/68 (2m Cont.)



Cat No.	Cable Size	Gland Size	Entry Thread		Cable Details				Max Length (E)	A/F	Installation Torque (Nm)
			Metric (C)	Min (D)	Inner	Over Tape	Outer				
					Min (A)	Max (A)	Min (B)	Max (B)			
TN-0531-0S	2.5	0-20S	M20 × 1.5	15	9.6	11.5	13.0	20.0	61.0	30.0	21.0
TN-0531-0	4	0-20	M20 × 1.5	15	10.8	12.5	13.0	20.0	61.0	30.0	21.0
TN-053101	6	1-20	M20 × 1.5	15	12.2	14.0	13.0	20.0	61.0	30.0	21.0
TN-053102S	10	2-25S	M25 × 1.5	15	13.8	16.0	18.0	26.0	64.0	38.0	30.0
TN-053102	16	2-25	M25 × 1.5	15	16.0	20.0	18.0	26.0	65.0	38.0	30.0
TN-053103S	25	3-32S	M32 × 1.5	15	20.0	23.0	23.0	28.0	68.0	45.0	42.0
TN-053103	35	3-32	M32 × 1.5	15	22.0	23.5	23.0	28.0	68.0	45.0	42.0
TN-053104S	50	4-40S	M40 × 1.5	17	23.5	28.0	28.0	39.5	75.0	55.0	52.0
TN-053104	70	4-40	M40 × 1.5	17	28.0	32.0	28.0	39.5	74.0	55.0	52.0
TN-053105S	95	5-50S	M50 × 1.5	17	32.0	36.0	35.2	42.0	81.0	65.0	57.0
TN-053105	120	5-50	M50 × 1.5	17	35.5	39.0	40.0	46.0	85.0	65.0	57.0
TN-053106S	150	6-63S	M63 × 1.5	17	39.0	45.0	45.5	54.0	85.0	80.0	66.0
TN-053106	185	6-63	M63 × 1.5	17	44.0	49.5	45.5	54.0	85.0	80.0	66.0
TN-053106L	240	6-63L	M63 × 1.5	17	49.0	54.0	54.6	62.0	83.0	80.0	66.0
TN-053107	300	7-75	M75 × 1.5	17	54.0	59.0	59.0	72.1	93.0	96.0	72.0

All dimensions are in mm.



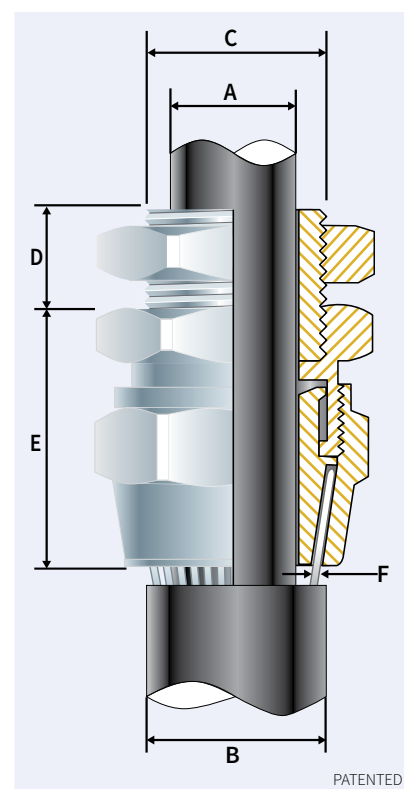
## CCG BW CAPTIVE CONE GLAND FOR SWA CABLES IP2X

### FEATURES & BENEFITS

- For indoor use
- Two piece handling, no loose parts
- Freely rotating captive cone, providing an armour clamp and earth bond without twisting the armouring.
- Precision manufactured from high quality brass and nickel plated, available in Aluminium on request
- Complete with high quality brass locknut

### TECHNICAL DATA

Gland Material	Brass (Nickel Plated) BS 2874, EN 12164, Aluminium ASTM B221
Cable Type	Steel Wire Armour / Aluminium Armour Wire
Armour Clamping	Captive Rotating Cone
Optional Accessories	Shroud, Adaptor/Reducer, Locknut, Earth Tag
Design Standards	SANS 1213, BS 6121 Part 1, EN 50262
Ingress Protection	IP2X
Certification:	
SANS/SABS1213	787/85772/K756
BS6121Part 1	sgs 3641/99367



Cat No.	Gland Size Reference	Entry Thread		Cable Details		Armour Diameter		Max Length (E)	Max Dia (G)	
		Metric (C)	Min (D)	Max (A)	Max (B)	Min (F)	Max (F)		Flats	Corners
TN-0503-0	0-20S	M20 × 1.5	10	12.6	16.0	0.9	1.25	23	22	25
TN-50301	1-20	M20 × 1.5	10	15.9	19.0	0.9	1.25	26	27	31
TN-50302	2-25	M25 × 1.5	10	20.6	26.5	1.25	1.6	28	36	41
TN-50303	3-32	M32 × 1.5	10	26.5	33.0	1.60	2.0	29	42	48
TN-50304	4-40	M40 × 1.5	15	34.9	40.5	1.60	2.0	37	52	60
TN-50305	5-50	M50 × 1.5	15	44.0	51.0	2.0	2.5	36	65	75
TN-50306	6-63	M63 × 1.5	15	57.0	66.0	2.0	2.5	42	80	90
TN-50307	7-75	M75 × 1.5	15	68.0	79.5	2.5	3.0	47	96	110
TN-50308	8-80	M80 × 2.0	20	73.0	82.0	2.5	3.0	51	100	115
TN-50309	9-90	M90 × 2.0	20	81.0	90.0	3.0	3.5	61	110	125
TN-50310	*10-100	M100 × 2.0	20	91.0	100.0	3.0	3.5	68	-	-

\*Sizes 10 to 12 are of round slotted material, for use with 'C' spanner. Please contact us for dimensions. Entry threads "C". Sizes 20mm to 75mm have a 1.5mm pitch. Sizes 80mm to 120mm have a 2mm pitch.



## CCG - EXPLOSION PROOF GLANDS

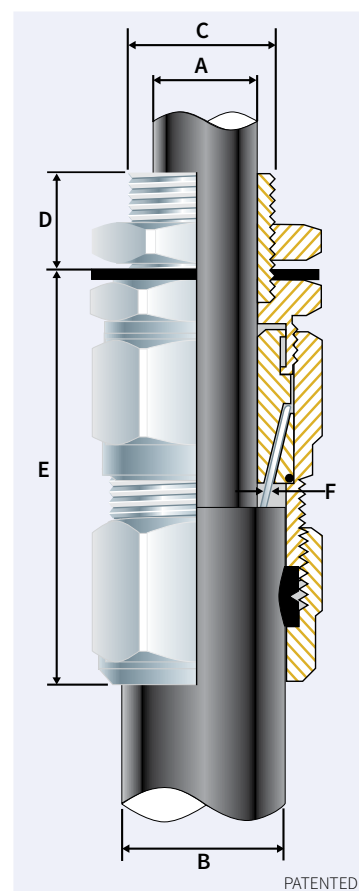
### CCG CX/CZ CAPTIVE CONE GLANDS FOR BRAIDED & STEEL TAPE

#### FEATURES & BENEFITS

- For outdoor use
- Two piece handling, no loose parts
- Freely rotating captive cone and cone ring, providing an armour clamp and earthbond without twisting the armouring
- Patented disconnect armoured clamp system for ease of inspection
- Provides a seal on the outer sheath of the cable sealing to IP66
- Precision manufactured from high quality brass and nickel plated

#### TECHNICAL DATA

GLAND MATERIAL	Brass (Nickel Plated) BS 2874, EN 12164, Stainless Steel 316
SEAL MATERIAL	Thermoplastic Elastomer
CABLE TYPE	Braid, Steel Tape Armour
ARMOUR CLAMPING	Captive Rotating Cone and Cone Ring
SEALING AREA	Outer Sheath
OPTIONAL ACCESSORIES	Shroud, Earth Tag, Locknut and Adaptor/Reducer
DESIGN STANDARDS	BS 6121, Part 1, EN 50262
CERTIFICATION	Marine: 90-SG435709A/1-PDA
INGRESS PROTECTION	IP66
OPERATING TEMPERATURE	-30°C to 130°C
INSTALLATION STANDARDS	ANZS 3000, BS 6121-5, BS 7671, BS 7430, IEC 60364-5-54, SANS 0142



Cat No.	Gland Size Ref	Entry Thread		Cable Diameter (mm)			Max Length (E)	Hexagonal Details (Max)		Braid/STA Thickness
		Metric (C)	Min (D)	Max (A)	Min (B)	Max (B)		Flats	Corners	
TN-051300	00-20SS	M20 × 1.5	10	8.0	5.0	10.0	55	24	27	0.85
TN-0513-0	0-20S	M20 × 1.5	10	12.0	9.5	12.5	55	24	27	0.85
TN-051301	1-20	M20 × 1.5	10	15.5	12.0	17.5	55	27	31	0.9
TN-051302	2-25	M25 × 1.5	10	20.5	17.0	24.0	60	35	40	1.25
TN-051303	3-32	M32 × 1.5	10	26.5	23.0	30.5	65	42	48	1.4
TN-051304	4-40	M40 × 1.5	10	34.5	28.5	36.0	65	52	60	1.4
TN-051305	5-50	M50 × 1.5	10	44.5	35.5	48.5	75	65	75	1.4
TN-051306	6-63	M63 × 1.5	10	57.0	47.0	61.5	85	82	94	1.5
TN-051307	7-70	M75 × 1.5	10	68.0	60.0	73.0	105	96	110	1.5

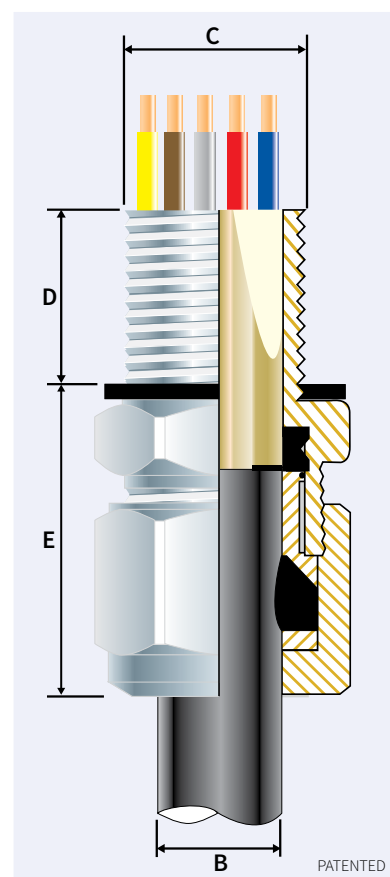
## CCG A2EX-QS BARRIER COMPRESSION GLAND FOR UNARMoured CABLE

### FEATURES

- For use indoors, outdoors and hazardous areas with unfilled hygroscopic multicore cables
- Resin forms a 100% barrier seal around the individual cores of the cable
- Prevents gas and moisture transmitting down cable
- Prevents explosive gases transmitting down cable

### TECHNICAL DATA

GLAND MATERIAL	Brass (Nickel Plated), Stainless Steel
SEAL MATERIAL	Thermoplastic Elastomer, Quick Setting Barrier Resin
CABLE TYPE	Unarmoured
OPTIONAL ACCESSORIES	Adaptor, Earth Tag, Hex Spanner, Locknut, Reducer and Shroud
SEALING AREA	Outer Sheath and Barrier Chamber
EQUIPMENT PROTECTION LEVELS	Ex db IIC, Ex eb II, Ex nR, Ex t IIIC
OPERATING TEMPERATURE	-20°C to 80°C
STANDARDS	IEC 60079-0, IEC 60079-1, IEC 60079-7, IEC 60079-15, IEC 60079-31, SANS/IEC 60079-0, SANS/IEC 60079-1, SANS/IEC 60079-7, SANS/IEC 60079-15, SANS/IEC 60079-31
CERTIFICATION	
Aus/NZ/IEC SANS/IEC	IECEx ITA 12.0014X MASC MS/13-028X
INGRESS PROTECTION	IP66/68 (2m cont.) IEC 60529



Cat No.	Gland Size Ref	Entry Thread				Cable Details (Dia)		Max Length E (mm)	Hexagonal Details (Max)		Install Torque Value (Nm)
		Metric C (mm)	Metric Min D (mm)	NPT C	NPT Min D				Flats	Crns	
TN-056400-16	00-16SS	M16 × 1.5	15	-	-	3.0	8.5	25.0	24.0	27.0	32.5
TN-056400	00-20SS	M20 × 1.5	15	0.5-0.75	15	3.0	8.5	25.0	24.0	27.0	32.5
TN-0564-0	0-20S	M20 × 1.5	15	0.5-0.75	15	7.0	12.0	25.0	24.0	27.0	32.5
TN-056401	1-20	M20 × 1.5	15	0.5-0.75	15	11.0	15.0	30.0	27.0	31.0	32.5
TN-056422	2S-25S	M25 × 1.5	15	0.75-1.0	15/19	11.5	17.5	30.0	35.0	40.0	47.5
TN-056402	2-25	M25 × 1.5	15	0.75-1.0	15/19	15.0	20.0	30.0	35.0	40.0	47.5
TN-056433	3S-32S	M23 × 1.5	15	1.0-1.25	19	16.0	22.0	30.0	42.0	48.0	55.0
TN-056403	3-32	M32 × 1.5	15	1.0-1.25	19	20.0	26.5	30.0	42.0	48.0	55.0
TN-056444	4S-40S	M40 × 1.5	15	1.25-1.5	19/21	22.0	31.5	38.0	52.0	60.0	65.0
TN-056404	4-40	M40 × 1.5	15	1.25-1.5	19/21	26.0	34.0	38.0	52.0	60.0	65.0
TN-056455	5S-50S	M50 × 1.5	15	1.5-2.0	21	29.0	38.0	46.0	65.0	75.0	82.5
TN-056405	5-50	M50 × 1.5	15	1.5-2.0	21	34.0	44.5	46.0	65.0	75.0	82.5
TN-056466	6S-63S	M63 × 1.5	15	2.0-2.5	21/30	38.0	50.0	52.0	80.0	90.0	97.5
TN-056406	6-63	M63 × 1.5	15	2.0-2.5	21/30	44.0	56.5	52.0	80.0	90.0	97.5
TN-056477	7S-75S	M75 × 1.5	15	2.5-3.0	30/32	50.0	62.0	54.0	96.0	110.0	115.5
TN-056407	7-75	M75 × 1.5	15	2.5-3.0	30/32	56.0	67.5	54.0	96.0	110.0	115.5
TN-056408	8-80	M80 × 2.0	20	3	32	59.0	69.0	68.0	96.0	110.0	120.0
TN-056499	9S-90S	M80 × 2.0	20	3.0-3.5	32/33	66.0	75.0	70.0	111.0	125.0	120.0
TN-056409	9-90	M90 × 2.0	20	3.0-3.5	32/33	74.0	81.5	70.0	111.0	125.0	120.0



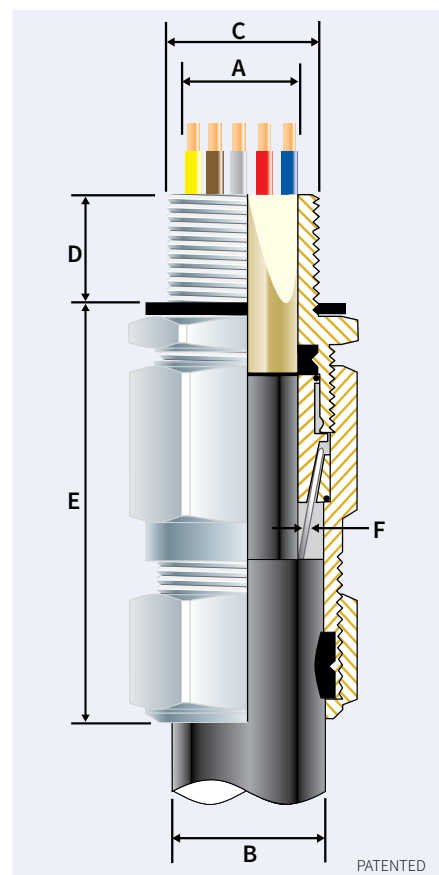
## CCG E1EX~QS BARRIER GLAND FOR STEEL & ALUMINIUM

### FEATURES

- For use indoors, outdoors and hazardous areas with unfilled hygroscopic multicore cables
- Two part handling, no loose parts
- Captive Cone and Cone Ring provides an armour clamp and earth bond for steel wire armour and aluminium armour
- Instantly mixed and injected Resin
- Resin forms a 100% barrier seal around the individual cores of the cable
- Prevents gas and moisture transmitting down cable
- Prevents explosive gases transmitting down cable

### TECHNICAL DATA

GLAND MATERIAL	Brass (Nickel Plated), Stainless Steel
SEAL MATERIAL	Elastomer Polymer, Quick Setting Barrier Resin
CABLE TYPE	Steel Wire Armour, Aluminium Armour
ARMOUR CLAMPING	Captive Cone and Cone Ring
SEALING AREA	Inner and Outer Sheath
OPTIONAL ACCESSORIES	Adaptor, Earth Tag, Hex Spanner, Locknut, Reducer & Shroud
EQUIPMENT PROTECTION LEVELS	Ex db IIC, Ex eb II, Ex nR, Ex t IIIC
OPERATING TEMPERATURE	-20°C to 95°C
STANDARDS	IEC 60079-0, IEC 60079-1, IEC 60079-7, IEC 60079-15, IEC 60079-31, SANS/IEC 60079-0, SANS/IEC 60079-1, SANS/60079-7, SANS/IEC 60079-15, SANS/IEC 60079-31
IEC CERTIFICATION	
Aus/NZ/IEC	IECEx ITA 12.0014X
SANS/IEC	MASC MS/13-028X
INGRESS PROTECTION	IP66/68 (2m cont.) IEC 60529



Cat No.	Gland Size Ref	Metric Entry Thread		NPT Entry Thread		Cable Details (Dia)				Max Length E	Armour Dia		Hexagonal Details (Max)		Install Torque Value (Nm)
		C	Min D	C	Min D	Min A	Max A	Min B	Max B		Min F	Max F	Flats	Crns	
TN-056000-16	*00-16SS	M16 × 1.5	15	-	-	3.0	8.0	8.0	13.5	53	0.20	1.25	24	27	21
TN-056000	*00-20SS	M20 × 1.5	15	0.5-0.75	15	3.0	8.0	8.0	13.5	52	0.20	1.25	24	27	21
TN-0560-0	*0-20S	M20 × 1.5	15	0.5-0.75	15	7.0	11.5	11.5	16.0	52	0.20	1.25	24	27	21
TN-056001	*1-20	M20 × 1.5	15	0.5-0.75	15	9.0	14.0	14.5	20.5	56	0.20	1.25	27	31	21
TN-056022	*2S-25S	M25 × 1.5	15	0.75-1.0	15/19	11.0	19.0	16.0	24.5	60	0.20	1.60	35	40	30
TN-056002	*2-25	M25 × 1.5	15	0.75-1.0	15/19	14.0	19.0	20.5	26.5	60	0.20	1.60	35	40	30
TN-056033	*3S-32S	M23 × 1.5	15	1.0-1.25	19	15.0	25.5	23.0	30.5	66	0.20	2.00	42	48	42
TN-056003	*3-32	M32 × 1.5	15	1.0-1.25	19	19.0	25.5	26.5	33.5	66	0.20	2.00	42	48	42
TN-056044	4S-40S	M40 × 1.5	15	1.25-1.5	19/21	22.0	33.0	30.0	39.5	78	0.30	2.00	52	60	52
TN-056004	4-40	M40 × 1.5	15	1.25-1.5	19/21	26.0	33.0	33.0	42.5	78	0.30	2.00	52	60	52
TN-056055	5S-50S	M50 × 1.5	15	1.5-2.0	21	29.0	43.0	34.0	47.5	87	0.40	2.50	65	75	57
TN-056005	5-50	M50 × 1.5	15	1.5-2.0	21	34.0	43.0	42.5	52.5	87	0.40	2.50	65	75	57
TN-056066	6S-63S	M63 × 1.5	15	2.0-2.5	21/30	38.0	55.5	45.5	60.5	110	0.40	2.50	80	90	66
TN-056006	6-63	M63 × 1.5	15	2.0-2.5	21/30	44.0	55.5	52.5	65.5	110	0.40	2.50	80	90	66
TN-056077	7S-75S	M75 × 1.5	15	2.5-3.0	30/32	50.0	66.0	57.0	72.5	118	0.40	3.15	96	110	72
TN-056007	7-75	M75 × 1.5	15	2.5-3.0	30/32	56.0	66.0	65.5	78.0	118	0.40	3.15	96	110	72
TN-056008	8-80	M80 × 2.0	20	3	32	59.0	68.0	65.0	77.5	175	2.50	3.15	96	110	80
TN-056099	9S-90S	M80 × 2.0	20	3.0-3.5	32/33	66.0	80.0	73.0	86.5	184	3.00	3.50	111	125	89
TN-056009	9-90	M90 × 2.0	20	3.0-3.5	32/33	74.0	82.0	82.0	90.5	184	3.00	3.50	111	125	89

All dimensions except NPT are in mm.

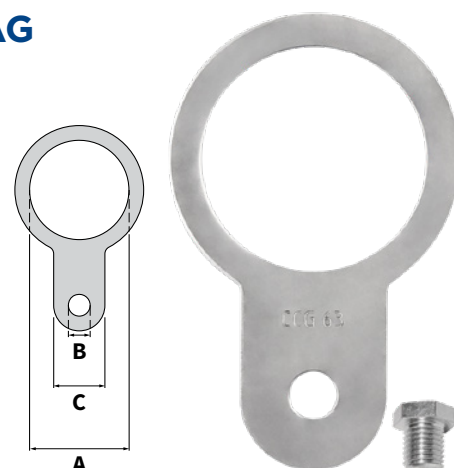
\*For use with CCG Posi Fit Boxes

Metric glands may be utilised with a locknut for use on Ex e, Ex nR, Ex t equipment.

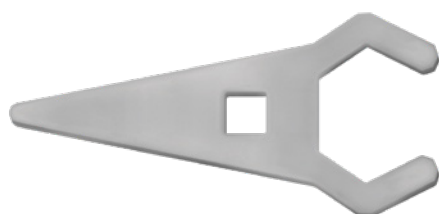
## CCG GLAND ACCESSORIES

### CCG BRASS (NICKEL PLATED) SCREW ON EARTH TAG

Cat No.	Size Ref	Dia A (mm)	Dia B (mm)	Dimension C (mm)	Square Section (mm <sup>2</sup> )	Short Circuit Fault Current Ratings BS1621 Part 5: 1993	
TN-6030-1	0/1	M20	M6	10 × 3	30	20MM	26KA/1SEC
TN-603202	2	M25	M6	10 × 4	40	25MM	26KA/1SEC
TN-603203	3	M32	M6	12 × 6	70	32MM	26KA/1SEC
TN-603204	4	M40	M8	20 × 6	120	40MM	26KA/1SEC
TN-603205	5	M50	M10	24 × 8	185	50MM	43KA/1SEC
TN-603206	6	M63	M12	40 × 8	300	63MM	43KA/1SEC
TN-603207	7	M75	M12	40 × 8	300	75MM	43KA/1SEC
TN-603208	8	M82	M12	40 × 8	300	–	–
TN-603209	9	M90	M12	40 × 8	300	–	–



### HEX SPANNER



Cat No.	Size Reference
TN-4016-0	0
TN-401602-032	2
TN-401603-040	3
TN-401604-052	4
TN-401605-065	5
TN-401606-080	6
TN-401607-096	7/8

### SEALING GASKET - METRIC



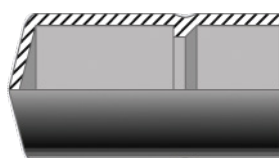
Cat No.	Size Reference (mm)
TN-805520	20
TN-805525	25
TN-805532	32
TN-805540	40
TN-805550	50
TN-805563	63
TN-805575	75
TN-805580	80
TN-805590	90

### C-SPANNER



Cat No.	Size Reference
TN-401610	10
TN-401611	11
TN-401612	12

### INSULATION SLEEVE



Cat No.	Size Reference
TN-550502	2
TN-550503	3
TN-550504	4

### TERMINAL CONNECTOR



Cat No.	Size Ref	Hole Dia.	Allen Key No.
580302	2	10MM	4MM

### WIRE BENDING TOOL



Cat No.
401701

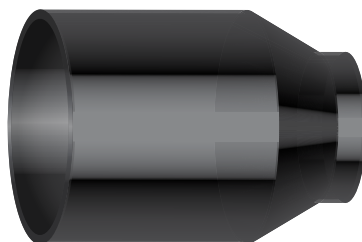


## NEOPRENE SHROUD - SHORT



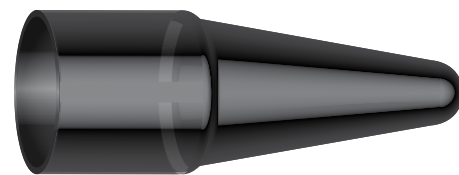
Cat No.	Size Reference	
TN-1521-0	0	M20
TN-152101	1	M20
TN-152102	2	M25
TN-152103	3	M32
TN-152104	4	M40
TN-152405	5	M50
TN-152106	6	M63
TN-152107	7	M75

## PVC SHROUD - SHORT



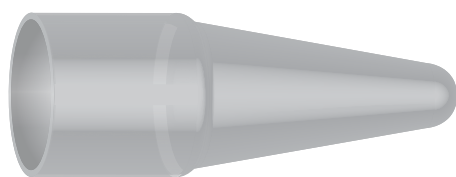
Cat No.	Size Reference	
TN-1522-0	0	M20
TN-152201	1	M20
TN-152202	2	M25
TN-152203	3	M32
TN-152204	4	M40
TN-152205	5	M50
TN-152206	6	M63
TN-152207	7	M75
TN-152208	8	M80
TN-152209	9	M90
TN-152210	10	M100

## PVC SHROUD (BLACK) - LONG



Cat No.	Size Reference	
TN-1525-0	0	M20
TN-152501	1	M20
TN-152502	2	M25
TN-152503	3	M32
TN-152504	4	M40
TN-152505	5	M50
TN-152506	6	M63
TN-152507	7	M75
TN-152508	8	M80
TN-152509	9	M90
TN-152510	10	M100
TN-152511	11	M115

## L.S.O.H. SHROUD (GREY) - LONG



Cat No.	Size Reference	
TN-1526-0	0	M20
TN-152601	1	M20
TN-152602	2	M25
TN-152603	3	M32
TN-152604	4	M40
TN-152605	5	M50
TN-152606	6	M63
TN-152607	7	M75
TN-152608	8	M80
TN-152609	9	M90
TN-152610	10	M100
TN-152611	11	M115

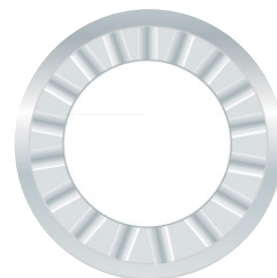
## BRASS (NICKEL PLATED) LOCKNUT



Cat No.	Size Ref.	Thread Size	A/F (mm)
TN-300900	0	M20 × 1.5	25
TN-300901	1	M20 × 1.5	25
TN-300902	2	M25 × 1.5	32
TN-300903	3	M32 × 1.5	42
TN-300904	4	M40 × 1.5	52
TN-300905	5	M50 × 1.5	65
TN-300906	6	M63 × 1.5	80
TN-300907	7	M75 × 1.5	90
TN-300908	8	M80 × 2.0	96
TN-300909	9	M90 × 2.0	110

Stainless Steel available on request

## SERRATED WASHER



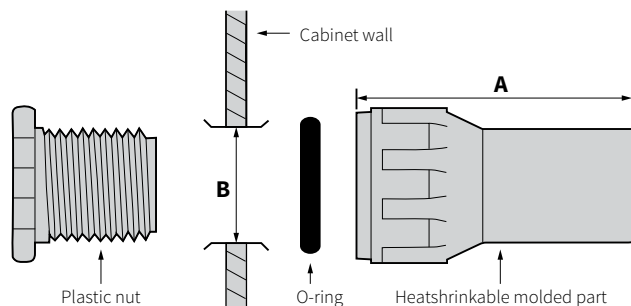
Cat No.	Size Ref. (mm)
TN-805620	20
TN-805625	25
TN-805632	32
TN-805640	40
TN-805650	50
TN-805663	63
TN-805675	75
TN-805680	80
TN-805690	90

## CABLE GLANDS

### CFTS - HEATSHRINK FEED THROUGH CABLE GLANDS

#### APPLICATIONS

- Sealing of bulkhead, equipment box and panel penetration
- Provides environmental seal and strain relief via heat activated adhesives
- Elastomeric 'O' ring with each part to accommodate irregularities on panel
- Operating temperatures -55°C to 135°C
- Cabinet wall thickness of 5mm is recommended



Cat No.	Cable Diameter (mm)	Length A (mm)	Recommended Hole Size B (mm)
CFTS-1	5-10	70	25
CFTS-2	6-17	70	25
CFTS-3	14-25	95	35
CFTS-4	20-37	114	51
CFTS-5	37-61	178	89

### EAKT - METAL CABLE GLANDS FOR CABLES WITHOUT ARMOUR

The connection of cables to medium voltage equipment can be problematic if the cable box is dimensioned for compound filling. In boxes where the distance from bushing to baseplate is a limiting factor, this problem may now be overcome with the Raychem EAKT cable gland.

#### FEATURES

- Simple bolt on modification, significantly reducing minimum box height required
- Often means cables can be connected in many cases without compound and relying instead on a Raychem heatshrink termination
- Available in two sizes to match BS 2562 stud spacing.
- Come complete with fixing bolts
- Separate Earthing is possible by obtaining an additional insulating spacer and bolts



Internal Gland Diameter (mm)	Multicore Cables	Cat No. Multicore Cables Insulated Gland	1 Core Cables (Aluminium Gland)
65	EAKT-1605	-	EAKT-1608
95	EAKT-1606	EAKT-1607	-



## DUCT SEALING SYSTEMS

### DUCT SEALING PLUGS

The TE Blank Duct Plug range effectively seal empty conduits. These plugs prevent the flow of water and the costly sedimentation of duct banks and conduit systems while confining problems of dangerous vapors to their source.

Manufactured from high-impact plastic components, combined with durable elastic gaskets, they are corrosion proof and effective for long-term or temporary sealing.

Equipped with a rope tie mechanism that provides the benefit of securing a pull rope to the back compression plate.

#### FEATURES

- All plastic construction
- Corrosion proof
- Water and gas tight
- Easy Installation and removal
- Fully removable and reusable



Cat No.	Plug Diameter (inch)	Duct ID	
		Inch	mm
RBDP-BLA-10D104U	1.00	0.96–1.16	24.4–29.5
RBDP-BLA-12D148U	1.25	1.14–1.48	29.0–37.6
RBDP-BLA-15D183U	1.50	1.49–1.83	37.8–46.5
RBDP-BLA-20D236U	2.00	1.83–2.36	46.5–59.9
RBDP-BLA-30D346U	3.00	2.99–3.46	75.9–87.9
RBDP-BLA-35D400U	3.5	3.45–3.80	86.9–96.5
RBDP-BLA-40D402U	4.00	3.94–4.17	100–105.9
RBDP-BLA-50D535U	5.00	5.00–5.35	127–135.9
RBDP-BLA-60D637U	6.00	5.82–6.37	147.8–161.8



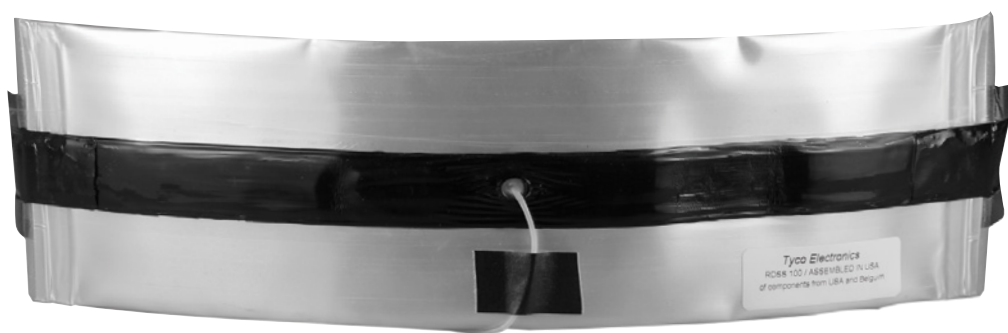
## RDSS - RAYFLATE DUCT SEALING SYSTEM

### APPLICATIONS

- For power cables
- For three or more cables, sealing clips are required
- Inflation tool is TDUX-IT-16 for purchase or hire
- Canisters of compressed air or CO<sub>2</sub> are compatible
- Each Rayflate seal covers a large range of cable and duct diameters
- Rayflate seals can be installed when water is still flowing out of the duct – thus saving valuable installation time
- Use not only for new cable installations but also for existing applications
- Rayflate seals can be quickly and easily removed from a duct or pipe by deflation



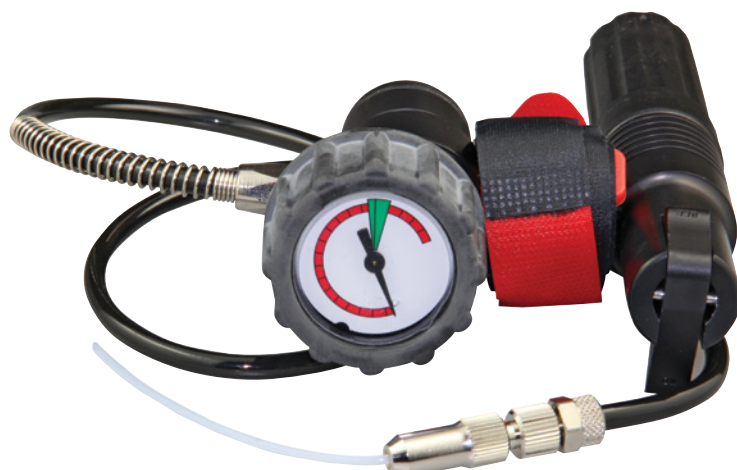
RDSS Install Video



Cat No.	RDSS-45	RDSS-60	RDSS-75	RDSS-100	RDSS-125	RDSS-150
Duct Size (mm)	Cable Diameter (mm)					
32.5	0-14	-	-	-	-	-
35	0-18	-	-	-	-	-
40	0-27	-	-	-	-	-
45	0-32	0-18	-	-	-	-
50	-	0-30	-	-	-	-
55	-	0-38	0-28	-	-	-
60	-	0-45	0-30	-	-	-
65	-	-	0-40	-	-	-
70	-	-	0-46	-	-	-
75	-	-	0-56	0-45	-	-
80	-	-	-	0-52	-	-
85	-	-	-	0-60	-	-
90	-	-	-	0-66	-	-
95	-	-	-	0-74	-	-
100	-	-	-	0-80	0-65	-
105	-	-	-	0-85	0-75	-
110	-	-	-	0-90	0-83	-
115	-	-	-	-	0-91	-
120	-	-	-	-	0-95	-
125	-	-	-	-	0-103	60-100
130	-	-	-	-	-	60-107
135	-	-	-	-	-	60-112
140	-	-	-	-	-	60-118
145	-	-	-	-	-	60-123
150	-	-	-	-	-	60-129



## RAYFLATE - ACCESSORIES



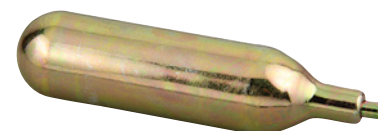
TDUX-IT-16



E4540-1250



RDSS-CLIP-1xx



CO2-CYLINDER

Cat No.	Description
TDUX-IT-16	RDSS INSTALLATION TOOL
E4540-1250	LUBRICANT FOR INSTALLATION
CO2-CYLINDER	CO <sub>2</sub> CYLINDER
RDSS-AD-210	INSERT FOR LARGER DUCTS RDSS-AD-210 S4
RDSS-CLIP-125	INFLATABLE DUCT SEALING CLIP FOR RDSS-125
RDSS-CLIP-150	INFLATABLE DUCT SEALING CLIP FOR RDSS-150

## HAUFF-TECHNIK - CABLE ENTRIES HSI 90

With a nominal diameter of 90 mm, the HSI 90 cable entry is available for delivery as a wall insert for installation in concrete walls flush with shuttering or as a sealing flange for retrofit installation with core drills. HSI 90 wall inserts offer maximum flexibility for downstream use. They are delivered fitted with a pressure-tight closing cover as standard. Various system covers are available to seal cables and for pressure-tight empty conduit connection.

Hauff-Technik also offers the KES-M 90 pressure-tight cable entry system, which is compatible with the HSI 90 system. Featuring a Hateflex spiral hose and supporting various options for cable sealing, this system can be relied upon to provide optimum protection for the cables that are being laid.

### RANGE INCLUDES

- Wall Inserts and Aluminium Flange
- System Covers for Cables
- System Covers for Connecting Cable Ducts
- Cable Entry Systems





## HAUFF-TECHNIK - CABLE ENTRIES HSI 150

With a nominal diameter of 150 mm, the Hauff Technik HSI 150 is setting standards for cable entries for installation in concrete walls flush with shuttering. The HSI 150 wall insert offers maximum flexibility for retrofitting. It is delivered fitted with a pressure-tight closing cover as standard. Various closed or split system seals can be supplied for sealing cables depending on prevailing requirements. Seals for pressure-tight empty conduit connection are also available.

Hauff-Technik also offers the KES-M 150 pressure-tight cable entry system, which is compatible with the HSI 150 system. Featuring a Hateflex spiral hose and supporting various options for cable sealing, this system can be relied upon to provide optimum protection for the cables that are being laid.

### RANGE INCLUDES

- Wall Inserts and Plastic Flange
- System Covers and System Seals for Cables
- Cable Entry Systems



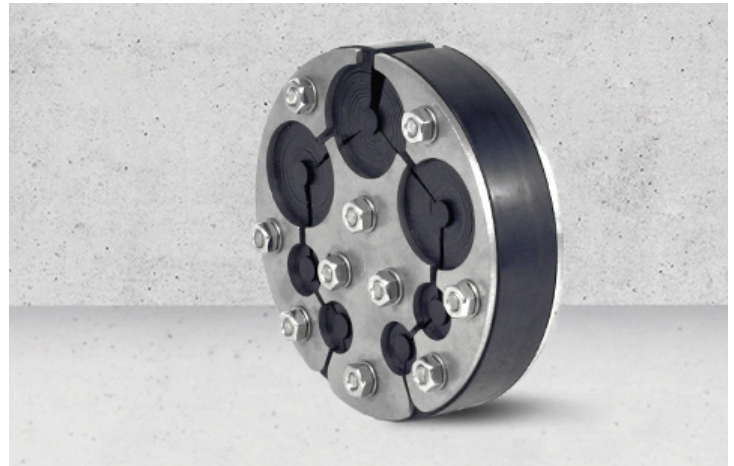
## HAUFF-TECHNIK - PRESS SEALS

The innovative press seals from Hauff-Technik provide you with every possible opportunity for reliable sealing of core drills or wall sleeves for one or a number of cables.

These range from closed seal inserts for first-time installation to split seal inserts for retrofit sealing of cables that have already been laid. We can provide the ideal press seal for every requirement and task, be it tailor-made to the millimetre or suitable for universal use on site, round, oval or even square. Quick and cost-effective.

### RANGE INCLUDES

- Standard Press Seals
- Tailor Made Press Seals



## HAUFF-TECHNIK - WALL SLEEVES

As an expert in sealing products, we know that a leakproof building entry starts with getting the "hole in the wall" right first time. It is for this reason that we have dedicated several decades to the development of innovative, high-quality and easy-to-use wall sleeves and flange constructions.

We can supply products for installation flush with shuttering, for setting in mortar and for retrofit dowel-fixing. Fixed/loose flange constructions provide a reliable means of integrating bitumen thick coatings or waterproof sheeting, the use of which is prescribed according to DIN 18195 Part 6 for protection against water penetration from the outside or seepage water.

### RANGE INCLUDES

- Standard Wall Sleeves
- Flange Wall Sleeves





## FIRETHERM INTUMASTIC HP

A heat-reactive, intumescent acrylic fire barrier mastic for internal use around services. FTMASTICHP is an aqueous acrylic fire barrier mastic for internal use, containing inert fillers and graphite. Maximum diameter 90 mm combustible pipe seals or 60 mm annular space around cables, etc.

### FEATURES

- Fully tested to four hours fire protection
- Low smoke and non-hazardous
- Tested within single skin partitions
- For use in both walls and floor
- Tested at Exove BM Trada to BS EN 1366 Pt 3. 240 minutes fire integrity and insulation

### APPLICATIONS

An intumescent pressure exerting mastic used to fire seal combustible pipework up to 90 mm diameter and for sealing around cable trays, cables and within cast in plastic or steel conduits or around Insulation whilst providing up to two hours fire protection.

### INSTALLATION

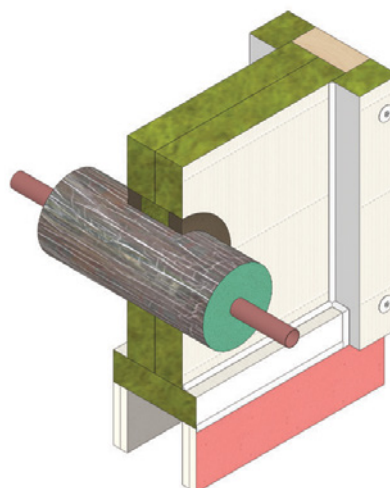
Install Intumastic HP in full accordance to installation details provided by Firetherm.

Product will expand 52 times by volume. Reaction commences at 130°C.

### DIMENSIONS & COLOUR

- Tube size: 310 ml
- Colour: grey

\*Tack free time 60 to 120 minutes depending on temperature/humidity.



Cat No.	Fire Resistance	Colour	Curing Time	Kit Contents
FTMASTICHP	240 MINUTES FIRE INTEGRITY & INSULATION	GREY	60-120 MINUTES DEPENDING ON TEMPERATURE/HUMIDITY	310ML TUBE



PAGE	CATEGORY
<b>164</b>	<b>DEADENDS</b>
<b>164</b>	Aluminium Deadends
<b>165</b>	Copper Alloy Deadends
<b>166</b>	Aluminium Full Tension Deadends
<b>167</b>	Neoprene Deadends
<b>167</b>	Neutral Screen Strain Clamps
<b>PAGE</b>	<b>ARMOUR RODS</b>
<b>168</b>	Aluminium Armour Rods
<b>169</b>	Copper Armour Rods
<b>PAGE</b>	<b>LINE GUARDS</b>
<b>170</b>	Aluminium Line Guards
<b>171</b>	Copper Line Guards
<b>PAGE</b>	<b>LINE SPLICES</b>
<b>171</b>	Aluminium Line Splices
<b>172</b>	Aluminium Clad Steel Line Splices
<b>172</b>	Aluminium Full Tension Line Splices
<b>173</b>	Copper Line Splices
<b>173</b>	Steel Line Splices
<b>PAGE</b>	<b>GUY FITTINGS</b>
<b>174</b>	Steel Guy Grips
<b>174</b>	Steel Guy Locks
<b>PAGE</b>	<b>HELICAL SUPPORT &amp; SUSPENSION UNITS</b>
<b>175</b>	Support Units
<b>176</b>	Suspension Units
<b>PAGE</b>	<b>TIES</b>
<b>177</b>	Aluminium Clad Steel Distribution Ties
<b>178</b>	Aluminium Alloy Distribution Ties - Corrosion Environment
<b>178</b>	Aluminium Alloy Distribution Tie & Armour Rod Assemblies
<b>179</b>	Aluminium Alloy Double Support Ties - Corrosion Environment
<b>179</b>	Aluminium Alloy Side Ties - Corrosion Environment
<b>180</b>	Aluminium Clad Steel Double Side Ties
<b>PAGE</b>	<b>VIBRATION DAMPERS</b>
<b>180</b>	Spiral Vibration Dampers
<b>PAGE</b>	<b>ACCESSORIES</b>
<b>181</b>	Clevis Thimbles
<b>182</b>	Socket Thimbles



## DEADENDS

### ALUMINIUM DEADENDS

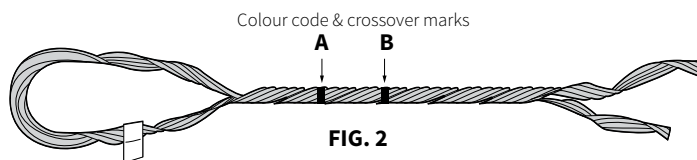
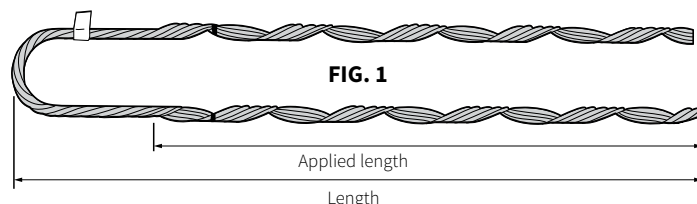
**TNADE** – Aluminium Based Deadends have been designed as a simple and cost effective method of carrying out terminations on overhead distribution networks incorporating AAC, AAAC and ACSR Conductors.

#### RATED HOLDING STRENGTH

- On AAC and AAAC conductors, a TNADE fitting will hold a minimum of 90% of the ultimate tensile strength of the conductors as required by AS1154.3-2009
- On ACSR conductors a TNADE will hold 60-85% of the ultimate tensile strength of the conductor on which it is used.

It is important to note, Deadends should never be reused.

Deadends have two lengths, the overall length (Fig.1) and the applied length (Fig.2). The applied length is the area from the cross over marks which are A (small fittings) & B (large fittings) outlined in Fig.2, to the ends. These marks are also used to show the colour code. There is a water resistant identification tag attached to each Deadend which provides the Cat No., nominal strand size, diameter range, conductor names and barcode.



Cat No.	Conductor Range (mm O.D.)	Colour	Conductor Names				Pack Quantity
			AAC	AAAC	ACSR	SBC	
TNADE0560	5.60–5.79	WHITE	–	–	THRUSH	–	50
TNADE0625	6.25–6.54	YELLOW	NAMU	–	SWAN/ SQUIRREL	–	60
TNADE0675	6.66–6.89	BROWN	GNAT	BORON	–	FLOUNDER	50
TNADE0690	6.90–7.14	BROWN	POKO	–	GOPHER	–	50
TNADE0750	7.35–7.59	BLUE	–	CHLORINE	–	–	40
TNADE0790	7.95–8.57	WHITE	LADYBIRD	CHROMIUM	SPARROW/FOX	–	40
TNADE0900	8.67–9.35	RED	KUTU	FLUORINE	FERRET	–	40
TNADE1015	10.15–10.94	PURPLE	FLY	–	–	HAKE	35
TNADE1125	10.80–11.30	BLACK	RANGO	HELIUM	MINK	–	40
TNADE1130	11.30–11.74	BROWN	GRASSHOPPER	–	PETREL	–	20
TNADE1225	12.25–12.79	WHITE	–	–	RACCOON	–	20
TNADE1280	12.80–13.24	GREEN	WASP	–	–	–	25
TNADE1325	13.25–13.84	GREEN	BEETLE	HYDROGEN	–	–	25
TNADE1430	13.85–14.44	BLUE	WEKE	IODINE	DOG/HARE STOAT	–	20
TNADE1510	15.10–15.70	RED	–	–	WAXWING	–	20
TNADE1625	15.66–16.88	ORANGE	CRICKET HORNET/WETA	KRYPTON	DINGO	–	20
TNADE1780	17.48–18.50	BLUE	HUHU	–	WOLF	–	10
TNADE1880	18.55–19.34	BLACK	CHAFER/MATA	NEON	JAGUAR	–	10
TNADE2100	20.24–21.82	RED	COCKROACH	NITROGEN	–	–	10
TNADE2330	22.46–24.21	GREEN	BUTTERFLY	NOBELIUM	–	–	5
TNADE2375	23.75–25.29	BLUE	–	OXYGEN	–	–	5





## COPPER ALLOY DEADENDS

**TNCDE** – Made from Copper Alloy for Hard Drawn Copper conductors.

Copper Alloy Deadends have been designed as an effective method of carrying out terminations on Hard Drawn Copper (HDC) and Copper Alloy conductors. These Deadends offer a secure continuous grip on the conductor.



Cat No.	Conductor Range (mm O.D.)	Colour	Metric (mm <sup>2</sup> )	Conductors	Pack Quantity
				Imperial	
TNCDE0400	3.90–4.21	GREEN	10	7/0.052	50
TNCDE0525	4.80–5.25	PURPLE	16	7/16, 7/0.064	100
TNCDE0600	6.00–6.29	YELLOW	–	7/14, 7/0.080, 7/2.00	50
TNCDE0630	6.30–6.57	BLACK	25	19/0.052	50
TNCDE0658	6.58–6.85	BLUE	–	7/2.25, 19/0.044, 19/1.12	50
TNCDE0742	7.42–7.95	WHITE	35	7/0.104	50
TNCDE0800	7.93–8.75	WHITE/PURPLE	–	19/1.75, 19/0.064	40
TNCDE0900	9.00–9.26	RED	50	7/3.00	30
TNCDE1000	9.88–10.65	PURPLE/YELLOW	70	19/0.083, 19/2.11	20
TNCDE1225	12.05–12.56	PURPLE	95	–	15
TNCDE1500	14.05–15.03	RED	120	37/0.083	10

## ALUMINIUM FULL TENSION DEADENDS



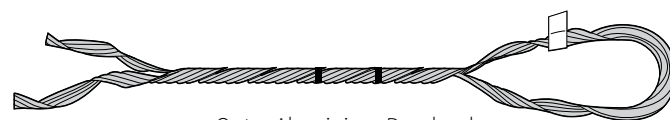
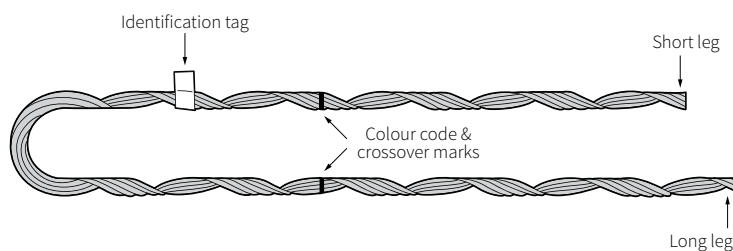
**TNFSE** – Made from Aluminium clad Steel for ACSR conductors. They are applied over the outer layer of the conductor only.

**TNFTDE** – Made from Aluminium clad Steel for ACSR conductors. They are used on installations where holding strength on the inner core strands is required, (with 7 strands or greater in the core). These fittings can be supplied in two configurations:

**TWO DEADENDS** – one for the inner core and one for the outer strands

**TWO DEADENDS PLUS FILLER RODS** – Where the inner core Deadend doesn't align with the outer strands, filler rods enable the attachment of the second Deadend.

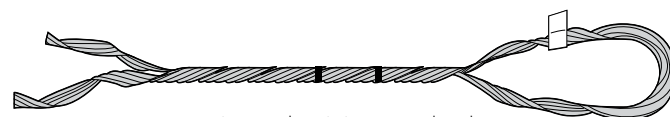
Both fittings will hold at least 90% of the ultimate tensile strength of the conductor. It is important to note, if the steel core is greased, the grease needs to be fully removed to ensure a strong grip.



Outer Aluminium Deadend



Inner Galvanised Steel Deadend



Outer Aluminium Deadend



Aluminium Filler Rods



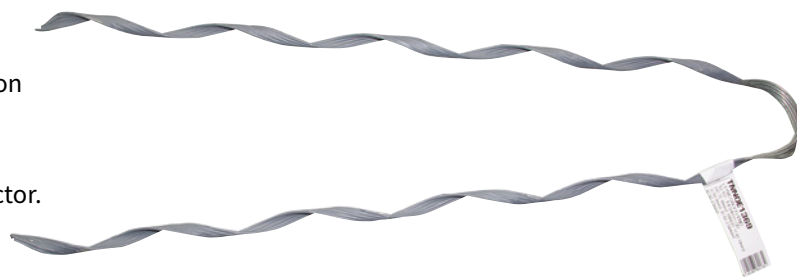
Inner Galvanised Steel Deadend

Cat No.		ACSR Conductor Stranding	Colour	Pack Quantity
TNFSE	TNFTDE			
TNFSE0525	–	3/4/1.75	–	40
TNFSE0630	TNFTDE0630	SQUIRREL / MAGPIE	YELLOW	50
TNFSE0582SP	TNFTDE0670	FLOUNDER	BROWN	50
TNFSE0690	TNFTDE0711	GOPHER	BROWN	50
TNFSE0900	TNFTDE0900	6/1/3.00, FERRET	RED	20/25
TNFSE1080	TNFTDE1080	MINK	BLACK	20
TNFSE1430	TNFTDE1430	DOG	BLUE	20
TNFSE1675	TNFTDE1675	DINGO	ORANGE	10
TNFSE1800	TNFTDE1800	WOLF	BLACK	10
TNFSE1930	TNFTDE1930	JAGUAR	BLACK	10

## NEOPRENE DEADENDS

**TNNDE** – Made of Coated Galvanised Steel for Limited Tension Copper and Aluminium Aerial Service Cables.

The coated subsets of each Deadend leg exert a low radial pressure that does not damage the insulation on the conductor.

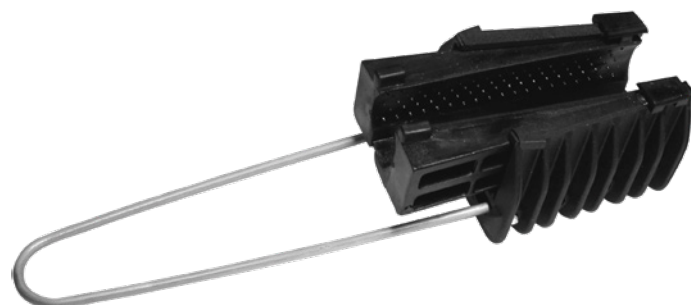


Cat No.	Conductor Range (mm O.D.)	Colour	PVC Covered Conductor Names		Pack Quantity
			Single Core	Neutral Screen	
TNNDE0585	5.85–7.34	GREEN	10MM <sup>2</sup> 16MM <sup>2</sup>	–	100
TNNDE0735	7.35–9.54	RED	25MM <sup>2</sup> NAMU POKO	1C NS 2.5 & 4MM <sup>2</sup>	50
TNNDE1036	9.55–12.10	BLUE	35MM <sup>2</sup> 50MM <sup>2</sup> LADYBIRD KUTU	1C NS 6MM <sup>2</sup>	50
TNNDE1369	12.10–14.84	RED	70MM <sup>2</sup> 95MM <sup>2</sup> RANGO	2C NS 6MM <sup>2</sup> 3C NS 2.5 & 4MM <sup>2</sup> 1C NS 10MM <sup>2</sup> 4C NS 2.5MM <sup>2</sup>	30
TNNDE1554	14.85–16.63	BLACK	95MM <sup>2</sup> 120MM <sup>2</sup> WEKE BEETLE	1C+P NS 16+4MM <sup>2</sup> 2C NS 10MM <sup>2</sup> 1C NS 16 & 25MM <sup>2</sup> 3C NS 4 & 6MM <sup>2</sup> 4C NS 4 & 6MM <sup>2</sup>	20
TNNDE1973	18.80–20.19	YELLOW	150MM <sup>2</sup> WETA	1C NS 35MM <sup>2</sup> 1C+P NS 25+4MM <sup>2</sup> 2C NS 16MM <sup>2</sup> 3C NS 10MM <sup>2</sup>	20
TNNDE2216	22.00–23.32	BLUE	–	1C NS 50MM <sup>2</sup> 2C NS 25MM <sup>2</sup> 2C+P NS 16+4MM <sup>2</sup> 3C NS 16MM <sup>2</sup> 4C NS 10MM <sup>2</sup>	15
TNNDE2555	25.55–27.19	RED	–	2C+P NS 25+4MM <sup>2</sup> 3C NS 35MM <sup>2</sup>	10

## NEUTRAL SCREEN STRAIN CLAMPS

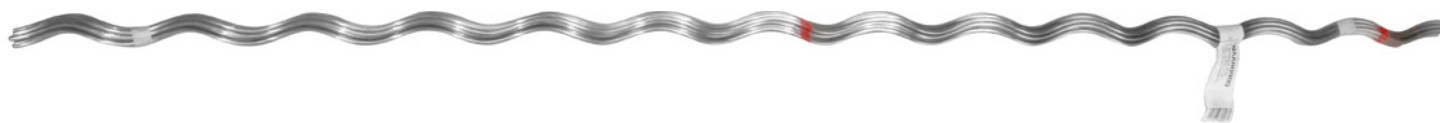
LV Strain Clamp for Neutral Screen Cable. Clamp has wedge technology so the more the cable is pulled, the tighter the grip becomes. These clamps grip one cable from 9-25mm OD.

Cat No.	Cable Size (AS3560)
0-708046-3	SINGLE CABLE, 9–17MM O.D.
0-708018-1	SINGLE CABLE, 18–25MM O.D.



## ARMOUR RODS

### ALUMINIUM ARMOUR RODS



**TNAAR** – Made from Aluminium Alloy for AAC, AAAC, ACSR & SBC conductors.

Armour Rods offer protection for the conductor against abrasion, bending, compressive stresses, and arc-over. They can also be used for repair of conductors with damage to less than 20% of the outer strands.

Armour Rods should always be used with clamp top insulators and on any span longer than 90m.

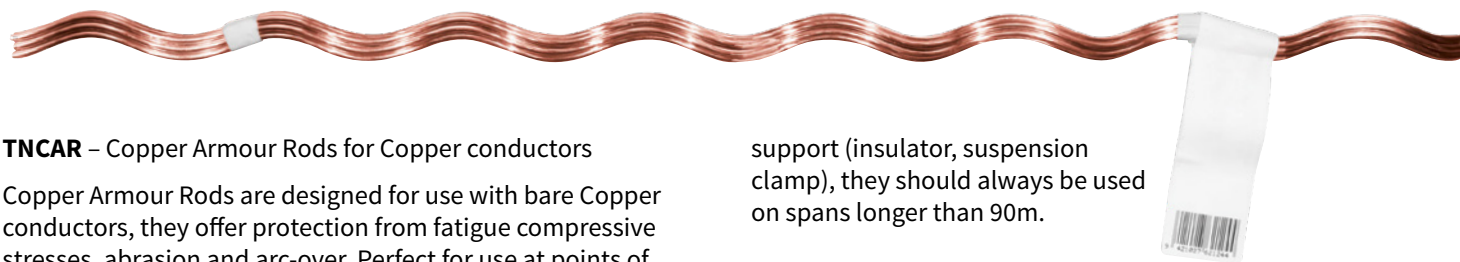
Add suffix 'D' for armour rods designed to use with double cross arms

Add suffix 'SS' for subsetting armour rods, for fast simple installation

Cat No.	Conductor Range (mm O.D.)	Colour	Conductor Names				Pack Quantity
			AAC	AAAC	ACSR	SBC	
TNAAR0460	4.60–4.94	GREEN	–	–	–	MULLET	100
TNAAR0530	5.30–5.79	BLACK	–	–	THRUSH	–	80
TNAAR0620	6.20–6.59	YELLOW	NAMU	–	MAGPIE SQUIRREL SWAN	–	50
TNAAR0675	6.60–6.94	BROWN	GNAT	BORON	–	FLOUNDER	50
TNAAR0695	6.95–7.34	BROWN	POKO	–	GOPHER	–	50
TNAAR0750	7.35–7.84	BLUE	–	CHLORINE	–	–	50
TNAAR0785	7.85–8.29	WHITE	–	CHROMIUM	SPARROW	–	50
TNAAR0830	8.30–8.80	WHITE	LADYBIRD	–	–	–	50
TNAAR0900	8.80–9.29	RED	KUTU	FLUORINE	FERRET	–	50
TNAAR1050	10.50–11.09	BLACK	RANGO	–	MINK	–	40
TNAAR1125	11.10–11.79	BLACK	GRASSHOPPER	HELIUM	–	–	30
TNAAR1180	11.80–12.44	GREEN	–	–	RACCOON	–	30
TNAAR1245	12.45–13.24	GREEN	WASP	–	–	–	20
TNAAR1325	13.25–13.99	GREEN	BEETLE	HYDROGEN	–	–	20
TNAAR1400	14.00–14.89	BLUE	WEKE	IODINE	DOG HARE	–	35
TNAAR1540	15.40–16.00	BROWN	–	–	WAXWING COYOTE	–	20
TNAAR1625	16.05–16.64	ORANGE	CRICKET HORNET	KRYPTON	–	–	20
TNAAR1665	16.65–17.24	BROWN	WETA	–	DINGO	–	15
TNAAR1790	17.90–18.79	BLUE	–	–	WOLF	–	10
TNAAR1880	18.80–19.89	YELLOW	CHAFER/MATA	NEON	JAGUAR	–	10
TNAAR2100	21.00–21.50	RED	COCKROACH	NITROGEN	–	–	10
TNAAR2150	21.50–23.04	RED	–	NOBELIUM	–	–	10
TNAAR2305	23.05–23.59	GREEN	BUTTERFLY	–	–	–	5
TNAAR2375	23.60–24.79	BLUE	–	OXYGEN	–	–	10
TNAAR2500	24.80–26.49	BLACK	CENTIPEDE	–	GOAT	–	5



## COPPER ARMOUR RODS



**TNCAR** – Copper Armour Rods for Copper conductors

Copper Armour Rods are designed for use with bare Copper conductors, they offer protection from fatigue compressive stresses, abrasion and arc-over. Perfect for use at points of

support (insulator, suspension clamp), they should always be used on spans longer than 90m.

Cat No.	Conductor Range (mm O.D.)	Conductor Stranding	Colour	Pack Quantity
TNCAR0525	4.63–4.99	7/1.75	BLACK	25
TNCAR0600	5.99–6.19	7/2.00	YELLOW	25
TNCAR0750	7.50–7.99	–	RED	20
TNCAR0825	8.00–8.49	7/2.75 & 19/1.75	WHITE	20
TNCAR0875	8.50–8.94	–	PURPLE	20
TNCAR0900	8.95–9.44	–	RED	15
TNCAR0945	9.45–9.99	7/3.25	RED	10
TNCAR1000	10.00–10.64	19/2.00	YELLOW	10
TNCAR1145	11.45–12.09	–	GREEN	10
TNCAR1225	12.10–12.84	37/1.75 & 7/4.15	PURPLE	10
TNCAR1285	12.85–13.59	–	PURPLE	10
TNCAR1375	13.60–14.39	19/2.75	WHITE	5
TNCAR1500	14.40–15.04	19/3.00	RED	5
TNCAR1590	15.90–16.94	–	ORANGE	5
TNCAR1750	16.95–17.84	37/2.50	BROWN	5
TNCAR1785	17.85–18.69	–	GREEN	5
TNCAR1925	18.70–19.49	37/2.75	YELLOW	5

Special Order Only



## LINE GUARDS

### ALUMINIUM LINE GUARDS



**TNALG** – Made from Aluminium Alloy for use with AAC, AAAC, ACSR & SBC conductors.

Line Guards are usually referred to as the light duty version of an Armour Rod. The Line Guard offers protection against abrasion, compressive stresses etc., but is intended for use on spans of less

than 90m. Line Guards can be used as a patch for conductors where damage has occurred as long as the damage doesn't exceed 25% of the outer layer of strands.

**NOTE:** Add suffix 'D' for double cross arm applications

Add suffix 'SS' for subsetted Line Guards for faster, easier application.

Cat No.	Conductor Range (mm O.D.)	Colour	Conductor Names				Pack Quantity
			AAC	AAAC	ACSR	SBC	
TNALG0460	4.60–4.94	PURPLE	–	–	–	MULLET	50
TNALG0560	5.60–5.80	WHITE	–	–	THRUSH	–	100
TNALG0620	6.20–6.59	YELLOW	NAMU	–	MAGPIE SQUIRREL	–	100
TNALG0675	6.60–6.94	BROWN	–	BORON	–	FLOUNDER	100
TNALG0695	6.96–7.34	BROWN	POKO	–	GOPHER	–	50
TNALG0750	7.35–7.84	BLUE	–	CHLORINE	–	–	80
TNALG0800	7.85–8.25	BLUE	–	–	FOX	–	20
TNALG0830	8.30–8.79	BLUE	LADYBIRD	–	–	–	25
TNALG0900	8.80–9.29	RED	KUTU	FLUORINE	FERRET	–	80
TNALG1050	10.50–11.09	BLACK	RANGO	–	MINK	–	50
TNALG1125	10.95–11.79	BLACK	GRASSHOPPER	HELIUM	MINK	–	40
TNALG1180	11.80–12.44	WHITE	–	–	RACCOON	–	50
TNALG1245	12.45–13.24	GREEN	WASP	–	–	–	40
TNALG1325	13.25–13.99	GREEN	BEE	HYDROGEN	–	–	50
TNALG1430	14.00–14.89	BLUE	BEE/WEKE	IODINE	DOG/HYENA	–	40
TNALG1625	16.05–16.64	ORANGE	CRICKET/HORNET	KRYPTON	–	–	30
TNALG1665	16.65–17.24	ORANGE	WETA	–	DINGO	–	20
TNALG1790	17.90–18.80	BLUE	–	–	WOLF	–	30
TNALG1880	18.81–20.14	BLACK	CHAFER/MATA	NEON	JAGUAR	–	30
TNALG2100	20.15–21.34	RED	COCKROACH	NITROGEN	–	–	30
TNALG2135	21.36–22.81	BLUE	–	NOBELIUM	–	–	25
TNALG2300	23.20–23.30	GREEN	–	–	–	–	10
TNALG2375	22.85–24.24	GREEN	BUTTERFLY	OXYGEN	–	–	10

## COPPER LINE GUARDS



**TNCLG** – Copper Line Guards for Hard Drawn Copper (HDC) Conductors

Copper Line Guards are also seen as the light duty version of the Armour Rod. They offer protection from fatigue, abrasion, compressive stresses and arc-over. They are perfect for use at

the point of support (insulator or suspension clamp). Line Guards are suitable for use as a patch rod where damage has occurred as long as damage doesn't exceed 25% of the outer layer of strands.

Cat No.	Conductor Range (mm O.D.)	Colour	Pack Quantity
TNCLG0525	5.00–5.29	PURPLE	50
TNCLG0600	6.00–6.34	YELLOW	50
TNCLG0825	8.00–8.49	WHITE	25
TNCLG0875	8.50–8.94	PURPLE	25
TNCLG0945	9.45–9.99	YELLOW	25
TNCLG1000	10.00–10.39	YELLOW	25
TNCLG1050	10.40–10.79	PURPLE	15
TNCLG1080	10.80–11.44	YELLOW	15
TNCLG1225	12.10–12.84	PURPLE	15
TNCLG1375	13.60–14.39	WHITE	15
TNCLG1500	14.40–15.04	RED	10
TNCLG1750	16.95–17.84	BLUE	5
TNCLG1925	18.70–19.49	RED	5

Special Order Only

## LINE SPLICES

### ALUMINIUM LINE SPLICES



**TNALS** – Made from Aluminium Alloy for AAC, AAAC and ACSR conductors.

Line Splices are designed for splicing and repairing Aluminium conductors. If scratched and greased properly prior to installation Line Splices will restore full conductivity of the

conductor. Line Splices will hold at least 90% of the ultimate tensile strength of the conductor.

Never reuse Line Splices. Any repairs should be made to span damage only, never closer than 150mm from an existing fitting.

Cat No.	Conductor Range (mm O.D.)	Colour	Conductor Names				Pack Quantity
			AAC	AAAC	ACSR	SBC	
TNALS0625	6.25–6.54	YELLOW	NAMU	–	SQUIRREL	–	50
TNALS0675	6.55–6.89	BROWN	–	–	–	FLOUNDER	50
TNALS0690	6.90–7.14	BROWN	GNAT/POKO	BORON	GOPHER	–	50
TNALS0750	7.35–7.59	BLUE	–	CHLORINE	–	–	50
TNALS0830	8.30–8.64	PURPLE	LADYBIRD	–	–	–	40
TNALS0900	8.95–9.35	RED	KUTU	FLUORINE	FERRET	–	40
TNALS1015	10.15–10.49	PURPLE	FLY	–	RABBIT	HAKE	40
TNALS1125	10.80–11.29	BLACK	RANGO	HELIUM	MINK	–	20
TNALS1350	13.24–13.84	GREEN	BEETLE/WASP	HYDROGEN	–	–	10
TNALS1430	13.85–14.44	BLUE	WETA	IODINE	DOG	–	10
TNALS1625	15.70–16.39	ORANGE	CRICKET/WETA	KRYPTON	DINGO	–	5
TNALS1875	18.55–19.34	BLACK	CHAFER/MATA	NEON	JAGUAR	–	5
TNALS2100	21.00–21.59	RED	COCKROACH	NITROGEN	–	–	5
TNALS2375	22.89–24.68	GREEN	BUTTERFLY	NOBELIUM/OXYGEN	–	–	3

## ALUMINIUM CLAD STEEL LINE SPLICES

**TNLLS** – Aluminium clad Steel Line Splices for SC/AC conductors (Left Hand Lay is standard).

Cat No.	Conductor Range (mm O.D.)	Conductor Stranding	Colour	Pack Quantity
TNLLS0525L	5.25– 5.60	–	PURPLE	50
TNLLS0593L	5.60–5.94	3/2.75	YELLOW	50
TNLLS0700L	6.75–7.27	3/3.25	BLUE	50
TNLLS0825L	8.00–8.29	3/3.75 & 7/2.75	WHITE	20
TNLLS0975L	9.70–10.04	7/3.25	ORANGE	20
TNLLS1125L	10.84–11.69	7/3.75	GREEN	20
TNLLS1375L	13.25–14.29	19/2.75	WHITE	5
TNLLS1625L	15.75–16.51	19/3.25	ORANGE	5

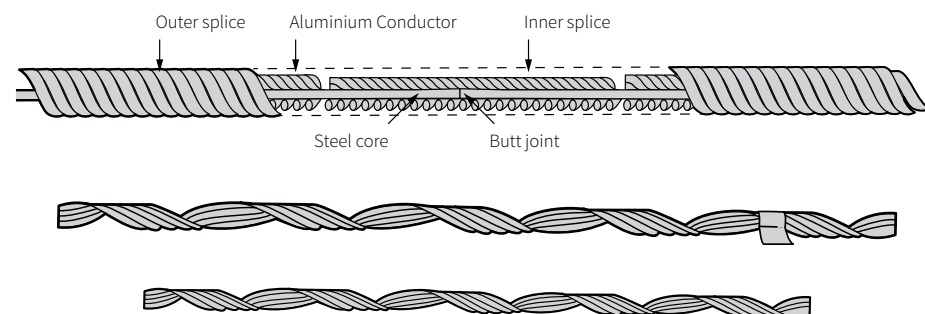
## ALUMINIUM FULL TENSION LINE SPLICES

**TNFTS** – Full Tension Multi Piece Line Splice. Galvanised Steel & Aluminium Alloy for 6/1 or 30/7 ACSR conductors

Full Tension Line Splices are designed for splicing ACSR conductor. The multi piece design holds both the inner steel core, and the outer layers. In some cases filler rods may be needed to bridge the gap between the inner core and the outer strands. The conductor will be returned to full

conductivity when spliced with TNFTS.

On ACSR conductors, full tension line splices hold at least 90% of the ultimate tensile strength of the conductor. Conductors should be scratch brushed and greased properly prior to installation to ensure a long term joint, and never placed closer than 360mm from other fittings. Do not reuse these fittings.



Cat No.	Conductor Range (mm O.D.)	Colour	Conductor Names		Pack Quantity
			ACSR	SBC	
TNFTS0565	4.9	WHITE	THRUSH		30
TNFTS0635	6.33	YELLOW	SQUIRREL	–	30
TNFTS0670	6.70	BROWN	–	FLOUNDER	30
TNFTS0709	7.08	BROWN	GOPHER	–	20
TNFTS0900	9.00	RED	FERRET	–	20
TNFTS1080	10.98	BLACK	MINK	–	15
TNFTS1420	14.15	BLUE	DOG	–	10
TNFTS1547	15.47	BROWN	WAXWING	–	10
TNFTS1675	16.75	BROWN	DINGO	–	10
TNFTS1810	18.13	BLUE	WOLF	–	10
TNFTS1930	19.30	BLACK	JAGUAR	–	4
TNFTS2100	21.00	RED	LEMON	–	10

## COPPER LINE SPLICES

**TNCLS** – Copper Line Splices for Hard Drawn Copper (HDC) conductors



Cat No.	Conductor Range (mm O.D.)	Conductor Stranding	Colour	Pack Quantity
TNCLS0400	3.90–4.21	7/1.35	PURPLE	50
TNCLS0525	4.80–5.25	7/1.75	PURPLE	50
TNCLS0600	6.00–6.27	7/2.00	YELLOW	50
TNCLS0660	6.54–6.87	–	BLACK	50
TNCLS0740	7.40–7.69	–	GREEN	30
TNCLS0770	7.70–8.09	–	ORANGE	20
TNCLS0825D	8.10–8.75	7/2.75 & 19/1.75	WHITE	20
TNCLS0900	8.76–9.23	–	RED	15
TNCLS0965	9.24–9.99	7/3.25	PURPLE	10
TNCLS1000	10.00–10.54	19/2.00 & 7/3.50	YELLOW	10
TNCLS1068	10.55–11.08	–	YELLOW	10
TNCLS1125	11.25–11.69	19/2.75	YELLOW	10
TNCLS1225	12.05–12.54	37/1.75 & 7/4.15	PURPLE	10
TNCLS1255	12.55–13.09	–	YELLOW	10
TNCLS1375	13.65–14.09	19/2.75	WHITE	5
TNCLS1500	14.50–15.04	19/3.00	RED	5
TNCLS1750	16.39–17.66	37/2.50	BLUE	5
TNCLS1809	18.09–18.67	–	ORANGE	5
TNCLS1885	18.68–19.64	37/2.75	BLACK	5
TNCLS1965	19.65–20.48	–	GREEN	2
TNCLS2100	20.49–21.54	–	RED	2
TNCLS2300	23.00–23.94	–	GREEN	2
TNCLS2950	28.43–30.65	–	BLACK	2

## STEEL LINE SPLICES

**TNSLS** – Galvanised Steel for SC/GZ conductors.

For jointing and restorative repair of Galvanised Steel conductors. The TNSLS range will hold a minimum of 90% of

the ultimate tensile strength of the conductor, when used on Galvanised Steel conductors.



Cat No.	Conductor Range (mm O.D.)	Colour	Conductor Stranding	Pack Quantity
TNSLS0245	2.45–2.64	BLUE	–	50
TNSLS0431	4.15–4.49	YELLOW	3/2.00	50
TNSLS0480	4.5–4.99	BLACK	7/1.60	50
TNSLS0593	5.50–5.94	WHITE	3/2.75	50
TNSLS0600	5.95–6.19	YELLOW	7/2.00	30
TNSLS0675	6.51–7.01	BROWN	–	50
TNSLS0735	7.35–7.64	BLUE	–	30
TNSLS0825	7.92–8.29	WHITE	7/2.75	30
TNSLS0975	9.70–10.04	YELLOW	–	20
TNSLS1125	11.15–11.49	BLACK	7/3.75	20
TNSLS1200	11.85–12.19	BLACK	7/4.00	10
TNSLS1375	13.05–13.99	WHITE	19/2.75	10
TNSLS1625	16.00–16.44	ORANGE	19/3.25	5

## GUY FITTINGS

### STEEL GUY GRIPS

**TNSGG** – Galvanised Steel for SC/GZ conductors.

Used for terminating guy wires, earth wires and stay conductors. Guy Grips will hold 100% of the UTS of the wire they are applied to.



Cat No.	Conductor Range (mm O.D.)	Colour	Conductor Stranding	Pack Quantity
TNSGG0480	4.63–4.99	BLACK	7/1.60 SC/GZ	80
TNSGG0510	7.35–7.60	PURPLE	7/1.70 SC/GZ	50
TNSGG0600	5.95–6.19	YELLOW	7/14, 7/2.00 SC/GZ, 6MM STEEL ROPE	50
TNSGG0620	6.20–6.49	YELLOW	–	50
TNSGG0750	7.35–7.64	BLUE	7/2.50 SC/GZ	40
TNSGG0765	7.65–7.99	WHITE	7/12, 7/2.64 SC/GZ	30
TNSGG0825	7.90–8.29	WHITE	7/12, 19/16, 7/2.75 SC/GZ	30
TNSGG0895	8.95–9.29	RED	7/3.00	30
TNSGG0930	9.30–9.69	RED	7/3.18 SC/GZ	20
TNSGG0975	9.70–10.20	YELLOW/ORANGE	7/10, 19/2, 7/3.25 SC/GZ	25
TNSGG1200	11.85–12.19	BLACK	7/8, 7/4.00 SC/GZ	20
TNSGG1375	13.06–13.97	WHITE	19/2.75 SC/GZ	10
TNSGG1400	14.00–14.47	YELLOW	–	10
TNSGG1625	16.00–16.40	ORANGE	19/10, 19/3.25 SC/GZ	10

### STEEL GUY LOCKS

**TNSGL** – Galvanised Steel for SC/GZ conductors.

Guy Locks are used as a neat, high strength and fast way to secure pole anchoring guys. Guy Locks will hold 100% of the UTS of the wire they are applied to.



Cat No.	Conductor Range (mm O.D.)	Colour	Conductor Stranding	Pack Quantity
TNSGL0480	4.63–4.99	BLACK	7/16, 7/1.60 SC/GZ	100
TNSGL0735	7.35–7.64	BLUE	–	50
TNSGL0765	7.65–7.99	WHITE	7/12, 7/2.64 SC/GZ	40
TNSGL0800	8.00–8.29	WHITE	7/12, 19/16, 7/2.75 SC/GZ	50
TNSGL0895	8.95–9.29	RED	7/3.00	50
TNSGL0930	9.30–9.69	BLUE	7/3.15	30
TNSGL0975	9.70–10.20	YELLOW/ORANGE	7/10, 19/2.00, 7/3.25 SC/GZ	30
TNSGL1200	11.84–12.17	BLACK	7/4.00 SC/GZ	25
TNSGL1375	13.51–13.97	BLACK	19/2.75 SC/GZ	10
TNSGL1625	15.98–16.41	ORANGE	19/10, 19/3.25 SC/GZ	10



## HELICAL SUPPORT & SUSPENSION UNITS

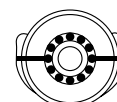
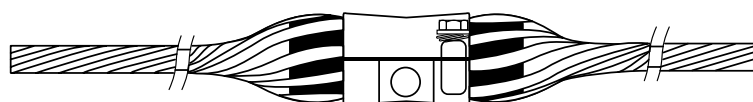
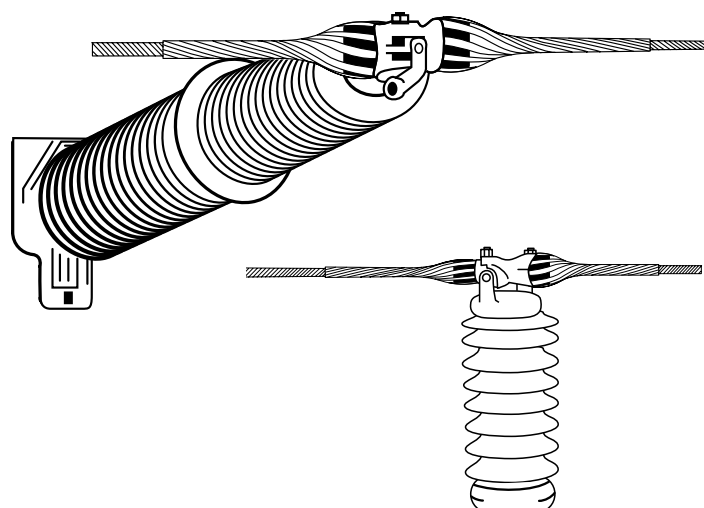
### SUPPORT UNITS

**TNHSP** – Made from Aluminium Alloy and Neoprene inserts for AAC, AAAC & ACSR conductor

Support units offer superior protection to conductors (when compared with Line Guards and Armour Rods) from abrasion, compressive stresses and aeolian vibration. Used in conjunction with clamp top insulators this unit fits directly into the trunion cap.

Consisting of two neoprene cushioned halves, reinforced for enclosing the conductor within an Aluminium rod cage. All this is secured by a two piece Aluminium housing.

Our Helical Support Units permit optimum tensioning of conductors with complete safety. The neoprene supports grip the conductor gently, distributing clamping pressure over a greater area. TNHSP units can accommodate line angles up to 30°.



Cat No.	Conductor (mm O.D.)	Colour	Conductor Names		Pack Quantity
			AAC/AAAC	ACSR	
TNHSP1080	10.80	BLACK	–	MINK	20
TNHSP1125	11.25	BLACK	HELIUM	–	20
TNHSP1350	13.50	GREEN	HYDROGEN	–	20
TNHSP1430	14.30	BLUE	IODINE	DOG	15
TNHSP1625	16.25	ORANGE	KRYPTON	–	15
TNHSP1800	18.10	BLUE	–	WOLF	12
TNHSP1875	18.75	BLACK	NEON	–	10
TNHSP2100	21.00	RED	NITROGEN	COCKROACH	3

\*Compatibility with other conductors on request

## SUSPENSION UNITS

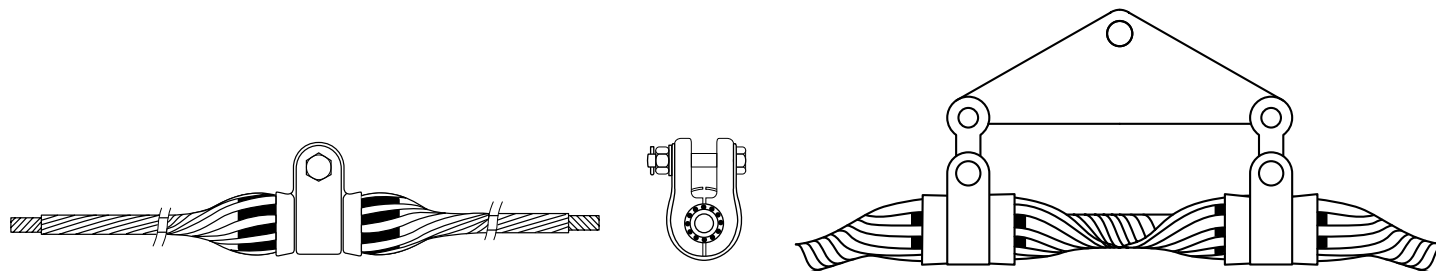
**TNHSA** – Made from Aluminium Alloy with Neoprene inserts for AAC, AAAC & ACSR Conductor

Helical Suspension Units reduce the wear and fatigue on conductors. They reduce static stresses at suspension points and provide greater protection to conductors than Line Guards and Armour Rods.

This range of Helical Suspension Units is good for use on line angles up to and including 30° and, with double units, up to 60°.

### MATERIALS USED IN THIS RANGE

- Bolt and nut – Galvanised steel
- Split pin – Stainless steel, humpback
- Strap – High strength Aluminium Alloy
- Neoprene insert – Aluminium Alloy reinforcement molded into the neoprene



Cat No.	Conductor Range (mm O.D.)	Colour	Conductor Names	
			AAC/AAAC	ACSR
TNHSA0750	7.23–7.79	RED	CHLORINE	–
TNHSA0825	7.70–8.34	BROWN	CHROMIUM	6/1/2.75
TNHSA0900	8.35–9.04	ORANGE	FLUORINE	LADYBIRD / FERRET
TNHSA0975	9.05–9.89	RED	–	KUTU
TNHSA1050	9.90–10.64	ORANGE	FLY	RABBIT
TNHSA1125	10.65–11.44	GREEN	HELIUM	MINK
TNHSA1145	11.45–12.24	WHITE	GRASSHOPPER	PETREL
TNHSA1270	12.25–13.04	BLUE	MOKA	PIDGEON
TNHSA1350	13.05–13.79	GREEN	BEETLE / HYDROGEN	–
TNHSA1430	13.80–14.59	BLUE	IODINE	DOG
TNHSA1460	14.60–15.09	BLUE	BEE	HYENA
TNHSA1510	15.10–15.75	BROWN	–	WAXWING
TNHSA1625	15.76–16.36	ORANGE	NEPTUNE	COYOTE
TNHSA1640	16.40–17.09	ORANGE	WETA	DINGO
TNHSA1750	17.10–17.54	GREEN	LUTETIUM	–
TNHSA1755	17.55–18.04	BLUE	CENTIPEDE	–
TNHSA1800	18.05–18.59	BLUE	–	WOLF
TNHSA1875	18.60–19.09	YELLOW	NEON	–
TNHSA1910	19.10–19.54	WHITE	MATA	JAGUAR
TNHSA2100	20.95–21.49	RED	COCKROACH / NITROGEN	–
TNHSA2270	22.70–23.04	GREEN	NOBELIUM	–
TNHSA2375	23.05–23.84	BLUE	OXYGEN	–



## TIES

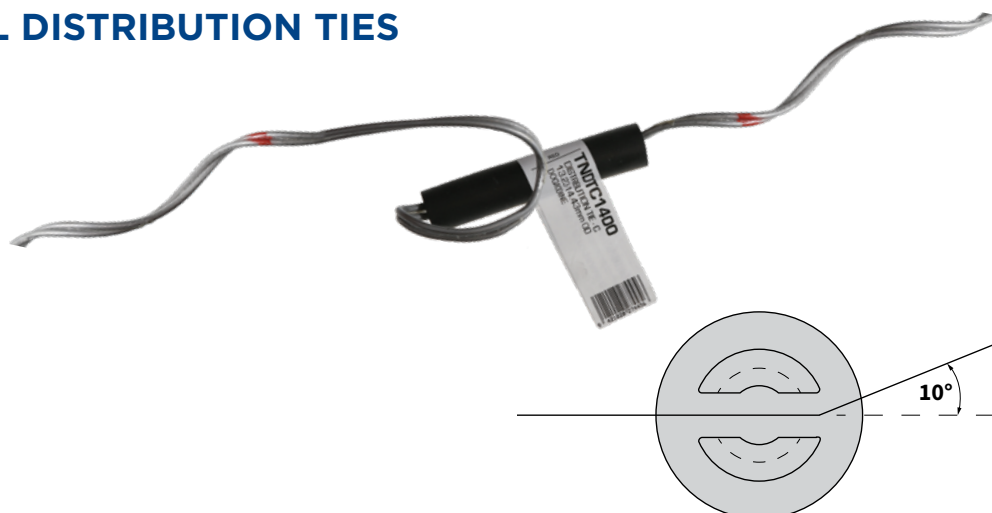
### ALUMINIUM CLAD STEEL DISTRIBUTION TIES

**TNDT** – Made from Aluminium clad Steel for AAC, AAAC & ACSR Conductors

Distribution Ties are designed for securing conductors to the top groove on insulators. The Neoprene pad reduces fatigue and wear on the conductor at the support point (insulator).

Distribution ties are fast and easy to install, they are recommended as an improvement, over Armour Rods.

Allowable deviation of up to 10° from horizontal.



Cat No.	Conductor Range (mm O.D.)	Conductor Names		Pack Quantity
		AAC/AAAC	ACSR	
TNDT(*)0525	4.80–5.49	ARGON	MULLET	30
TNDT(*)0560	5.50–6.24	–	THRUSH	30
TNDT(*)0625	6.25–7.04	BORON / GNAT	SQUIRREL	30
TNDT(*)0750	7.05–7.99	CHLORINE	GOPHER	30
TNDT(*)0900	8.47–9.35	FLUORINE	FERRET	30
TNDT(*)1080	10.59–11.69	HELIUM	MINK	20
TNDT(*)1320	11.70–13.20	GRASSHOPPER / WASP	–	20
TNDT(*)1400	13.25–14.94	HYDROGEN	DOG	20
TNDT(*)1630	14.95–16.99	KRYPTON	–	20
TNDT(*)1675	14.88–16.94	–	DINGO	20
TNDT(*)1880	16.96–19.17	–	NEON	20
TNDT(*)2100	19.20–21.72	COCKROACH	–	30
TNDT(*)2330	21.75–24.58	–	BUTTERFLY	20

**\*Note:** When ordering Distribution Ties, nominate insulator neck diameter and add the correct suffix as follows:  
C = 60mm neck diameter, F = 76mm neck diameter

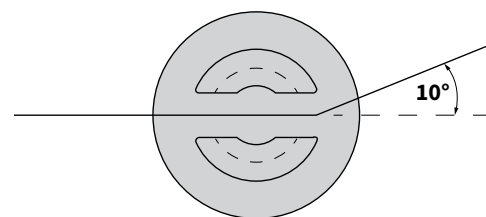
## ALUMINIUM ALLOY DISTRIBUTION TIES - CORROSION ENVIRONMENT

**TNLTC** – Made from Aluminium Alloy for use on Aluminium based conductors in corrosive environments.

Aluminium Alloy Distribution Ties are for use in corrosive environments on aluminium based conductors (AAC/AAAC/ACSR). Suitable for use on ANSI C29 compliant insulators polymer/porcelain with neck sizes both C and F.

Constructed of aluminium alloy wire and designed to hold 320kg of unbalanced load. The entire line of Aluminium Alloy ties adhere to the NESC Standards.

- Quick and easy to install by hand
- Consistent installation – all binding is now equal
- Reacts like the conductor under loading
- Greater resistance to environmental corrosion



Cat No.		Conductor Range (mm O.D.)	Colour	Conductor Names	Pack Quantity
'C' Neck	'F' Neck				
TNLTC-063	TNLTF-063	6.33–6.58	YELLOW	SQUIRREL / NAMU	30
TNLTC-066	TNLTF-066	6.60–6.83	BROWN	BORON / FLOUNDER	30
TNLTC-071	TNLTF-071	7.14–7.39	BLUE	CHLORINE / POKO	30
TNLTC-083	TNLTF-083	8.33–8.64	WHITE	LADYBIRD	30
TNLTC-090	TNLTF-090	8.99–9.32	RED	KUTU / FLUORINE / FERRET	30
TNLTC-100	TNLTF-100	10.03–10.44	PURPLE	FLY / HAKE	30
TNLTC-104	TNLTF-104	10.46–11.10	BLACK	MINK / RANGO	20
TNLTC-111	TNLTF-111	11.13–11.76	BLACK	HELIUM	20
TNLTC-118	TNLTF-118	11.79–12.50	WHITE	RACCOON	20
TNLTC-125	TNLTF-125	12.52–13.26	GREEN	WASP	20
TNLTC-133	TNLTF-133	13.28–14.07	GREEN	HYDROGEN	20
TNLTC-141	TNLTF-141	14.10–15.09	BLUE	DOG / IODINE / WEKE / BEE	20
TNLTC-160	TNLTF-160	16.03–16.87	ORANGE	KRYPTON / CRICKET / WETA / DINGO	20
TNLTC-179	TNLTF-179	17.93–18.97	BLACK	WOLF / NEON / CHAFER	20
TNLTC-190	TNLTF-190	19.00–20.19	BLACK	MATA / JAGUAR	20
TNLTC-202	TNLTF-202	20.22–21.49	RED	COCKROACH / NITROGEN	30
TNLTC-215	TNLTF-215	21.51–22.86	GREEN	NOBELIUM	20
TNLTC-229	TNLTF-229	22.89–24.33	GREEN	BUTTERFLY / OXYGEN	20

## ALUMINIUM ALLOY DISTRIBUTION TIE & ARMOUR ROD ASSEMBLIES

**TNLT** – Made from Aluminium alloy, this assembly consists of suitably designed armour rod and matching tie for specified conductors

Distribution Tie Cat No.	Conductor Range (mm O.D.)	Conductor Names
TNLT(*)-0520-ASSY	4.9–5.2	MULLET
TNLT(*)-0620-ASSY	6.2–6.59	MAGPIE / SQUIRREL
TNLT(*)-0900-ASSY	8.80–9.29	FERRET / FLUORINE
TNLT(*)-1080-ASSY	10.50–11.09	MINK
TNLT(*)-1245-ASSY	12.45–13.24	WASP
TNLT(*)-1430-ASSY	14.00–14.89	IODINE / DOG
TNLT(*)-1590-ASSY	15.40–16.00	COYOTE
TNLT(*)-1665-ASSY	16.65–17.24	WETA

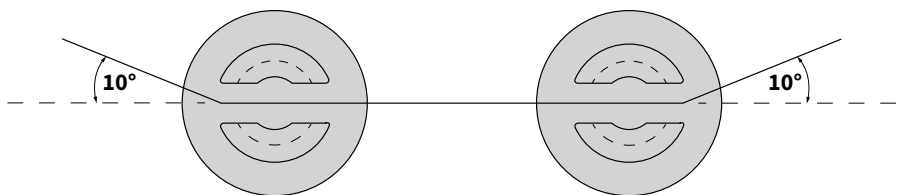
**\*Note:** When ordering Distribution Ties, nominate insulator neck diameter add the correct suffix as follows:  
C = 60mm neck diameter, F = 76mm neck diameter

**Note:** Distribution tie + armour rod sets for other conductors available on request.

## ALUMINIUM ALLOY DOUBLE SUPPORT TIES - CORROSION ENVIRONMENT

**TNDSTCF** – Made from Aluminium Alloy for use with in-line double cross arm arrangements.

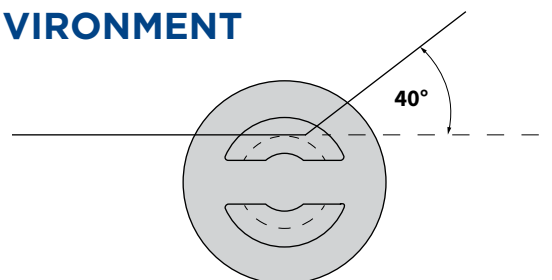
Covers both C & F neck insulators 0-10° deviation per insulator.



Cat No.	Conductor Range (mm O.D.)	Colour	Conductor Names	Pack Quantity
TNDSTCF063	6.33–6.58	YELLOW	SQUIRREL / NAMU	30
TNDSTCF066	6.60–6.83	BROWN	BORON / FLOUNDER	30
TNDSTCF071	7.14–7.39	BLUE	CHLORINE / POKO	30
TNDSTCF083	8.33–8.64	WHITE	LADYBIRD	30
TNDSTCF090	8.99–9.32	RED	KUTU / FLUORINE / FERRET	30
TNDSTCF100	10.03–10.44	PURPLE	FLY / HAKE	30
TNDSTCF104	10.46–11.10	BLACK	MINK / RANGO	20
TNDSTCF111	11.13–11.76	BLACK	HELIUM	20
TNDSTCF118	11.79–12.50	WHITE	RACCOON	20
TNDSTCF125	12.52–13.26	GREEN	WASP	20
TNDSTCF133	13.28–14.07	GREEN	HYDROGEN	20
TNDSTCF141	14.10–15.09	BLUE	DOG / IODINE / WEKE / BEE	20
TNDSTCF160	16.03–16.87	ORANGE	KRYPTON / CRICKET / WETA / DINGO	20
TNDSTCF179	17.93–18.97	BLACK	WOLF / NEON / CHAFER	20
TNDSTCF190	19.00–20.19	BLACK	MATA / JAGUAR	20
TNDSTCF202	20.22–21.49	RED	COCKROACH / NITROGEN	30
TNDSTCF215	21.51–22.86	GREEN	NOBELIUM	20
TNDSTCF229	22.89–24.33	GREEN	BUTTERFLY / OXYGEN	20

## ALUMINIUM ALLOY SIDE TIES - CORROSION ENVIRONMENT

**TNST** – Made from Aluminium Alloy for use on single insulator applications. Deviations of 40° maximum from horizontal either side.



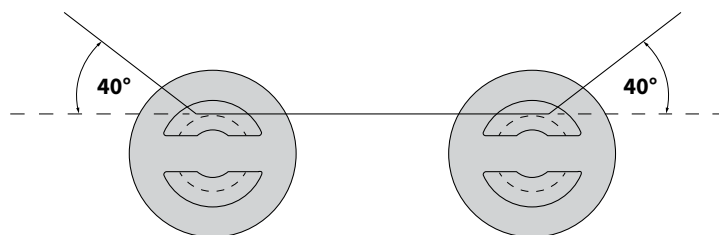
Cat No.	Conductor Range (mm O.D.)	Colour	Conductor Names	Pack Quantity
TNSTC-0625-AL	6.22–7.03	YELLOW	SQUIRREL / NAMU / FLOUNDER / BORON	20
TNSTC-0675-AL	7.06–8.00	BROWN	POKO / CHLORINE	20
TNSTC-0790-AL	8.03–8.99	WHITE	LADYBIRD / CHROMIUM	20
TNSTC-0900-AL	9.00–10.29	RED	FLY / KUTU / FERRET / FLUORINE	20
TNSTC-1080-AL	10.31–11.65	BLACK	HAKE / MINK / HELIUM / RANGO	20
TNSTC-1168-AL	11.68–13.20	WHITE	RACCOON / WASP	20
TNSTC-1430-AL	13.23–14.94	BLUE	HYDROGEN / WEKE / IODINE / DOG	20
TNSTC-1625-AL	14.96–16.94	ORANGE	KRYPTON / DINGO / CRICKET / WETA	20
TNSTC-1880-AL	16.97–19.18	BLACK	NEON / CHAFER	15
TNSTC-2100-AL	19.20–21.72	BLACK	MATA / JAGUAR / NITROGEN / COCKROACH	10
TNSTC-2330-AL	21.72–24.59	GREEN	BUTTERFLY / NOBELIUM / OXYGEN	10



## ALUMINIUM CLAD STEEL DOUBLE SIDE TIES

**TNDBST** – Made from Aluminium Clad Steel for use in double cross arm arrangements. Allowable deviation of 0-40° per insulator.

Covers both C & F neck insulators 0-40° deviation per insulator



Cat No.	Conductor Range (mm O.D.)	Colour	Conductor	Pack Quantity
TNDBST0625	6.22–7.03	YELLOW	SQUIRREL / NAMU / FLOUNDER / BORON	20
TNDBST0675	7.06–8.00	BROWN	POKO / CHLORINE	20
TNDBST0790	8.03–8.99	WHITE	LADYBIRD / CHROMIUM	20
TNDBST0900	9.00–10.29	RED	KUTU / FERRET / FLUORINE	20
TNDBST1080	10.31–11.65	BLACK	MINK / HELIUM / RANGO	20
TNDBST1168	11.68–13.20	WHITE	RACCOON / WASP	20
TNDBST1430	13.23–14.94	BLUE	HYDROGEN / WEKE / IODINE / DOG	20
TNDBST1625	14.96–16.94	ORANGE	KRYPTON / DINGO / CRICKET / WETA	20
TNDBST1880	16.97–19.18	BLACK	NEON / CHAFER	15
TNDBST2100	19.20–21.72	BLACK	MATA / JAGUAR / NITROGEN / COCKROACH	10
TNDBST2330	21.72–24.59	GREEN	BUTTERFLY / NOBELIUM / OXYGEN	10

## VIBRATION DAMPERS

### SPIRAL VIBRATION DAMPERS

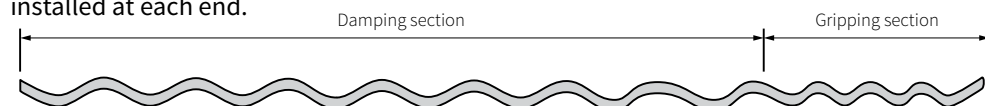


**TNSVD** – For all AAC, AAAC, ACSR, Copper, SC/AC & SC/GZ conductor. Made from high impact, UV stable PVC rod.

Spiral Vibration Dampers were designed to reduce aeolian vibration in conductors, generated by the wind.

The gripping part of the SVD should be

installed about 100–120mm away from other fittings. One SVD at each end of a span is adequate unless spans exceed 245m, where it is recommended two are installed at each end.



Cat No.	Conductor Range (mm O.D.)	Colour	Pack Quantity
TNSVD0441	4.42–6.34	RED	25
TNSVD0635	6.35–8.30	BLUE	25
TNSVD0830	8.31–11.72	WHITE	25
TNSVD1173	11.73–14.32	YELLOW	25
TNSVD1432	14.33–19.30	GREEN	10

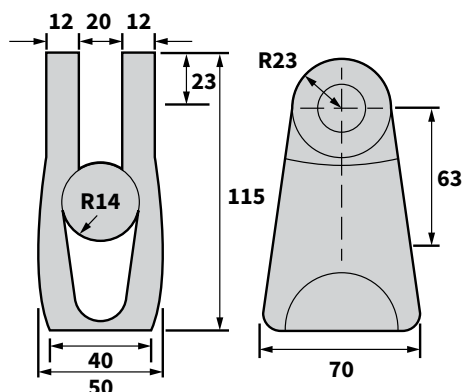
## ACCESSORIES

Clevis Thimbles and Socket Thimbles are designed for use with TransNet Helical fittings. Other thimbles are available on request, please contact customer service if you require a special model.

### CLEVIS THIMBLES

#### CAT # CAB750 – ALUMINIUM CLEVIS 70KN

For use with Aluminium and Aluminium clad Steel Deadends up to 15mm.



#### MATERIALS

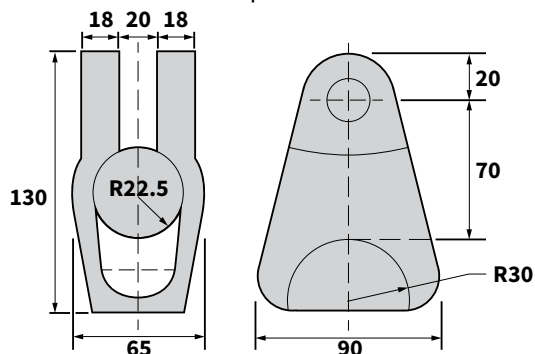
The TransNet range of Thimbles are made from high quality Aluminium Alloy or Galvanised MCI castings.



#### CAT # CAB950 – ALUMINIUM CLEVIS 70KN

For use with Aluminium and Aluminium clad Steel Deadends 15mm and larger.

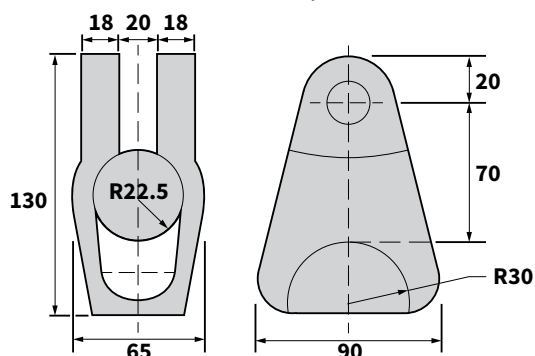
Comes with Pin and Split Pin



#### CAT # CAB950A – ALUMINIUM CLEVIS 70KN

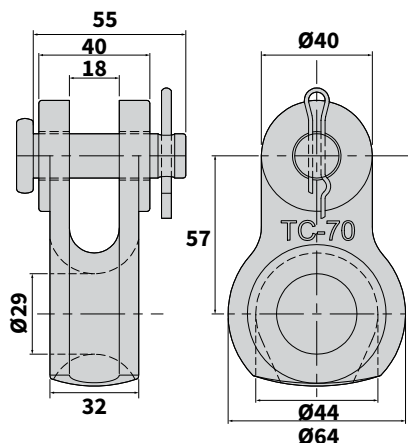
For use with Aluminium and Aluminium clad Steel Deadends 15mm and larger.

Comes with Bolt/Nut and Split Pin



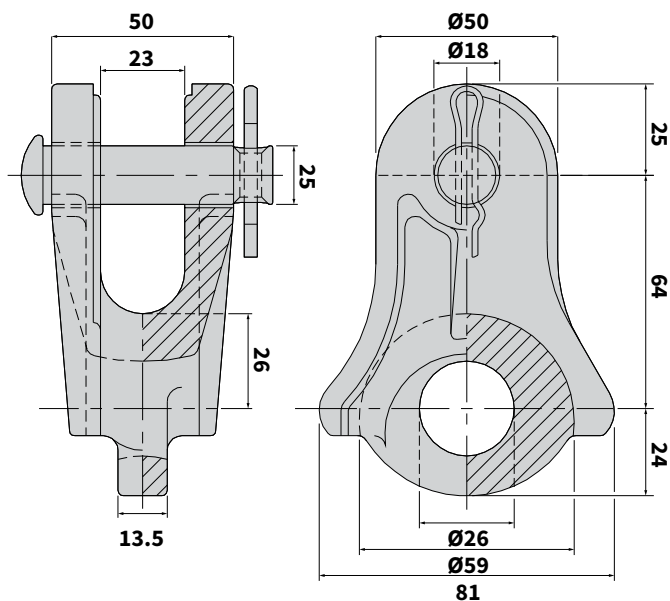
## CAT # 0-0361400-5 - GALVANISED IRON CLEVIS 70KN

For use with Copper, Copper clad Steel and Steel  
Deadends up to 15mm. Also known as CAC438Q



## CAT # 0-0361412-8 - ALUMINIUM CLEVIS 70 KN

For use with Aluminium and Aluminium clad Steel  
Deadends up to 10mm. Also known as 11CT-88B



## SOCKET THIMBLES

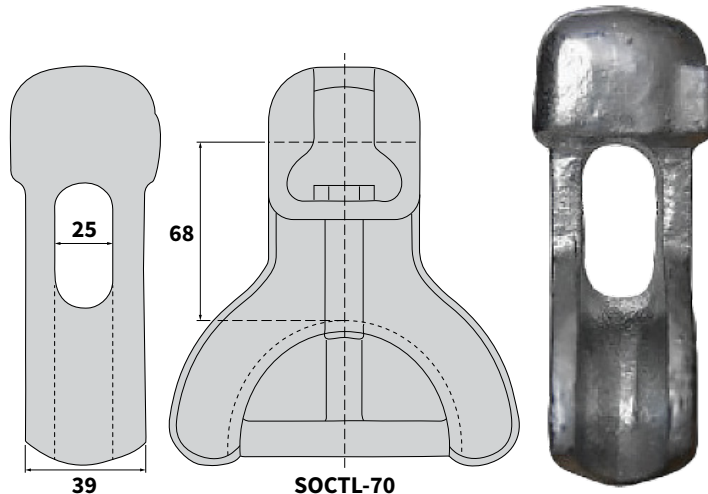
### MATERIAL

Body: Galvanised Ductile Iron

Stainless Steel retaining clip

The socket dimensions are in accordance with AS1154.1:2009

Cat No.	Clip Type	Minimum Failing Load (kN)	Socket Dimension (mm)	Approx. Weight (kg)
TNSOCT70	R	70	16	0.9
SOCTL-70	W	70	16	1.1



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<b>184</b>	Pre-Insulated Compression Lugs - Bimetal
<b>184</b>	Pre-Insulated Full Tension Compression Sleeve
<b>185</b>	IPCs - Insulation Piercing Connectors
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<b>192</b>	Swivel
<b>192</b>	ABC Wire Grip



# ABC CONNECTORS

## PRE-INSULATED COMPRESSION CONNECTORS - LUGS & LINKS

Pre-insulated compression connectors include both lugs and links.

Pre-insulated links are used to make an electrical joint between two aerial bundled conductors. Our range is designed for full tension applications but of course they can be used in non tension applications. There are other links available on request for both non and full tension applications.

Pre-insulated lugs are used to terminate aerial bundled conductors onto switchgear, busbars or isolators. The range we

stock is for bimetallic applications, there are other bimetallic or aluminium lugs available on request.

### FEATURES

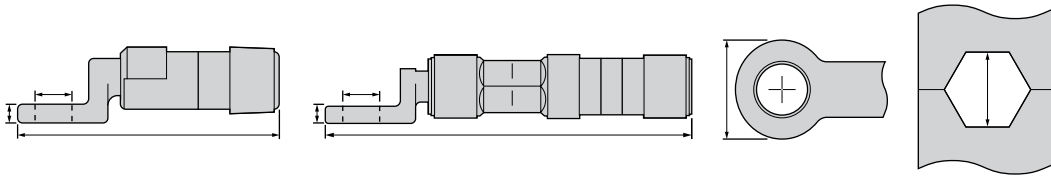
- Totally insulated and waterproof
- Colour coded to easily identify applicable cable size
- Labelled with cable size, die size, strip length and locations of crimps
- Permanently engraved with traceability data

## PRE-INSULATED COMPRESSION LUGS - BIMETAL

### INSTALLATION

Crimping:

- Use a tool equipped with a suitable hexagonal die: E140 (14mm), E173 (17.3mm) or E215 (21.5mm)
- Crimp in the indicated area starting from the centre and going towards the end of the lug



Cat No.	Conductor Size (mm <sup>2</sup> )	Palm Size (mm O.D.)	End Cap Colour	Dies	A/F (mm)
TNABCICL25	25	20	ORANGE	E140	14
TNABCICL35	35	25	RED	E173	17.3
TNABCICL50	50	25	YELLOW	E173	17.3
TNABCICL70	70	25	WHITE	E173	17.3
TNABCICL95	95	25	GREY	E173	17.3
TNABCICL120	120	25	PINK	E215	21.5

## PRE-INSULATED FULL TENSION COMPRESSION SLEEVE



Cat No.	Conductor Size (mm <sup>2</sup> )	Connector Dia (mm)	End Cap Colour	Dies	A/F (mm)
TNABCFTCS25	25	20	ORANGE	E173	17.3
TNABCFTCS35	35	20	RED	E173	17.3
TNABCFTCS50	50	20	YELLOW	E173	17.3
TNABCFTCS70	70	20	WHITE	E173	17.3
TNABCFTCS95	95	20	GREY	E215	21.5
TNABCFTCS120	120	25	PINK	E215	21.5



## IPCS - INSULATION PIERCING CONNECTORS

All our IPC connectors have tinned copper teeth so are suited to both Aluminium and Copper conductor (unless otherwise stated). These connectors are range taking and therefore reduce inventory requirements.

### FEATURES

- Tinned Copper teeth for Al/Cu application
- Insulated to Insulated & Insulated to Bare connectors available
- Shearhead bolt, snaps when correct connection torque is reached
- Application tool: IRW13/17 for 13mm O.D. Shearbolts (or 13mm socket)



0-0739523-3

IRW13/17

Cat No.	Name	Mains Cable		Branch Cable		Notes	Installation Bolt Size A/F
		Conductor Size	Conductor Type	Conductor Size	Conductor Type		
K258	-	7-95 MM <sup>2</sup>	BARE	6-35 MM <sup>2</sup>	INSULATED	BARE COPPER MAIN	13MM
K259	-	7-95 MM <sup>2</sup>	BARE	6-35 MM <sup>2</sup>	INSULATED	BARE ALUMINIUM MAIN	13MM
K223NZ	-	16-95 MM <sup>2</sup>	INSULATED	1.5-10 MM <sup>2</sup>	INSULATED	FUSED IPC	13MM
0-1727912-3	KZEP13	16-95 MM <sup>2</sup>	INSULATED	1.5-10 MM <sup>2</sup>	INSULATED	ALUMINIUM & COPPER	13MM
0-1510619-3	P2X95US	16-95 MM <sup>2</sup>	INSULATED	4-35 MM <sup>2</sup>	INSULATED	ALUMINIUM & COPPER	13MM
K473	-	25-95 MM <sup>2</sup>	INSULATED	10-95 MM <sup>2</sup>	BARE	COPPER BRANCH	17MM
0-1574150-1	P3X95	25-95 MM <sup>2</sup>	INSULATED	25-95 MM <sup>2</sup>	INSULATED	ALUMINIUM & COPPER	13MM
0-0708030-1	CDR/CN	25-100 MM <sup>2</sup>	BARE	25-95 MM <sup>2</sup>	INSULATED	ALUMINIUM & COPPER	13MM
K472	-	35-95 MM <sup>2</sup>	INSULATED	10-95 MM <sup>2</sup>	BARE	ALUMINIUM BRANCH	17MM
1351230-2	KZ4-150	50-150 MM <sup>2</sup>	INSULATED	50-150 MM <sup>2</sup>	INSULATED	ALUMINIUM & COPPER	13MM
0-1229731-2	KZ2-150	50-150 MM <sup>2</sup>	INSULATED	6-35 MM <sup>2</sup>	INSULATED	ALUMINIUM & COPPER	13MM
1350329-1	P2G-300M	50-300 MM <sup>2</sup>	INSULATED	6-35 MM <sup>2</sup>	INSULATED	ALUMINIUM & COPPER	13MM
0-0739523-3	PUSH ON CONDUCTOR END CAP 16-150 MM <sup>2</sup>						
IRW13/17	1000V INSULATED RATCHET SPANNER, 13 MM & 17 MM SOCKETS						

## END CAPS

### PUSH ON END CAP FOR ABC TAILS

TE push on end caps are pre-molded and reusable. To install, they are simply pushed on to the conductor free end. These end caps are made of thermoplastic or EPDM material and are UV-resistant offering a waterproof seal.

### FEATURES

- Will fit conductors from 6 - 150mm<sup>2</sup> (depending on the range chosen)
- Can be removed and installed as required
- No tools required for installation
- Offers 100% moisture proof seal for conductor end



Cat No.	Descriptive Code	Type	Size Range (mm <sup>2</sup> )
0-0719102-1	CECT6-35	MOLDED END CAP, BLACK, UV RESISTANT THERMOPLASTIC	6-35
0-0739523-3	CECT16-150		16-150
0-0711395-1	CAP35	MOLDED END CAP, BLACK, UV RESISTANT EPDM	16-25
0-0711397-1	CAP45		35-150

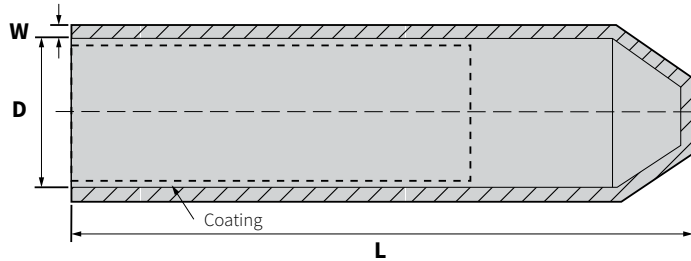
## END CAPS - NON-VALVED HEATSHRINKABLE CABLE END CAPS

Raychem Cable Caps shrink when heated to tightly fit a range of cable sizes and constructions. At the same time a special sealant also melts and flows under the shrinking action, gripping the cable and ensuring a high-integrity moisture seal.

Our advances in materials science ensure that these crosslinked halogen-free polymer products also provide high quality electrical insulation while at the same time resisting abrasion, weathering, and chemical attack.

### FEATURES

- Environmental sealing of all cable types
- Resistant to corrosion and decay
- Caps for pressurised and live sealing are available
- Operating temperature range -40°C to 120°C
- Inner adhesive wall
- Sealant lined



Cat No.	Application Range (mm)	Inside Diameter D (mm)		Length L (mm) (B) +15/-10%	Wall Thickness W (mm) (B) ± 20%
		Min A	Max B		
102L011-R05/S	4.0–8.0	10	4	38	2.0
102L022/S	8.0–17.0	20	7.5	55	2.3
102L033/S	17.0–30.0	35	15	90	3.0
102L044/S	30.0–45.0	55	25	143	3.3
102L048/S	45.0–65.0	75	32	150	3.3
102L055/S	65.0–95.0	100	45	162	3.8
102L066/S	95.0–115.0	120	70	145	3.8

**Note:** A = as supplied, B = after heating

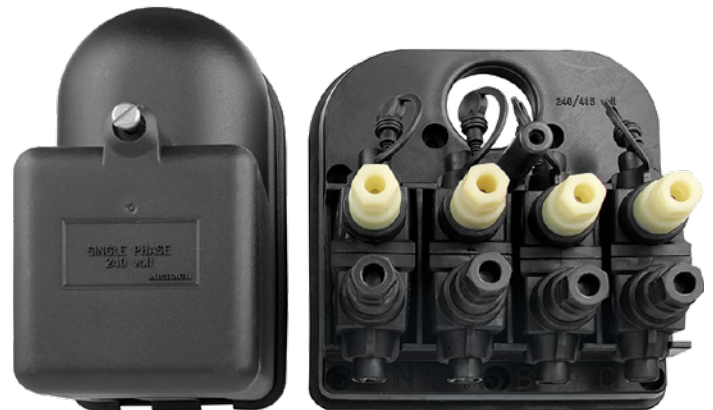
## HOUSE CONNECTION

### MAINS ENTRY BOX

The mains entry box is mounted on the fascia of the building and incorporates fully insulated removable connectors to connect both the aerial service cable and the customer's cable.

Available in single and three phase options they accommodate supply conductors, from 6-35mm<sup>2</sup> and customer conductors from 4-35mm<sup>2</sup>.

- 13mm socket/spanner for install & removal

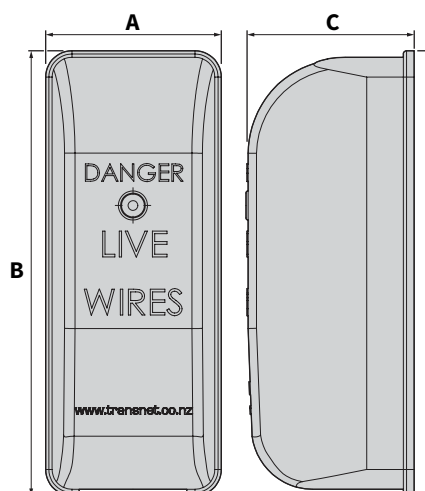


Cat No.	Description
K453	SINGLE PHASE MAINS ENTRY BOX WITH 2 CONNECTORS, 1 × PH + 1 × NEUTRAL
K457	THREE PHASE MAINS ENTRY BOX WITH 4 CONNECTORS, 3 × PH + 1 × NEUTRAL

## TRANSNET MAINS ENTRY BOX

### FEATURES

- Made of UV stable plastic that won't shatter
- Shear bolt connectors for perfect connection every time
- Safer – No bare live parts
- Main cable supported by gland in gland plate
- Strip length clearly outlined on connector body
- Make off connectors outside enclosure, saves time & effort
- Electrical test points and test point caps built into connector bolt for ease of testing
- Captive Stainless Steel cover screw
- Insulated bimetallic connectors will terminate AL/CU cables, 4mm<sup>2</sup>-35mm<sup>2</sup> range
- Tested to meet the requirements of AS/NZS 3820:2009 +A1



The two and three phase products are housed in the same enclosure, the two phase unit will come complete with three connectors while the three phase will come with four connectors.

Cat No.	No. of Phases	Dimensions (mm)			Tool
		A	B	C	
TNMEB1PH	1	81.5	206.5	77.0	13MM SPANNER/ SOCKET
TNMEB2PH	2	146.5	246.5	87.0	
TNMEB3PH	3				

## HOUSE HOOK

Galvanised Steel threaded hook, used as an anchor point for securing LV shackle insulators. Simple to install and remove.

Cat No	Dimensions
HOUSEHOOK	175MM × 25MM I.D.



## SERVICE CLAMPS

### MATERIAL

Body: Glass Filled Nylon

Straps: Stainless Steel

Cat No.	Cable Size (mm <sup>2</sup> ) AS3560
SCH6/35	2 & 4 CORE 6–35MM <sup>2</sup>
0-708046-3	SINGLE CABLE, 9–17MM OD
0-708018-1	SINGLE CABLE, 18–25MM OD



# NETWORK CONNECTION

## STRAIN CLAMPS

LV Termination clamps for ABC cable are available with a range of cable size capabilities. All clamps accommodate 2 core or 4 core cable making them the versatile choice. Use for the termination of LVABC 2 core\* x 25mm<sup>2</sup> to 4 core 150mm<sup>2</sup>.

### MATERIAL

Wedges: Glass Filled Nylon

Hardware: Galvanised Steel

Straps: Aluminium or Galvanised Steel (depending on model)

### FEATURES

- Tested to AS3766
- Removable clevis pin
- Bolted full tension clamp for LVABC



Cat No.	Strap Material	Cable Size (mm <sup>2</sup> )	Rated Voltage (kV)	Rated Tension** (kN)
TNABCSC4/25-50	ALUMINIUM	2 & 4 CORE, 25-50	<1	8
TNABCSC4/50-95	ALUMINIUM	2 & 4 CORE, 50-95		15
TNABCSC4/95-150	ALUMINIUM	2 & 4 CORE, 95-150		23
TNABCSC4/95	GALVANISED STEEL	2 & 4 CORE, 25-120		19

\*Use fillers if only 2 cores are utilised

\*\*Rated tension at largest cable diameter

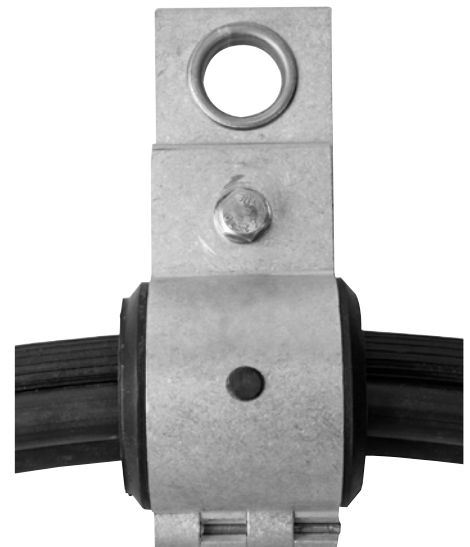
## SUSPENSION CLAMPS

LV suspension clamps for ABC cable are available with a range of cable size capabilities. Some can accommodate 2 and 3 core cables as well as 4 core cables. Use for suspension of LVABC 25mm<sup>2</sup> to 150mm<sup>2</sup>.

### FEATURES

- Aluminium Alloy body with Stainless Steel hardware
- UV resistant Elastomer bushing
- Suitable for up to 30° line deviation
- For line deviation of 30° to 60° use with TNABC2XSUSBRKT (p. 189)
- Stainless Steel wear ring to protect suspension eyelet
- Tested to AS 3766-1990

Cat No.	Diameter of circumscribing circle over laid-up cable cores (mm)	Cable Size (mm <sup>2</sup> )		
		2 Core	3 Core	4 Core
TNABCSPC4/35	22-27	50	50	35
TNABCSPC4/50	31-33	-	-	50
TNABCSPC4/70	30-37	95	-	70
TNABCSPC4/95	37-40	-	-	95
TNABCSPC4/150	43-47	-	-	150



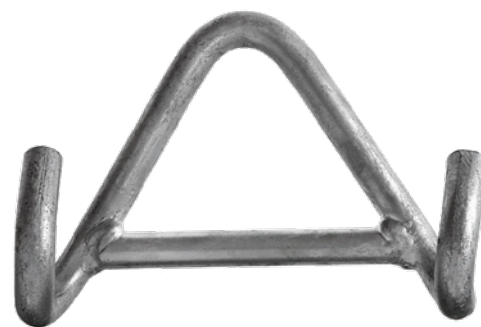
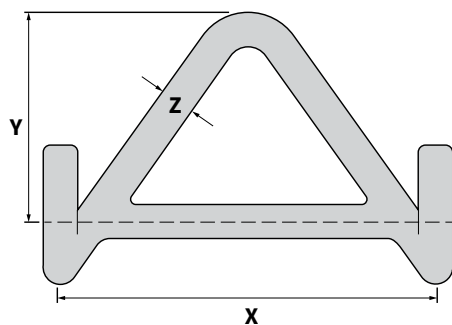


## DOUBLE SUSPENSION YOKE BRACKET

The yoke bar is suitable for use with two of the TNABCSC style clamps on angle poles, where the line angle deviates by more than 30°.

### MATERIAL

Galvanised Steel

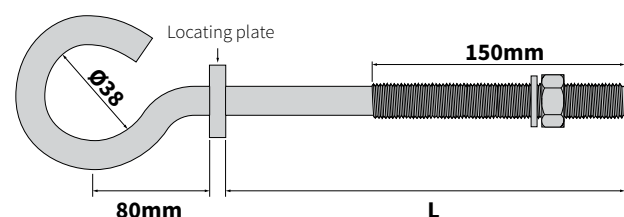


Cat No.	Dimensions (mm)			Minimum Failing Load (kN)
	Z	Y	X	
TNABC2XSUSBRKT	16	105	195	12

## HOOK BOLTS

### MATERIAL

Galvanised Steel

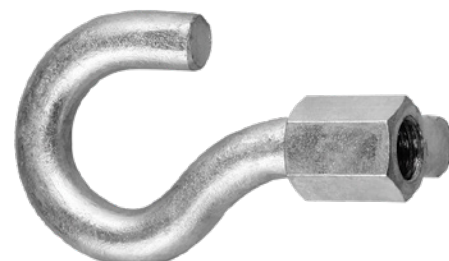


Cat No.		Length L (mm)
DIAMETER 16mm (AS3766)	DIAMETER 20mm (AS3766)	
TNABCHBM16X250	TNABCHBM20X250	250
TNABCHBM16X325	TNABCHBM20X325	325
TNABCHBM16X350	TNABCHBM20X350	350
TNABCHBM16X400	TNABCHBM20X400	400
TNABCHBM16X450	TNABCHBM20X450	450

## HOOK NUTS

### MATERIAL

Galvanised Steel



Cat No.	Thread Size	Dia. of Eye Material (mm)	Failing Load (kN)
TNABCHNM16	M16	16	12
TNABCHNM20	M20	20	24



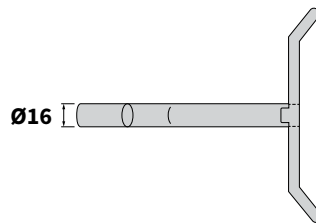
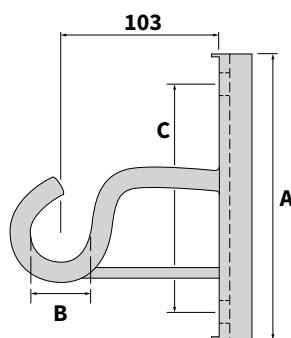
## HOOK BRACKETS

The hook bracket can be fixed to concrete or steel poles with stainless steel strapping.

The hook bracket can be fixed to wooden poles with bolts or coach screws

### MATERIAL

Galvanised Steel

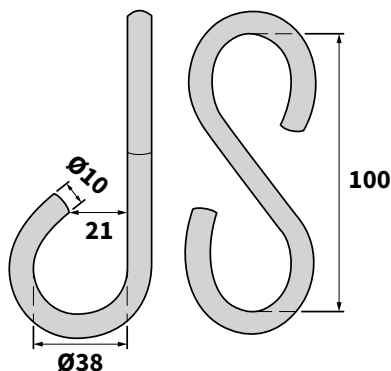


Cat No.	A (mm)	Hole Centres B (mm)	Diameter of Hook C (mm)	Minimum Failing Load (kN) AS3766
TNABCHBR-12KN	200	150	16	12

## WEAK LINKS

### MATERIAL

Carbon Grade Galvanised Steel

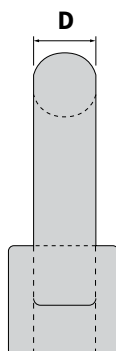


Cat No.	Diameter (mm)	Minimum Failing Load (kN)	Overall Length (mm)	Material Diameter (mm)
TNABCWL-4KN	38	4	100	10
TNABCWL-8KN	38	8	100	12

## EYE NUTS

### MATERIAL

Galvanised Steel



Cat No.	Thread Diameter (mm) AS3766	Thread Length (mm) AS3766	Eye D (mm) AS3766	Minimum Failing Load (kN)
TNABCEN-16	16	30	12	44
TNABCEN-20	20	40	16	70
TNABCEN-2020	20	40	20	120
TNABCEN-24	24	45	20	120



## ABC TOOLS

### LV ABC WEDGES

During the installation of connectors the phase conductors of an insulated overhead cable can be separated by using wedges. The wedge can also be used when installing suspension clamps. The wedges can be left on the cable even after the installation.



Cat No.	Description	Weight (g)	Package (pcs)
PHS	TWO PLASTIC WEDGES	100	10

### ABC INSTALLATION PULLEY

- Maximum load is 250kg
- Provides clear working space for field staff
- No lifting of cables required, simply pull them through the pulley and terminate into suspension clamp



Cat No.	Description
PO	INSTALLATION PULLEY UP TO 250KG, 4C 25 – 4C 150MM <sup>2</sup>

### ABC PULLING SOCK

- Nylon stranding, Alloy ferrule and soft eye
- For use on 4 x 95mm<sup>2</sup> ABC
- Grip length is approximately 800mm
- Maximum pull is approximately 25kN



Cat No.	Description
LV495	PULLING SOCK 4C 95MM <sup>2</sup> ABC

## INSULATED RATCHET SPANNER

- For use with all shear bolt connectors (IPCs and Fuse Carriers)
- 13mm and 17mm A/F sockets in one spanner
- Reversible ratchet
- Fits stainless steel nuts used in strain and suspension clamps
- Fixed sockets that can not be lost or dropped during installation
- 1000V insulated for added user safety
- 6 sided hex sockets protect integrity of plastic bolt heads



Cat No.	Description
IRW13/17	INSULATED RATCHET SPANNER 13 & 17MM SOCKETS

## SWIVEL

- For use with pulling socks to eliminate twist
- 1.5T safe working load
- Length 125mm
- Diameter 40mm



Cat No.	Description
SWIVEL	1.5T SWIVEL

## ABC WIRE GRIP

- Jaw size 190mm
- Minimum cable size 4x35mm<sup>2</sup>
- Maximum cable size 4x95mm<sup>2</sup>
- Weight 3kg



Cat No.	Jaw Length (mm)	Min Cable Diameter (mm <sup>2</sup> )	Max Cable Diameter (mm <sup>2</sup> )	Weight (kg)
TNABC-GRIP	190	4 × 35	4 × 95	3

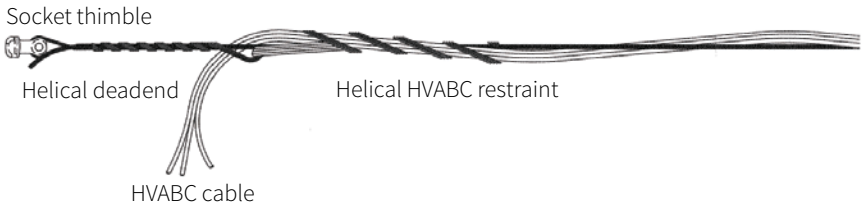
PAGE	CATEGORY
194	<b>HV ABC RESTRAINTS</b>
194	Helical Bundle Restraints
PAGE	<b>HV ABC SUSPENSION SET UP</b>
194	HV ABC Typical Suspension Assembly
195	Suspension Bracket & Hook Bolt
195	Suspension Clamps
PAGE	<b>HV ABC STRINGING EQUIPMENT</b>
196	HV ABC Yokebar & Rat Strap
196	ABC Installation Pulley
197	Swivels
197	Cable Pulling Socks - Double Eye
197	Cable Pulling Socks - Single Eye





HV ABC RESTRAINTS  
 HELICAL BUNDLE RESTRAINTS

The Helical restraint is a preventative restraint designed to minimise bird caging.  
  
 Bird caging is caused by either gravity forces pulling on the conductor or as a result of a fault current.



Cat No.	11kV Non Metallic Screened (mm <sup>2</sup> )	22kV Non Metallic Screened (mm <sup>2</sup> )
TNHR35-50	35 & 50	-
TNHR70	70	35
TNHR95	95	50
TNHR70-95	-	70 & 95
TNHR120-150	120 & 150	-
TNHR185	185	-
TNHR120-150L	-	120 & 150
TNHR185L	-	185

HV ABC SUSPENSION SET UP  
 HV ABC TYPICAL SUSPENSION ASSEMBLY



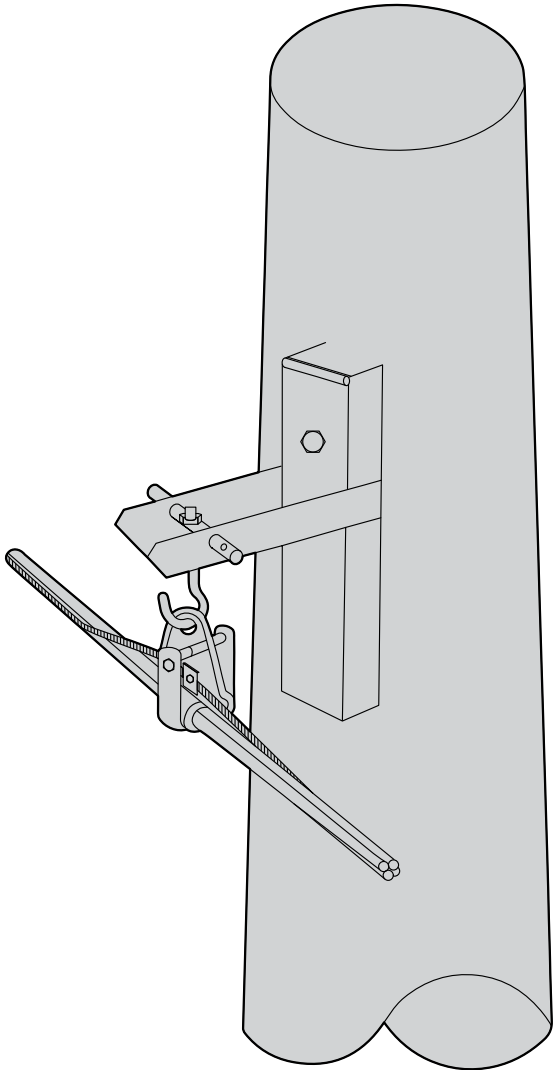
Suspension Hook Bolt



Suspension Clamp

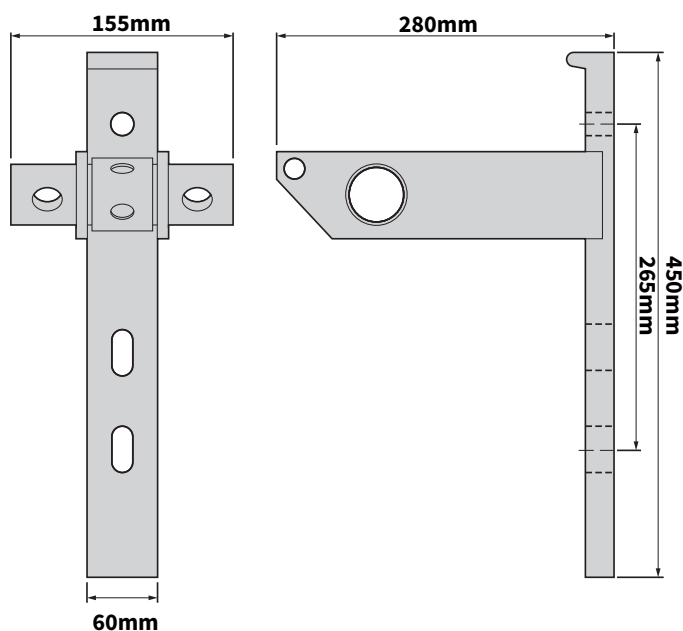


Suspension Bracket





## SUSPENSION BRACKET & HOOK BOLT



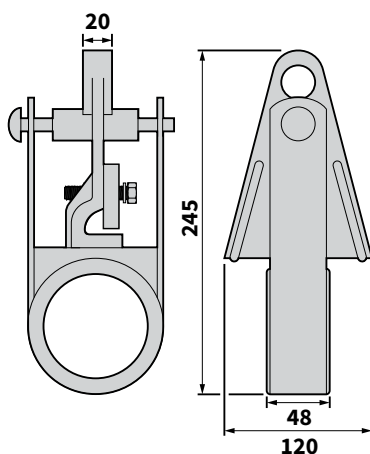
**TNSB10312**  
Suspension Bracket



## SUSPENSION CLAMPS

The suspension clamp is suitable for use on High Voltage ABC cables. Whether the cables are metallic or non metallic screened.

It is suitable for up to 45° line deviation.

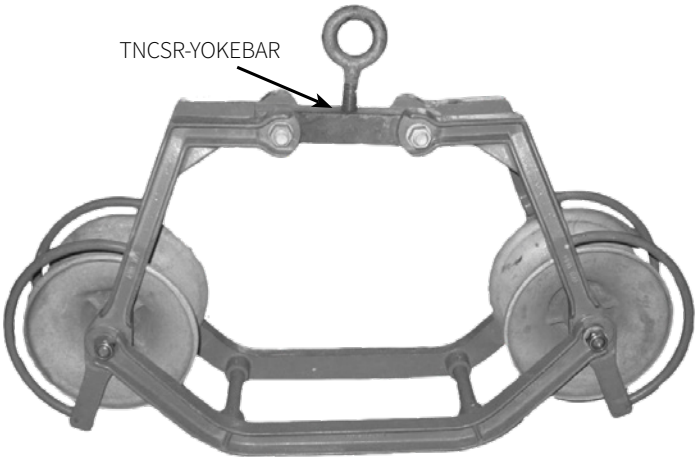


Cat No.	11kV Metallic Screened (mm <sup>2</sup> )	22kV Metallic Screened (mm <sup>2</sup> )	11kV Non Metallic Screened (mm <sup>2</sup> )	22kV Non Metallic Screened (mm <sup>2</sup> )
TNABCHVMSC-35	35	-	-	-
TNABCHVMSC-50	50	-	-	-
TNABCHVMSC-70	70	35	-	-
TNABCHVMSC-95	95 & 120	50	-	-
TNABCHVMSC-150	150	70 & 95	-	-
TNABCHVMSC-185	185	120	-	-
TNABCHVMSC-150L	-	150	-	-
TNABCHVMSC-185L	-	185	-	-
TNABCHVNMSC-35	-	-	35 & 50	-
TNABCHVNMSC-70	-	-	70	-
TNABCHVNMSC-95	-	-	95 & 120	35 & 50
TNABCHVNMSC-150	-	-	150	70
TNABCHVNMSC-185	-	-	185	95 & 120
TNABCHVNMSC-150L	-	-	-	150
TNABCHVNMSC-185L	-	-	-	185



HV ABC STRINGING EQUIPMENT  
 HV ABC YOKEBAR & RAT STRAP

Cat No.	Approx. Weight (kg)
CTNCSR-HVABC	9
CSR-YOKEBAR	3.5



Cat No.	Approx. Weight (kg)
TNRAT-STRAP	1.3



ABC INSTALLATION PULLEY

- Maximum load is 250kg
- Provides clear working space for field staff
- No lifting of cables required, simply pull them through the pulley and terminate into suspension clamp

Cat No.	Description
PO	INSTALLATION PULLEY UP TO 250KG





## SWIVELS

Cat No.	Safe Working Load
TNSWI-22	1 TON
TNSWI-33	2 TON



Image may differ from product supplied

## CABLE PULLING SOCKS - DOUBLE EYE

Cat No.	To Fit 11kV HV ABC (mm <sup>2</sup> )
TNHV335-NMS-11	35
TNHV350-NMS-11	50
TNHV370-NMS-11	70
TNHV395-NMS-11	95
TNHV3120-NMS-11	120
TNHV3185-NMS-11	185



## CABLE PULLING SOCKS - SINGLE EYE

Cat No.	To Fit Catenary HV ABC
TNHV-C1010	19/2.00 SC/GZ
TNHV-C1012	7/4.75 AAAC
TNHV-C1014	19/3.50 AAAC





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200	ECOBLOCK
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201	Galvanised Stay Wire
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202	Open Guy Thimbles
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203	Cross Arm Braces
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208	Ball Eye Links
209	Ball Eye Extension Links
209	Ball Clevis
210	Ball Y-Clevis
210	Y Clevis Tongue - Twisted
210	Socket Clevis
211	Socket Clevis Extension Links
211	Socket Tongues
212	Twisted Eye Tongues
212	Clevis Tongues
213	Twisted Clevis Tongues
213	Clevis Thimbles
215	Socket Thimbles
215	Double Cross Arm Spreader Bolts
215	Chain Links
216	Shackle Straps
217	Saglinks
217	Yoke Plates
217	Maintenance Tension Links
218	Suspension & Strain Clamps - Aluminium & Cast Iron
219	VIBRATION DAMPERS
222	NON TRACKING SPREADER ROD & CONDUCTOR PROTECTOR CLIP
222	OVERHEAD LINE WARNING MARKERS





# STAY HARDWARE

## ECOBLOCK

The old saying 'If it ain't broke don't fix it' obviously doesn't apply. Concrete Pole Blocks have always broken and every useless block carries a cost. Maybe everyone just took the heavy, unstable, fragile blocks for granted. Don't ask why it took so long. TransNet took a look at the issue and came up with a blindingly simple idea for a replacement that has all the strength, better performance and at a fraction of the weight of concrete.

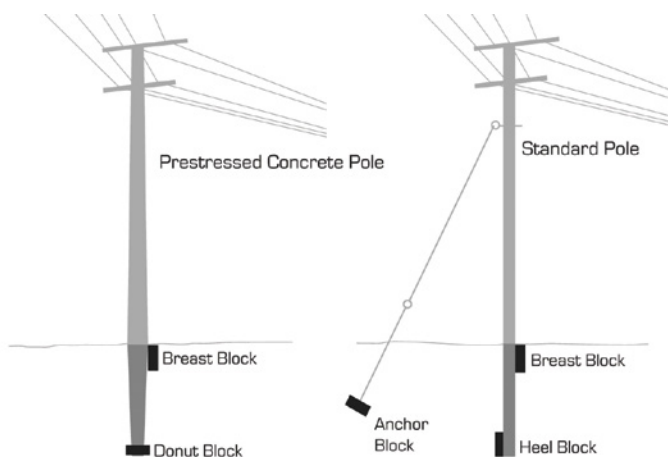
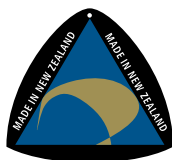
Your average existing Heel Block weighs around 34kg. You don't want

to drop one on your foot. TransNet's version weighs 5kg. The larger Breast Block weighs a mere 14kg. Think of the benefits in transport and handling as well as the ease on your back.

Under stress testing at Industrial Research Ltd. Concrete crumbled fairly easily but the plastic blocks continued to resist. All ECOBlocks are certified, proven performers manufactured from Rotathene 6329 harm free to the environment throughout their long life.

### KEY FEATURES

- Light weight for easy handling and installation
- Install to stabilise power pole and prevent movement over time due to pull from wire cables
- IRL certified performance
- Made of repurposed Rotathene 6329 Ultra UV heavy duty plastic
- New Zealand made



BB600



BB900



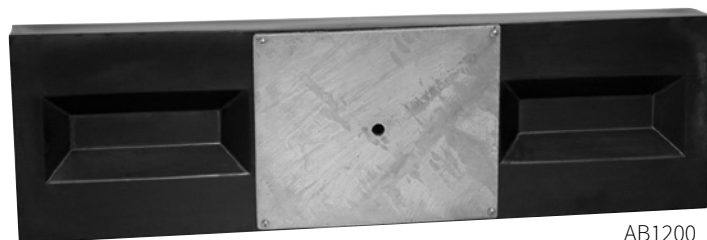
BB1200



HBDNUT480 &amp; HBDNUT430



HB450



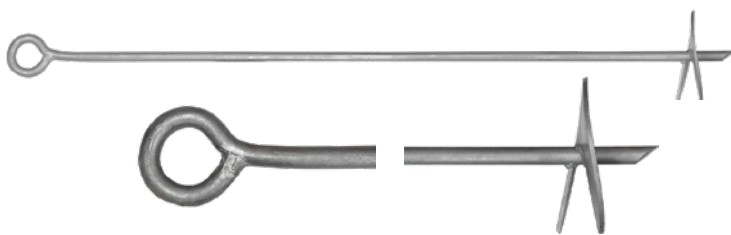
AB1200

Cat No.	Description	Dimensions (mm)			Weight (kg)	Strength (kN)
		Length	Width	Depth		
HB450	HEEL BLOCK	450	350	100	5	135
HBDNUT430	SINGLE HUMES POLE DONUT BLOCK	430 DIA		225	10	200
HBDNUT480	SINGLE BUSCK POLE DONUT BLOCK	480 DIA			14	200
BB600		600			6	140
BB900	BREAST BLOCK	900	350	100	11	150
BB1200		1200			14	200
AB1200	ANCHOR BLOCK WITH 10MM PLATE	1200	350	100	25	20



## GALVANISED SCREW ANCHORS

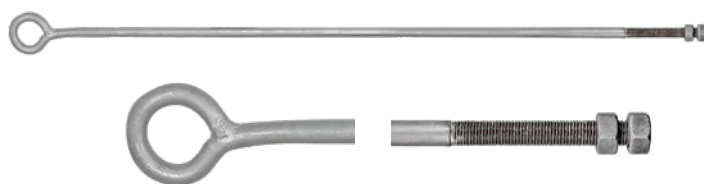
Designed as an anchor point to connect pole stay wires to. Galvanised screw anchors are used on termination poles and also on corners to ensure the tension of the conductors doesn't pull the pole over.



Cat No.	Length (mm)	Diameter	Helix (mm)
GSASM20X180X1750	1800	M20	210
GSASM24X210X1800	1800	M24	210
GSASM32X250X1880	1880	M32	250
GSASM32X250X2000	2000	M32	250

## GALVANISED ANCHOR RODS

Designed as an anchor point to connect pole stay wires to. Galvanised screw anchors are used on termination poles and also on corners to ensure the tension of the conductors doesn't pull the pole over.



Cat No.	Length (mm)	Rod Diameter	Eye ID (mm)
GARM20X60X1800	1800	20	60
GARM24X60X2400	2400	24	60

## GALVANISED STAY WIRE

Cat No.	Description	Roll size (M)
TNSTAY7175	STAY WIRE 7/1.25 SC/GZ	1000
TNSTAY7275	STAY WIRE 7/2.75 SC/GZ	
TNSTAY19200	STAY WIRE 19/2.00 SC/GZ	100
TNSTAY19275	STAY WIRE 19/2.75 SC/GZ	



## WIRE ROPE GRIPS

### MATERIAL

Hot Dip Galvanised

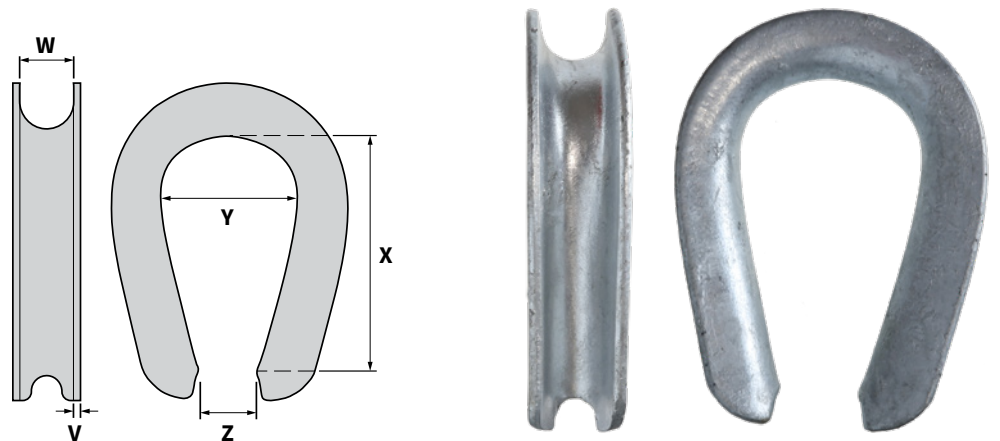


Cat No.	Z (mm)	X (mm)	V Nominal Wire Ø (mm)
TNWRG-08	6	18	8
TNWRG-12	10	25	12
TNWRG-16	10	30	16

## OPEN GUY THIMBLES

### MATERIAL

Galvanised Steel



Cat No.	Dimensions (mm)					Approx. Weight (g)
	Z	Y	X	W	V	
TNOGT-10	12	34	54	12	2.25	70
TNOGT-12	14	40	70	15	4	220
TNOGT-16	18	47	90	19	4	260
TNOGT-20	22	53	90	25	4	320
TNOGT-20-35	37	58	90	25	4	320



# POLE HARDWARE

## CROSS ARM GAIN BLOCKS

### MATERIAL

Cast Aluminium

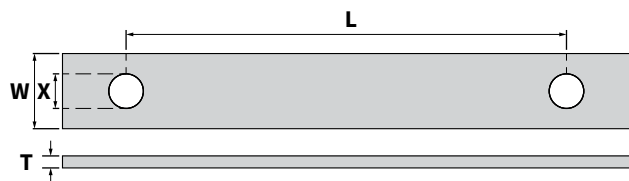


Cat No.	Crossarm (mm)
TNGBAL100X100	100
TNGBAL125X125	125

## CROSS ARM BRACES

### MATERIAL

Galvanised Steel



Cat No.	Ø	Dimensions (mm)		
		W	T	L
GCABM5X30X510				510
GCABM5X30X530				530
GCABM5X30X560	14	30	5	560
GCABM5X30X610				610
GCABM5X30X660A				660
GCABM5X30X660B	1 × 14MM, 1 × 18MM	30	5	660
GCABM5X30X700A	14	30	5	700
GCABM5X30X700B	1 × 14MM, 1 × 18MM	30	5	700
GCABM5X30X760				760
GCABM5X30X865				865
GCABM5X30X910	14	30	5	910
GCABM5X30X960				960
GCABM5X30X1000				1000
GCABM5X30X1070				1070
GCABM5X40X915	18	40	5	915
GCABM10X40X585				585
GCABM10X40X915				915
GCABM10X40X1025	18	40	10	1025
GCABM10X40X1270				1270
GCABM10X40X1675				1675

Custom sizes are available on request. Please contact Customer Service or your local rep for details.

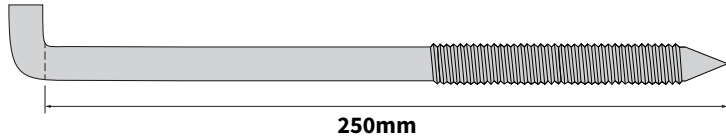
## POLE STEPS

### MATERIAL

Galvanised Steel

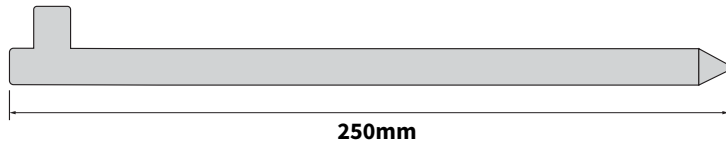
### SCREW IN STYLE

CAT NO. TNPS16-250-S



### HAMMER IN STYLE

CAT NO. TNPS16-250



Cat No.	Length (mm)	Style
TNPS16-250-S	250	SCREW IN
TNPS16-250	250	HAMMER IN

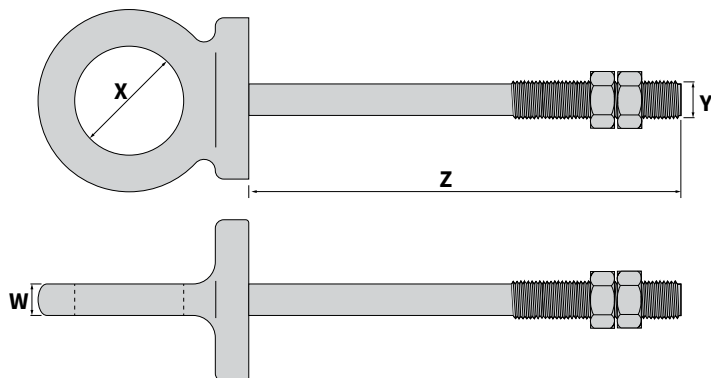
## FLANGED EYE BOLTS

### MATERIAL

Galvanised Steel

### STYLE

Forged



Cat No.	Dimensions (mm)				Number of Nuts
	Z	Thread	Y	X	
TNEB20-160-100-2	160	100	20	38	2
TNEB20-190-100-2	190	100			2
TNEB20-200-100-2	200	100			2
TNEB20-250-100-2	250	100			2
TNEB20-300-100-2	300	100			2
TNEB20-400-100-2	400	100			2
TNEB20-800-700-4	800	700	16	38	4
TNEB16-240-100-2	240	100			2
TNEB16-350-100-2	350	100			2
TNEB16-400-100-2	400	100			2
TNEB16-500-100-2	500	100			2





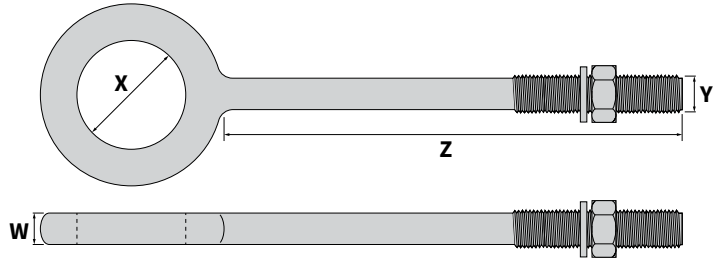
## EYE BOLTS

**MATERIAL**

Galvanised Steel

**STYLE**

Welded

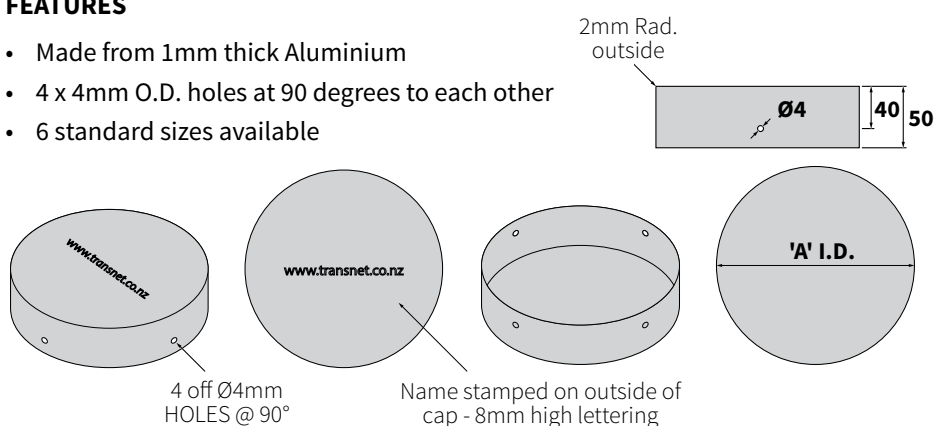


Cat No.	Dimensions (mm)				Number of Nuts
	Z	Y	X	W	
GEBM20X1750	1750	20	38	20	1
GEBM16X200	200				1
GEBM16X230X2N	230				2
GEBM16X250	250				1
GEBM16X280X2N	280				2
GEBM16X300	300				1
GEBM16X350X2N	350	16	38	16	2
GEBM16X400	400				1
GEBM16X450	450				1
GEBM16X450X2N	450				2
GEBM16X500	500				1
GEBM16X600X2N	600				2
GEBM16X700X4N	700				4

## ALUMINIUM POLE CAP

### FEATURES

- Made from 1mm thick Aluminium
- 4 x 4mm O.D. holes at 90 degrees to each other
- 6 standard sizes available



Cat No.	Dimensions (mm)
TNALPOLECAP225MM	225 x 50
TNALPOLECAP250MM	250 x 50
TNALPOLECAP325MM	325 x 50
TNALPOLECAP375MM	375 x 50
TNALPOLECAP400MM	400 x 50
TNALPOLECAP425MM	425 x 50

## POLE HOLE TEMPORARY COVER

Designed to temporarily cover pole holes adding extra safety to worksites. Made in New Zealand from recycled plastic, these products are also fully recyclable at the end of their useful life. These covers are lightweight and easy to manoeuvre.

### CUSTOMISATION

- Size: up to a maximum of 1.2m x 1.2m
- Branding: your company logo or a safety message, phone number etc and be applied to each unit
- Hand holes can be included or excluded on request



Cat No.	Dimensions (mm)	Thickness (mm)	Hand Holes
TNHC12X10	1200 x 1000	13	4
TNHC12X12	1200 x 1200		



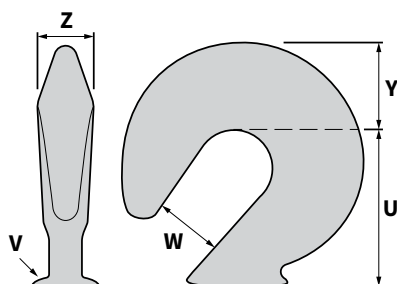
# LINE HARDWARE

## BALL HOOKS LONG & SHORT SHANK

### MATERIAL

Body: Galvanised Forged Steel

The ball dimensions are in accordance with AS1154.1:2009

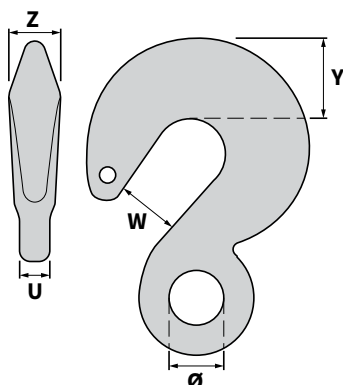


Cat No.	Shank Style	Minimum Failing Load (kN)	Dimensions (mm) to AS1154.1:2009					Approx. Weight (kg)
			Z	Y	W	V (ball)	U	
TNBH-70-LS	LONG	70	25	32	25	16	82	0.6
TNBH-120-LS		120	25	32	25	16	82	0.6
TNBH-160-LS		160	25	34	25	20	102	0.9
TNBH-70-SS	SHORT	70	25	32	21	16	57	0.5
TNBH-120-SS		120	25	32	21	16	57	0.5

## TONGUE HOOKS

### MATERIAL

Body: Galvanised Forged Steel



Cat No.	Minimum Failing Load (kN)	Dimensions (mm) to AS1154.1:2009					Approx. Weight (kg)
		Z	Y	W	Ø	U	
TNTH-070-1	70	25	32	25	18	16	0.7

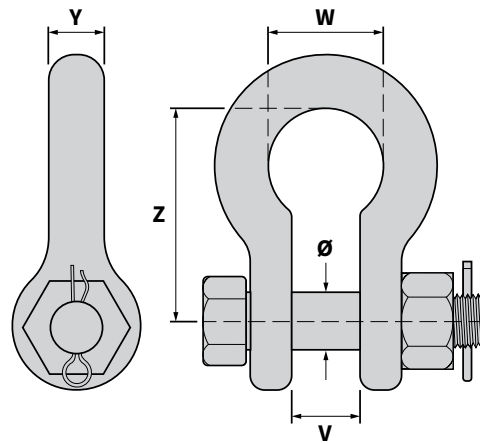
## BOW SHACKLES

### MATERIAL

Body: Galvanised Forged Steel

Bolt and Nut: Galvanised Steel

Split Pin: Stainless Steel



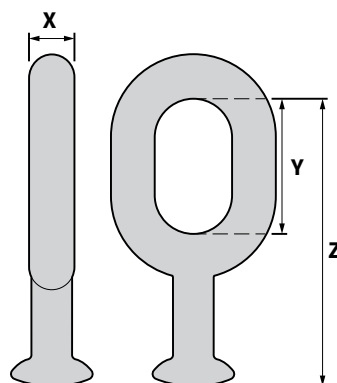
Cat No.	Minimum Failing Load (kN)	Dimensions (mm) to AS1154.1:2009					Bolt Diameter (mm)	Approx. Weight (kg)
		Z	Y	W	V	Ø		
S-70	70	67	16	34	22.5	18	16	0.5
S-120	120	67	16	34	22.5	18	16	0.5
S-160	160	76	20	40	24.5	22	20	1.0

## BALL EYE LINKS

### MATERIAL

Body: Galvanised Forged Steel

The ball dimensions are in accordance with AS1154.1:2009



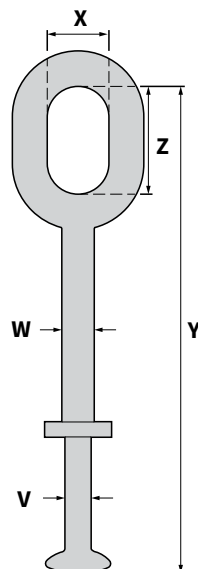
Cat No.	Minimum Failing Load (kN)	Dimensions (mm) to AS1154.1:2009			Approx. Weight (kg)
		Z	Y	X	
BEL-70	70	100	50	16	0.4
BEL-120	120	100	50	16	0.4
BEL-160	160	128	64	20	0.7

## BALL EYE EXTENSION LINKS

### MATERIAL

Body: Galvanised Forged Steel

The ball dimensions are in accordance with AS1154.1:2009



Cat No.	Minimum Failing Load (kN)	Ball	Dimensions (mm) to AS1154.1:2009					Approx. Weight (kg)
			Z	Y	X	WØ	VØ	
TNBEEL160-250	160	20	64	250	32	24	24	1.3
TNBEEL160-500	160	20	64	500	32	24	24	2.3
TNBEEL160-800	160	20	64	800	32	24	24	3.4

## BALL CLEVIS

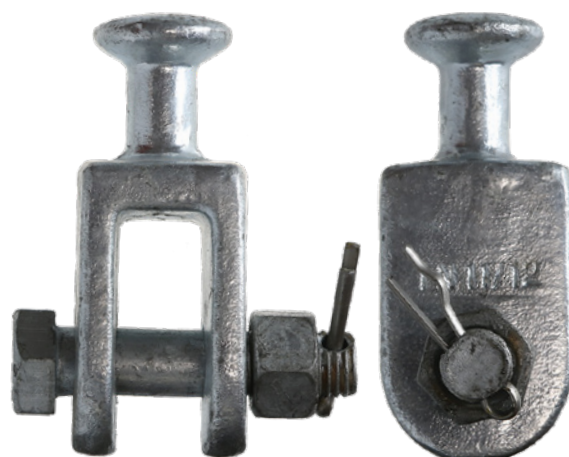
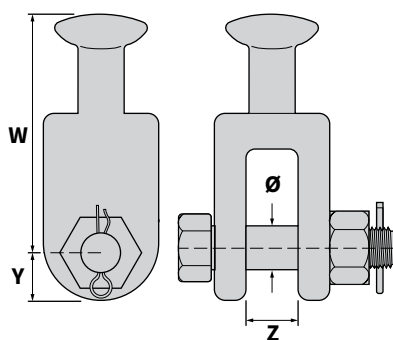
### MATERIAL

Body: Galvanised Forged Steel

Bolt and Nut: Galvanised Steel

Split Pin: Stainless Steel

The ball dimensions are in accordance with AS1154.1:2009



Cat No.	Minimum Failing Load (kN)	Dimensions (mm) to AS1154.1:2009					Approx. Weight (kg)
		Z	Y	W	BALL	Ø	
TNBC70	70	20	22	78	16	18	0.7
BC-120	120	20	22	78	16	18	0.7
L022512	160	24	24	95	20	22	1.1



## BALL Y-CLEVIS

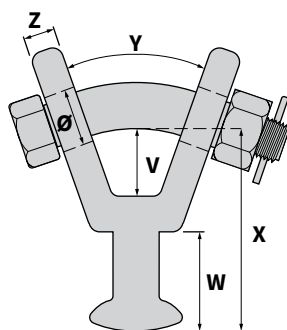
### MATERIAL

Body: Galvanised Forged Steel

Bolt and Nut: Galvanised Steel

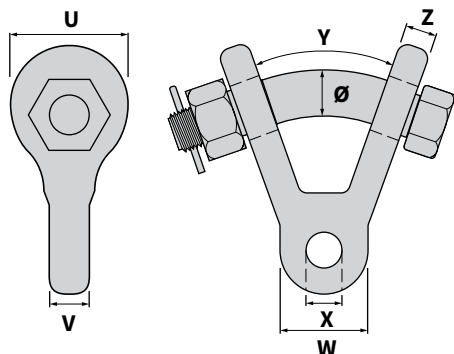
Split Pin: Stainless Steel

The ball dimensions are in accordance with AS1154.1:2009



Cat No.	Minimum Failing Load (kN)	Dimensions (mm) to AS1154.1:2009						Ball (mm)
		Z	Y	X	W	V	Ø	
L022515	120	10	45	95	40	40	23	16

## Y CLEVIS TONGUE - TWISTED



Cat No.	Minimum Failing Load (kN)	Dimensions (mm) to AS1154.1:2009						
		Z	Y	X	W	V	U	Ø
TYCT-70	70	12	45	18	44	18	44	19
TYCT-120	120	13	68	18	44	18	45	20

## SOCKET CLEVIS

### MATERIAL

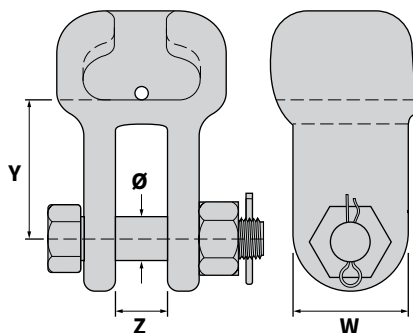
Body: Galvanised Forged Steel

Bolt and Nut: Galvanised Steel

Split Pin: Stainless Steel

The socket dimensions are in accordance with AS1154.1:2009

The SC range can be supplied with either "W" type clips or "R" type clips.



Cat No.		Minimum Failing Load (kN)	Dimensions (mm) to AS1154.1:2009				Socket (mm)	Approx. Weight (kg)
'W' Clip	'R' Clip		Z	Y	Ø	W		
SC-70W	SC-70R	70	20	59	18	22	16	1.4
SC-120W	SC-120R	120	20	59	18	22	16	1.4
SC-160W	SC-160R	160	24	62	22	24	20	2.6

## SOCKET CLEVIS EXTENSION LINKS

### MATERIAL

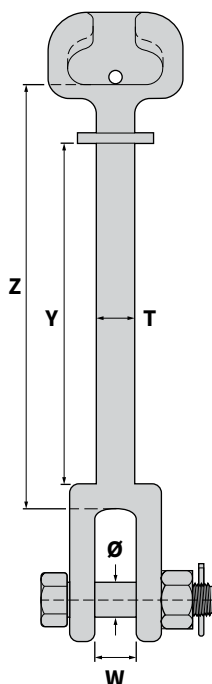
Body: Galvanised Forged Steel

Bolt and Nut: Galvanised Steel

Split Pin: Stainless Steel

The socket dimensions are in accordance with AS1154.1:2009

The TNSCEL can be supplied with either "W" type clips or "R" type clips



Cat No.	Minimum Failing Load (kN)	Dimensions (mm) to AS1154.1:2009					Socket (mm)	Approx. Weight (kg)
		Z	Y	W	Ø	T (Max)		
TNSCEL160	160	215	155	24	22	23	20	2.0

\*Add suffix -W or -R to select W type or R type clip

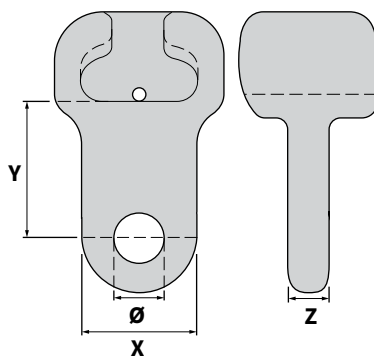
## SOCKET TONGUES

### MATERIAL

Body: Galvanised Forged Steel

The socket dimensions are in accordance with AS1154.1:2009

The TNST and TNSTT can be supplied with either "W" type clips or "R" type clips.



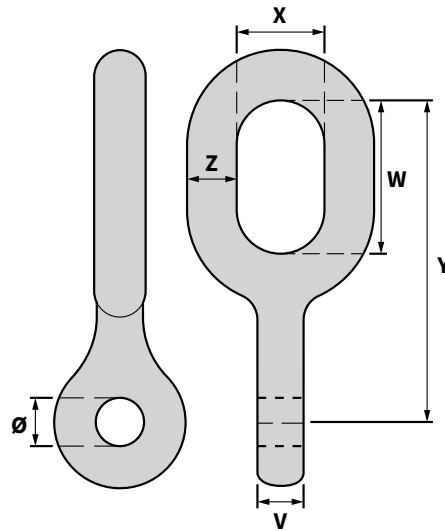
Cat No.	Style	Minimum Failing Load (kN)	Dimensions (mm) to AS1154.1:2009				Socket (mm)	Approx. Weight (kg)
			Z	Y	X	HOLE Ø		
TNST70	STANDARD	70	16	57	44	18	16	0.8
TNST120	STANDARD	120	16	57	44	18	16	0.8
TNST160	STANDARD	160	20	57	48	22	20	1.3
TNSTT70	TWISTED	70	16	57	44	18	16	0.8
TNSTT120	TWISTED	120	16	57	44	18	16	0.8
TNSTT160	TWISTED	160	20	57	48	22	20	1.3

\*Add suffix -W or -R to select W type or R type clip

## TWISTED EYE TONGUES

### MATERIAL

Body: Galvanised Forged Steel



Cat No.	Minimum Failing Load (kN)	Dimensions (mm) to AS1154.1:2009						Approx. Weight (kg)
		Z	Y	X	W	V	Ø	
TNTET70	70	16	100	26	51	16	18	0.6
TNTET120	120	16	100	26	51	16	18	0.6
TNTET160	160	20	112	32	64	20	22	1.0

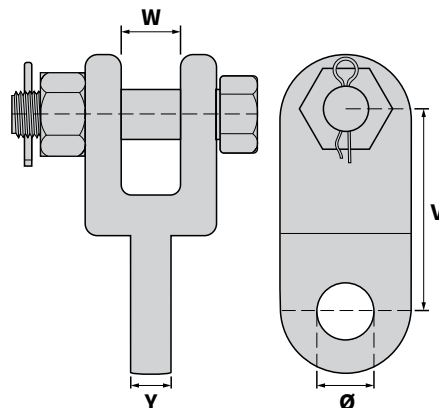
## CLEVIS TONGUES

### MATERIAL

Body: Galvanised Forged Steel

Bolt and Nut: Galvanised Steel

Split Pin: Stainless Steel



Cat No.	Minimum Failing Load (kN)	Dimensions (mm) to AS1154.1:2009				Approx. Weight (kg)
		Y	W	V	Ø	
TNCT70	70	16	20	72	18	0.7
TNCT120	120	16	20	72	18	0.7
TNCT160	160	20	24	86	22	1.1

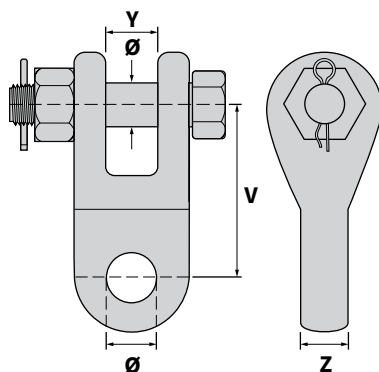
## TWISTED CLEVIS TONGUES

### MATERIAL

Body: Galvanised Forged Steel

Bolt and Nut: Galvanised Steel

Split Pin: Stainless Steel

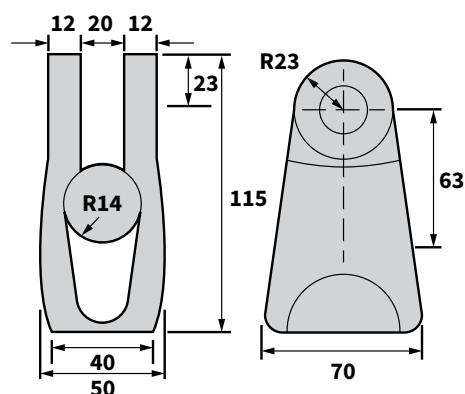


Cat No.	Minimum Failing Load (kN)	Dimensions (mm) to AS1154.1:2009				Approx. Weight (kg)
		Z	Y	V	Ø	
TNTCT70	70	16	20	76	18	0.7
TNTCT120	120	16	20	76	18	0.7
TNTCT160	160	20	24	76	22	1.1

## CLEVIS THIMBLES

### CAT # CAB750 – ALUMINIUM CLEVIS 70KN

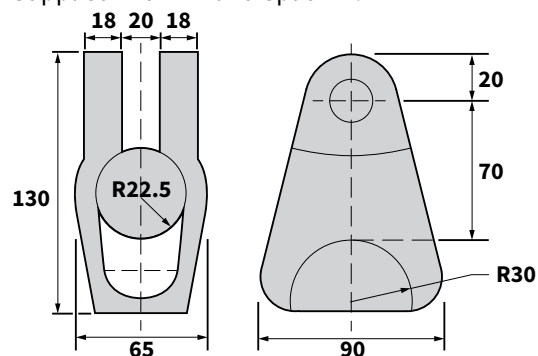
For use with Aluminium and Aluminium clad Steel Deadends up to 15mm.



### CAT # CAB950 – ALUMINIUM CLEVIS 70KN

For use with Aluminium and Aluminium clad Steel Deadends 15mm and larger.

Supplied with Pin and Split Pin.

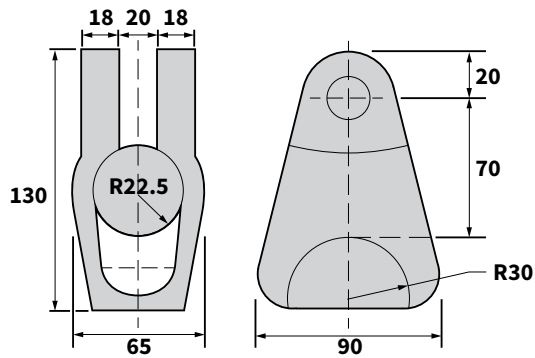




## CAT # CAB950A – ALUMINIUM CLEVIS 70KN

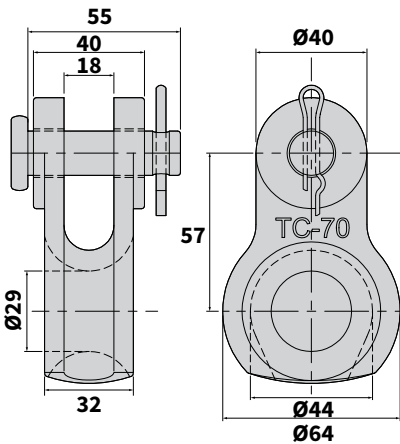
For use with Aluminium and Aluminium clad Steel Deadends 15mm and larger.

Supplied with Bolt/Nut and Split Pin



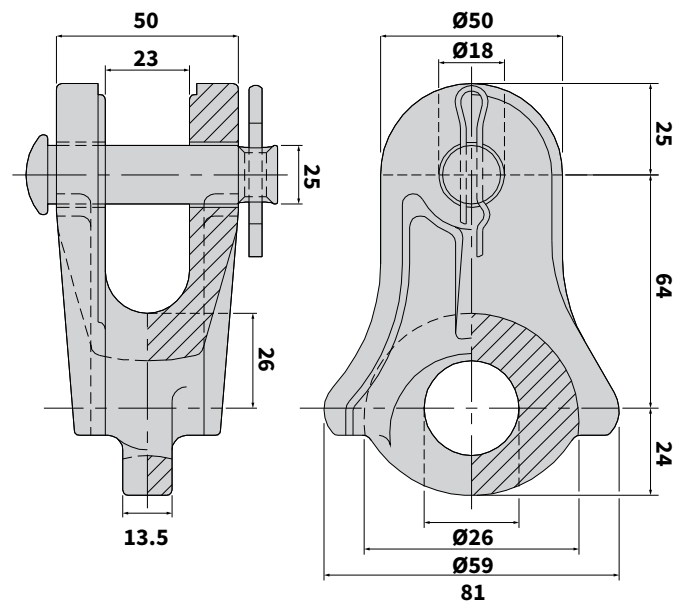
## CAT # 0-0361400-5 – GALVANISED IRON CLEVIS 70KN

For use with Copper, Copper clad Steel and Steel Deadends up to 15mm. Also known as CAC438Q



## CAT # 0-0361412-8 – ALUMINIUM CLEVIS 70 KN

For use with Aluminium and Aluminium clad Steel Deadends up to 10mm. Also known as 11CT-88B







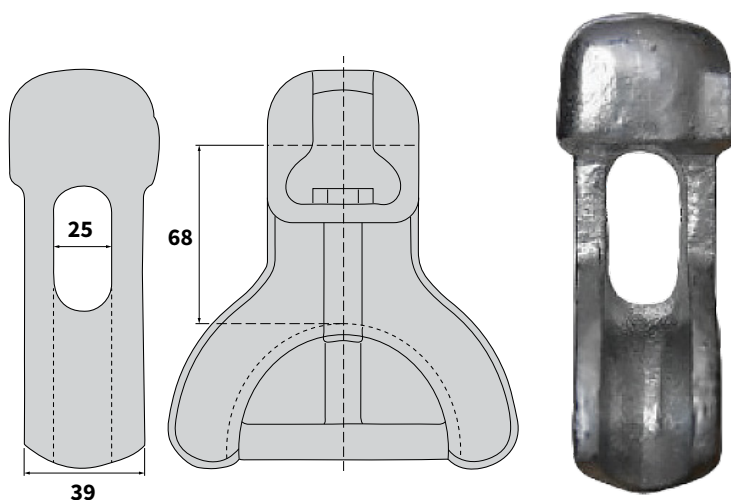
## SOCKET THIMBLES

### MATERIAL

Body: Galvanised Ductile Iron

Stainless Steel retaining clip

The socket dimensions are in accordance with AS1154.1:2009



Cat No.	Clip Type	Minimum Failing Load (kN)	Socket Dimension (mm)	Approx. Weight (kg)
TNSOCT70	R	70	16	0.9
SOCTL-70	W	70	16	1.1

## DOUBLE CROSS ARM SPREADER BOLTS

### MATERIAL

Galvanised Steel



Cat No.	Dimensions (mm)		Diameter Ø (mm)
	Overall Length	Thread Length	
GDAB20-400	400	150	20
GDAB20-450	450	200	20
GDAB20-500	500	200	20
GDAB20-550	550	250	20
GDAB20-600	600	250	20
GDAB20-650	650	250	20
GDAB20-700	700	250	20

## CHAIN LINKS

### MATERIAL

Body: Galvanised Forged Steel

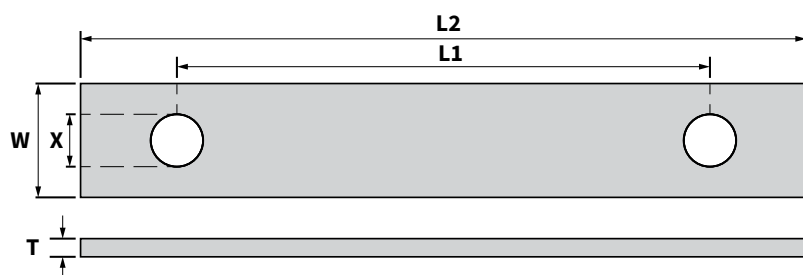


Cat No.	Minimum Failing Load (kN)	Dimensions (mm) to AS1154.1:2009				Approx. Weight (kg)
		Z	Y	X	W	
TNCL70	70	50	16	26	16	0.4
TNCL120	120	50	16	26	16	0.4
TNCL160	160	64	20	32	20	0.8

## SHACKLE STRAPS

### MATERIAL

Galvanised Steel

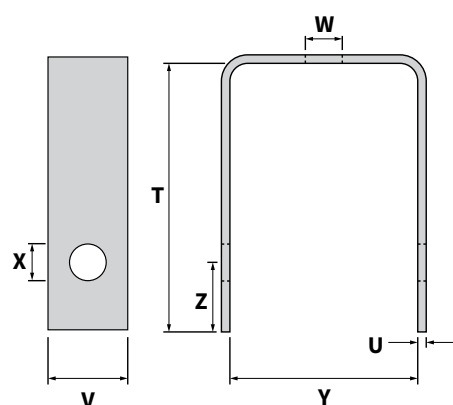


Cat No.	XØ	Dimensions (mm)				Style
		W	T	L1	L2	
GSSM3X30X300	13.5	30	3	250	300	STRAIGHT
GSSM3X32X180		32		130	180	
GSSM3X32X200				160	200	
GSSM3X32X230				180	230	

## "U" SHACKLE STRAPS

### MATERIAL

Galvanised Steel



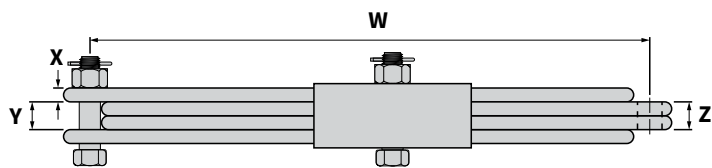
Cat No.	Insulator	Dimensions (mm)						
		Z	Y	XØ	WØ	V	U	T
GUS210M3X32X80	210	20	55	13.5	13.5	32	3	80
GUS210M3.2X30X85	210	20	60	13.5	13.5	30	3.2	85
GUS205M3X32X100	205	20	75	13.5	13.5	32	3	105
GUSM5X40X140	205	30	115	18	18	40	5	140



## SAGLINKS

### MATERIAL

Galvanised Steel

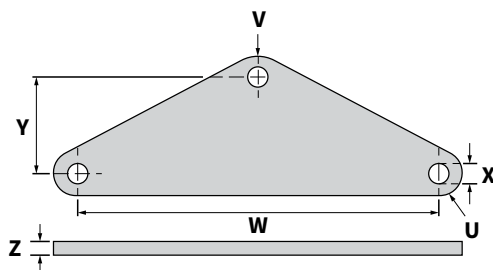


Cat No.	Minimum Failing Load (kN)	Z	Dimensions (mm)			Approx. Weight (kg)
			Y	X	W	
GSL-70-230	70	18	20	8	230-350	6.0
GSL-70-485	70	18	20	8	485-745	7.0
GSL-120-566	120	18	20	8	566-974	9.0
GSL-160-566	160	22	24	10	566-974	11.0

## YOKE PLATES

### MATERIAL

Galvanised Steel

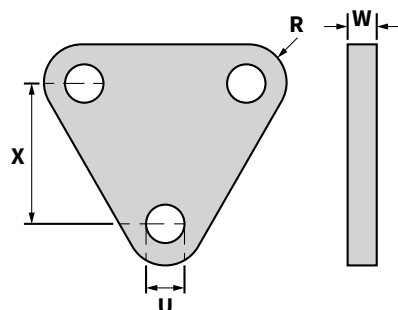


Cat No.	Minimum Failing Load (kN)	Z	Y	Dimensions (mm)			U	Approx. Weight (kg)
				X	W	V		
GYPT-70-560	70	16	100	18	560	22	22	5.0
GYPT-70-457	70	16	100	18	457	22	22	4.5
GYPT-120-457	120	16	100	18	457	22	22	4.5
GYPT-160-380	160	20	76	22	380	28	28	5.5

## MAINTENANCE TENSION LINKS

### MATERIAL

Galvanised Steel



Cat No.	Minimum Failing Load (kN)	X	Dimensions (mm)			Approx. Weight (kg)
			W	R	U	
MTL-70	70	60	16	22	18	0.7
MTL-120	120	60	16	22	18	0.7
MTL-160	160	60	20	25	22	0.9

## ALUMINIUM SUSPENSION CLAMPS

TransNet Pivot Support Clamps are designed for use with AAC, AAAC and ACSR conductors and supported on horizontal or vertical line post insulators.

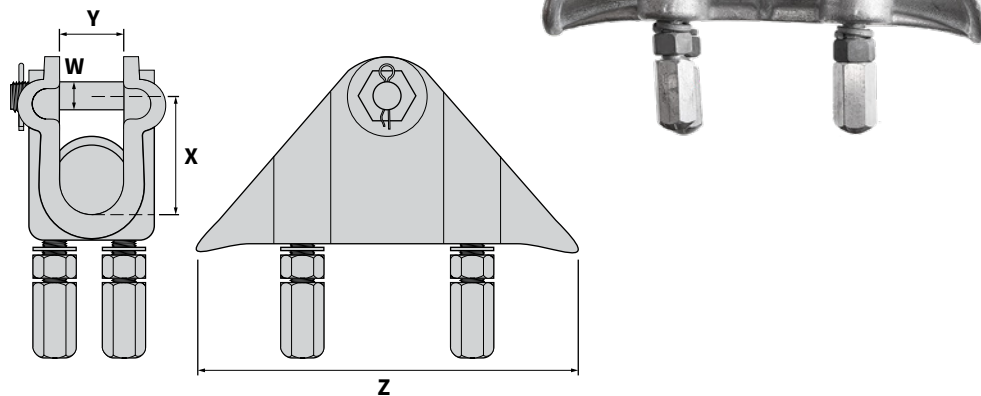
Reversible keeper allows a large conductor range for each clamp size.

### MATERIAL

Body and Keeper: Aluminium Alloy

Hardware: Galvanised Steel

Split Pin: Stainless Steel



Cat No.	Clamp Range (mm)	Rated Strength (kN)	Dimensions (mm)				Approx. Weight (kg)
			Z	Y	X	WØ	
TNXGH-3	11.5–18.5	40	200	24	76	16	2.137
TNXGH-4	17.8–26.0	40	225	27	65	16	1.902
TNXGH-5	23.0–32.0	60	262	35	87	16	3.24

## CAST IRON SUSPENSION CLAMPS

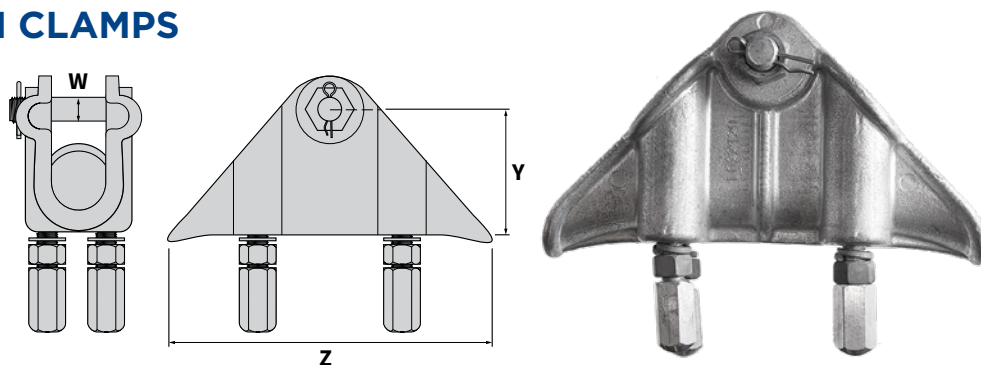
TransNet Suspension Clamps are designed for use with SC/GZ, SC/AC and other steel conductors in suspension applications.

### MATERIAL

Body and Keeper: Galvanised Cast Iron

Hardware: Galvanised Steel

Split Pin: Stainless Steel



Cat No.	Clamp Range (mm)	Rated Strength (kN)	Dimensions (mm)			Approx. Weight (kg)
			Z	Y	WØ	
TNDSC-110185	11.0–18.5	50	200	76	16	3.1
TNDSC-178235	17.8–23.5	50	191	60	16	3.8
TNDSC-230320	23.0–32.0	60	262	87	16	4.9

## STRAIN CLAMPS - ALUMINIUM & CAST IRON

TransNet Aluminium strain clamps are designed for use with AAC, AAAC or ACSR conductor. Cast Iron strain clamps are designed for use with SC/GZ, SC/AC and other steel conductors in suspension applications.

### **MATERIAL** - Aluminium Clamps

Body and Keeper: Aluminium Alloy

Hardware: Galvanised Steel

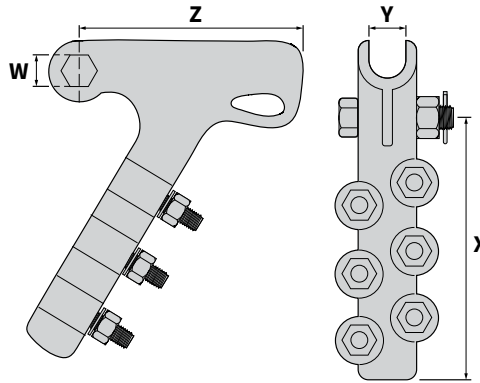
Split Pin: Stainless Steel

### **MATERIAL** - Cast Iron Clamps

Body and Keeper: Galvanised Cast Iron

Hardware: Galvanised Steel

Split Pin: Stainless Steel



Cat No.	Type	Clamp Range (mm)	Rated Strength (kN)	Dimensions (mm)				U-Bolts		Approx. Weight (kg)
				Z	Y	X	WØ	No.	Size (mm)	
TNATC-51114	ALUMINIUM	5.1–11.4	30	80	13	95	12	2	10	0.5
TNATC-50150		5.0–15.0	45	105	15	140	14	3	10	0.8
TNATC-80135		8.0–13.5	45	105	14	140	14	3	10	0.8
TNATC-89185		8.9–18.5	70	140	22	145	16	3	12	1.8
TNATC-121218		12.1–25.5	60	285	28	298	16	4	14	4.1
TNATC-180300	CAST IRON	18.0–30.0	70	342	36	416	24	5	16	7.0
TNDTC-510		5.0–10.0	20	120	18	150	16	2	12	1.3
TNDTC-1014		10.1–14.0	40	105	18	205	16	3	12	2.1
TNDTC-1418		14.1–18.0	70	160	22	310	18	4	16	4.6
TNDTC-1823		18.1–23.0	90	220	25	410	18	4	16	7.1

## VIBRATION DAMPERS

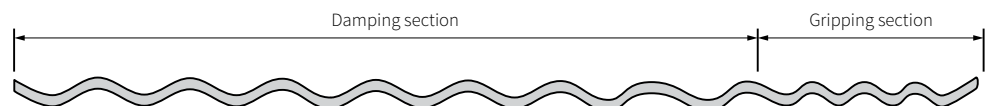
### SPIRAL VIBRATION DAMPERS



**TNSVD** – For all AAC, AAAC, ACSR, Copper, SC/AC & SC/GZ conductor. Made from high impact, UV stable PVC rod.

Spiral Vibration Dampers were designed to reduce aeolian vibration in conductors, generated by the wind.

The gripping part of the SVD should be installed about 100–120mm away from other fittings. One SVD at each end of a span is adequate unless spans exceed 245m, where it is recommended two are installed at each end.



Cat No.	Conductor Range (mm O.D.)	Colour	Pack Quantity
TNSVD0441	4.42–6.34	RED	25
TNSVD0635	6.35–8.30	BLUE	25
TNSVD0830	8.31–11.72	WHITE	25
TNSVD1173	11.73–14.32	YELLOW	25
TNSVD1432	14.33–19.30	GREEN	10



## STOCKBRIDGE DAMPERS WITH CAST OR FORGED CLAMPS

In principle, it is impossible to avoid wind-induced conductor vibrations on overhead lines. In the most unfavourable cases, fractures caused by vibrations on accessories and overhead lines occur. Stockbridge vibration dampers reduce this vibration therefore reducing the fatigue on accessories and enhancing the working life of the overhead line.

- For use with Aluminium, Al Alloy, ACSR, AACSR and Alumoweld conductors
- Weights are cast onto the messenger cable
- Weights: Cast Iron (hot dip galvanised)
- Messenger Cable: Steel (hot dip galvanised)
- Clamp: Aluminium Alloy (forged or cast, depending on preference)
- Stainless Steel Bolt



## STOCKBRIDGE DAMPERS WITH FORGED CLAMPS

Cat No.	Dimensions (mm)		Bolt	Torque (Nm)	Weight (kg)
	Conductor Ø	Length			
9301.000/EA1	7.00–9.00	380	M10	30	1.60
9301.010/EA1	9.01–11.00				
9301.020/EA1	11.01–14.50				
9301.030/EA1	14.51–17.00				
9301.040/EA1	17.01–19.50				
9301.050/EA1	19.51–22.00	390		35	1.65
9301.060/EA1	22.01–24.50				
9301.070/EA1	24.51–28.00	400	M12	40	1.90
9301.080/EA1	28.01–31.00				
9301.090/EA1	31.01–33.00				
9301.100/EA1	33.01–35.00				
9301.110/EA1	35.01–38.00				
9301.120/EA1	38.01–42.00	420		45	2.00
9301.130/EA1	42.01–46.00				
9303.000/EA1	7.00–9.00				
9303.010/EA1	9.01–11.00				
9303.020/EA1	11.01–14.50				
9303.030/EA1	14.51–17.00	425		35	2.10
9303.040/EA1	17.01–19.50				
9303.050/EA1	19.51–22.00	425		35	2.20
9303.060/EA1	22.01–24.50				
9303.070/EA1	24.51–28.00	440	M12	40	2.40
9303.080/EA1	28.01–31.00				
9303.090/EA1	31.01–33.00				
9303.100/EA1	33.01–35.00				
9303.110/EA1	35.01–38.00				
9303.120/EA1	38.01–42.00	45		45	2.60
9303.130/EA1	42.01–46.00				



## STOCKBRIDGE DAMPERS WITH FORGED CLAMPS CONT.

Cat No.	Conductor Ø	Dimensions (mm)		Torque (Nm)	Weight (kg)
		Length	Bolt		
9304.030/EA1	14.51–17.00	450	M10	35	3.70
9304.040/EA1	17.01–19.50				
9304.050/EA1	19.51–22.00				
9304.060/EA1	22.01–24.50	455	M10	40	4.00
9304.070/EA1	24.51–28.00				
9304.080/EA1	28.01–31.00				
9304.090/EA1	31.01–33.00	465	M10	45	4.10
9304.100/EA1	33.01–35.00				
9304.110/EA1	35.01–38.00				
9304.120/EA1	38.01–42.00	520	M12	40	5.80
9304.130/EA1	42.01–46.00				
9306.070/EA1	24.51–28.00				
9306.080/EA1	28.01–31.00	520	M12	45	6.00
9306.090/EA1	31.01–33.00				
9306.100/EA1	33.01–35.00				
9306.110/EA1	35.01–38.00	570	M12	40	7.90
9306.120/EA1	38.01–42.00				
9306.130/EA1	42.01–46.00				
9308.070/EA1	24.51–28.00	570	M12	45	8.10
9308.080/EA1	28.01–31.00				
9308.090/EA1	31.01–33.00				
9308.100/EA1	33.01–35.00	570	M12	45	8.10
9308.110/EA1	35.01–38.00				
9308.120/EA1	38.01–42.00				
9308.130/EA1	42.01–46.00	570	M12	45	8.10

## STOCKBRIDGE DAMPERS WITH CAST CLAMPS

Cat No.	Dimensions (mm)		Bolt	Torque (Nm)	Weight (kg)
	Conductor Ø	Length			
9301.01/G/1	8.4–11.5	370	M10	46	1.60
9301.02/G/1	11.6–14.0				
9301.03/G/1	14.0–16.5				1.80
9301.04/G/1	16.6–19.0				
9301.20/G/1	19.0–29.0	380		35	1.90
9303.01/G/1	8.4–11.5	410		46	2.10
9303.02/G/1	11.6–14.0				
9303.03/G/1	14.0–16.5				2.30
9303.04/G/1	16.6–19.0				
9303.06/G/1	19.0–29.0	420		35	2.40
9304.20/G/1	19.0–29.0	450	35	4.20	
9304.10/G/1	28.5–38.0		M12	55	4.30
9306.03/G/1	19.0–29.0	500	M10	35	6.10
9306.07/G/1	28.5–38.0		M12	55	
9308.03/G/1	28.5–38.0	550	M12	55	8.00

# CONDUCTOR ATTACHMENT

## LV NON TRACKING SPREADER ROD & CONDUCTOR PROTECTOR CLIP

Overhead power line spreader rods. Used to prevent conductors clashing during high winds and short circuits. The Raysulate rod material was specifically developed for electrical insulation applications with excellent tracking and erosion resistance properties. Unit consists of a 2.1m rigid non tracking rod and stainless steel spring clips with abrasion resistant polymeric inserts.

Used to maintain the required midspan spacing of LV conductors and thus prevent clashing. The non tracking rods are specific for high pollution and coastal areas and also in areas of high wind.

The non metallic clip insert is suitable for use on all conductor types. Accepts conductor size range of 5–16.3mm OD.

### KEY FEATURES

- Non-tracking solution
- No conductor abrasion
- Non-corrosive
- No metal contact between conductor, clip and rod
- UV resistant components
- Stainless steel springs
- Withstands long term electrical stress & surface pollution without degradation of the insulation performance

Cat No.	Description
CM3889-000	LOW VOLTAGE SPREADER ROD, 12MM OD, 2.1M LONG
EB0043-000	SPREADER ROD STAINLESS STEEL CLAMP WITH INSERT, 5–16.3MM OD



# OVERHEAD LINE WARNING MARKERS

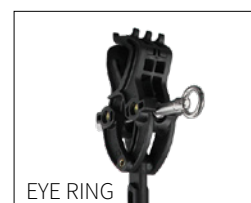
## WARNING MARKERS

The Balmoral Warning Marker is a purpose designed Hi Visibility Line Warning Marker ideal for low hanging wires, construction zones, low flying agricultural aircraft and many other applications. The 3D Design with reflectors enables vision from all angles as the marker flag rotates with a breeze.

- Latest technology articulated 3D design
- Premium High-Vis Reflectors
- Bayonet or Eye Ring fitting available
- Customised flags or marker options available
- Universal clamp fits all lines from 2-50mm O.D.
- Aerodynamic design, rotates for high impact visibility - tested in wind tunnel up to 30m/s with no whistling noise or vibration detected
- UV stabilised and tough non-conductive Nylon 6 plastic
- Anti-creep Clamp design - lined with rubber to protect conductor from damage
- Installed with standard Live Line Tools



Cat No.	Style of Warning Device	Hot Stick Attachment	Colour
WM-CS-B-1A-RW	3D VANE	BAYONET	RED/WHITE
WM-CS-E-1A-RW		EYE RING	
WM-CS-B-1B-O	VINYL FLAG	BAYONET	ORANGE
WM-CS-E-1B-O		EYE RING	





PAGE	CATEGORY
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224	CSKL 303 Porcelain Insulator - 205
225	LV Porcelain Pin Insulator - 510
225	LV Shackle Insulator Kits
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PAGE	<b>PORCELAIN INSULATORS</b>
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227	11kV Pin Insulator Accessories
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228	22kV ALP Pin Insulator Accessories
229	11kV Post Insulators
230	33kV Post Insulators
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232	<b>GUY STRAIN INSULATORS</b>
232	<b>POLYMER INSULATORS</b>
232	Polymer Strain Insulators - 11kV, 22kV, 33kV
233	Silicone Post Insulators - 11kV
233	Silicone Vertical Clamp Top Insulator - 33kV
234	EVA Post Insulators - 19kV, 36kV & 43kV
236	EVA & Silicone Post Insulator Accessories
236	<b>ALUMINIUM PIVOT SUPPORT CLAMPS</b>
237	<b>HV POLYMER INSULATORS</b>
237	66kV Polymer Strain Insulators
238	66kV Polymer Post Insulators
240	<b>TOUGHENED GLASS SUSPENSION INSULATORS</b>
244	IEC/BS String Electrical Ratings



#### WARRANTY INFORMATION

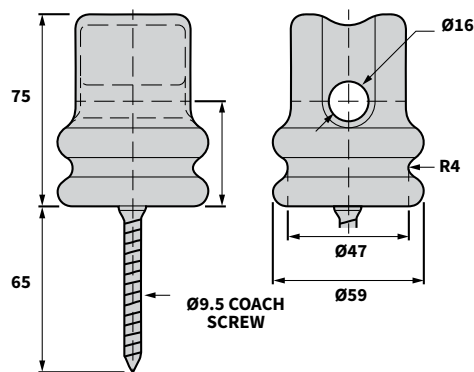
TE Connectivity offer a 25 year manufacturing warranty on all TE branded Porcelain Insulators up to 66kV. In the event a TE insulator from this range is found to demonstrate manufacturing defects, TE will supply a replacement product free of charge.

T&Cs do apply, to learn more about this offer please contact TransNet 0800 442 182 or TE Connectivity 09 634 4580 directly.

## LV INSULATORS

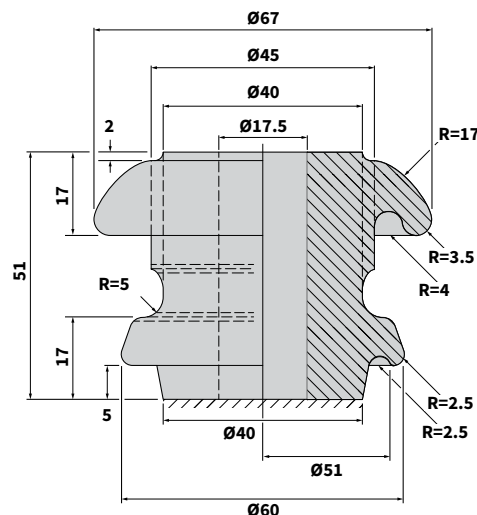
### LV PORCELAIN SPIKE INSULATOR - 103

Cat No.	103
LINE VOLTAGE	650V
DESIGNED LOAD	4KN
HOLE/GROOVE	16MM HOLE
FIXING	COACH SCREW
COLOUR	BROWN
BOX QTY	EACH



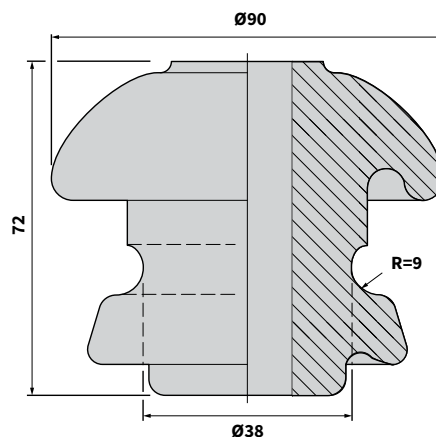
### LV SHACKLE PORCELAIN INSULATOR - 210

Cat No.	0-0361400-3
LINE VOLTAGE	650V
DRY FLASHOVER VOLTAGE	15KV
WET FLASHOVER VOLTAGE	8KV
BOLT SIZE	M16
GROOVE	10MM
DESIGNED LOAD	7KN
FIXING	17.5MM DIA.
COLOUR	GREY
BOX QTY	80



### CSKL 303 PORCELAIN INSULATOR - 205

Cat No.	0-0361400-4
LINE VOLTAGE	3.3KV
DRY FLASHOVER VOLTAGE	28KV
WET FLASHOVER VOLTAGE	12KV
BOLT SIZE	M16
GROOVE	18MM
DESIGNED LOAD	13.5KN
FIXING	17.5MM DIA.
COLOUR	GREY
BOX QTY	50

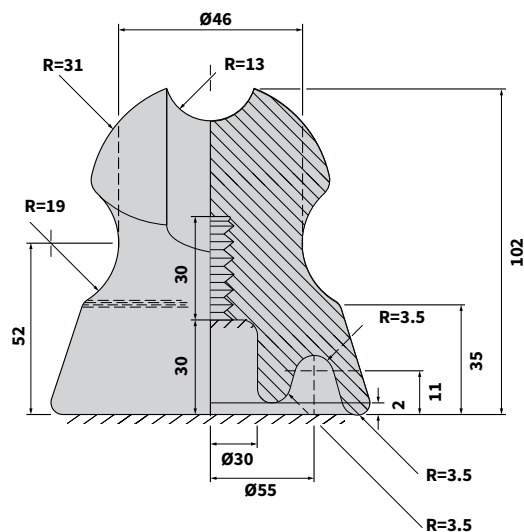




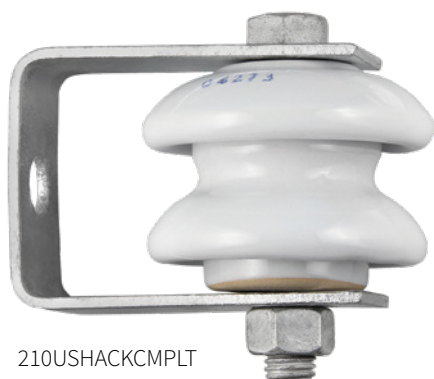


## LV PORCELAIN PIN INSULATOR - 510

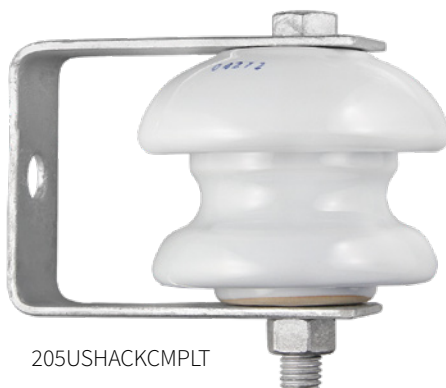
Cat No.	0-0361400-2
NOMINAL VOLTAGE	400V-3KV
POWER FREQUENCY DRY	55KV
POWER FREQUENCY WET	25KV
POWER FREQUENCY PUNCTURE	70KV
MINIMUM FAILING LOAD CANTILEVER	7KN
GROOVE	26MM DIA
TYPE OF PIN	USC006-DH
COLOUR	GREY
BOX QTY	40



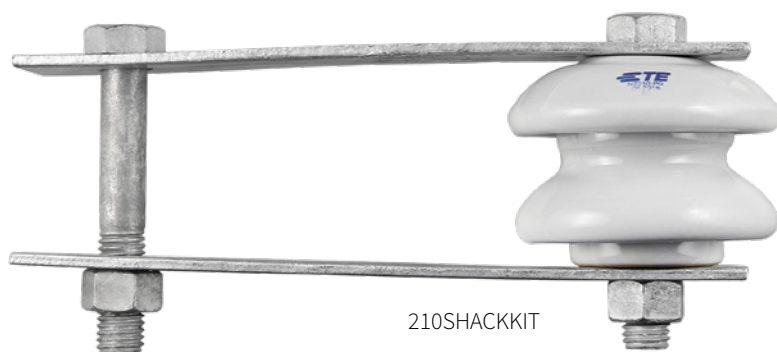
## LV SHACKLE INSULATOR KITS



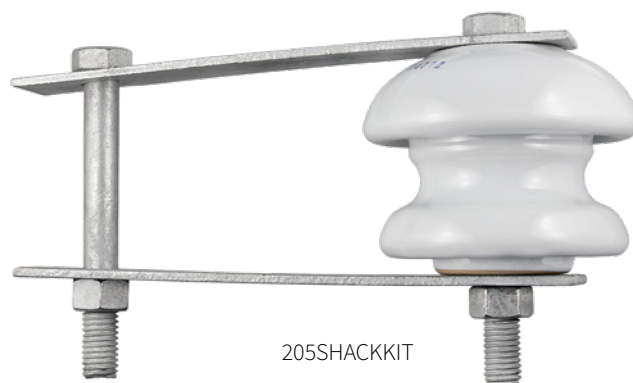
210USHACKCMPLT



205USHACKCMPLT






210SHACKKIT



205SHACKKIT

Cat No.	Shackle Type	Description
210SHACKKIT	STRAP	210 LV SHACKLE INSULATOR KIT INCLUDES BOLTS & STRAPS
210USHACKCMPLT	U SHACKLE	210 LV SHACKLE INSULATOR KIT INCLUDES BOLTS & U-SHACKLE
205SHACKKIT	STRAP	205 LV SHACKLE INSULATOR KIT INCLUDES BOLTS & STRAPS
205USHACKCMPLT	U SHACKLE	205 LV SHACKLE INSULATOR KIT INCLUDES BOLTS & U-SHACKLE

## LV INSULATOR ACCESSORIES

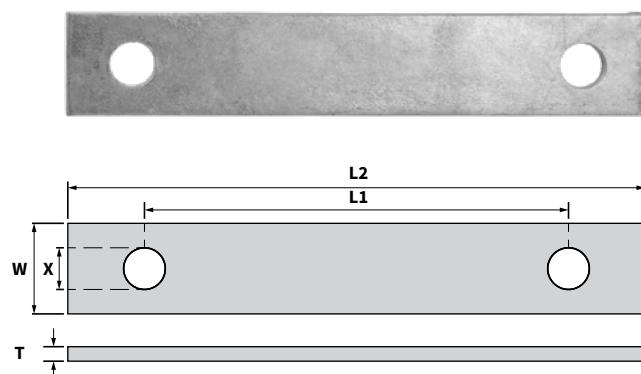
Cat No.	Description	Box Qty	Image
USC006-DH+WASHER	5/8" GALVANISED PIN + POLYMER WASHER, SQUARE WASHER DOUBLE HELIX SPRING WASHER & NUT M16 × 245MM DH	50	
USC006-DH	5/8" GALVANISED PIN-510/511 + SQUARE WASHER DOUBLE HELIX SPRING WASHER & NUT M16 × 245MM DH	50	
USC006WASHER	POLYMER WASHER FOR LV PIN USC006-DH	N/A	

## SHACKLE STRAPS - STRAIGHT

### MATERIAL

Galvanised Steel

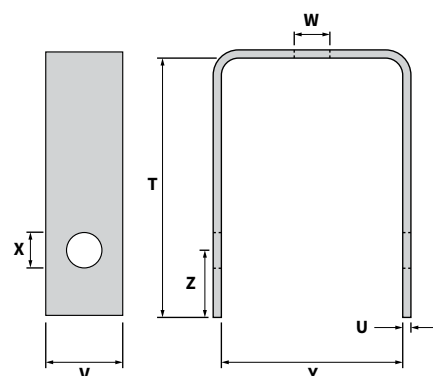
Cat No.	Dimensions (mm)					Style
	XØ	W	T	L1	L2	
GSSM3X30X300	13.5	30	3	250	300	STRAIGHT
GSSM3X32X180				130	180	
GSSM3X32X200		32		160	200	
GSSM3X32X230				180	230	



## SHACKLE STRAPS - "U"

### MATERIAL

Galvanised Steel



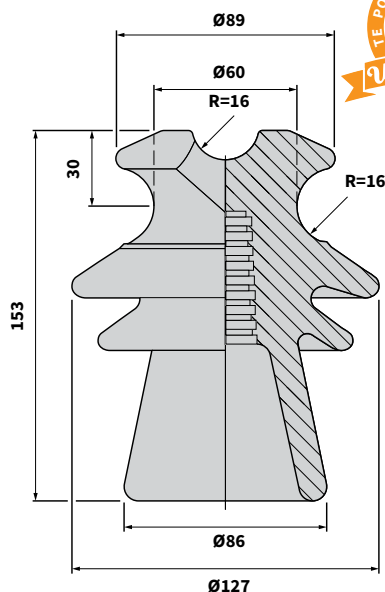
Cat No.	Insulator	Dimensions (mm)						
		Z	Y	XØ	WØ	V	U	T
GUS210M3X32X80	210	20	55	13.5	13.5	32	3	80
GUS210M3.2X30X85	210		60			30	3.2	85
GUS205M3X32X100	205	30	75	18	18	32	3	105
GUSM5X40X140	205		115			40	5	140



# PORCELAIN INSULATORS

## 11KV PIN TYPE INSULATORS - 1130W

Cat No.	0-0361400-0
RADIO SILENT GLAZE	YES
NOMINAL VOLTAGE	00V-11KV
GROOVE (MM)	32
CREEPAGE (MM)	252
POWER FREQ. DRY (KV)	70
POWER FREQ. WET (KV)	45
POWER FREQ. PUNCTURE (KV)	125
CANTILEVER STRENGTH (KN)	7
BOX QTY.	12
PIN TYPE	UM142-B-1-DH = 1" LEAD HEAD J211CZS = 1" NYLON HEAD

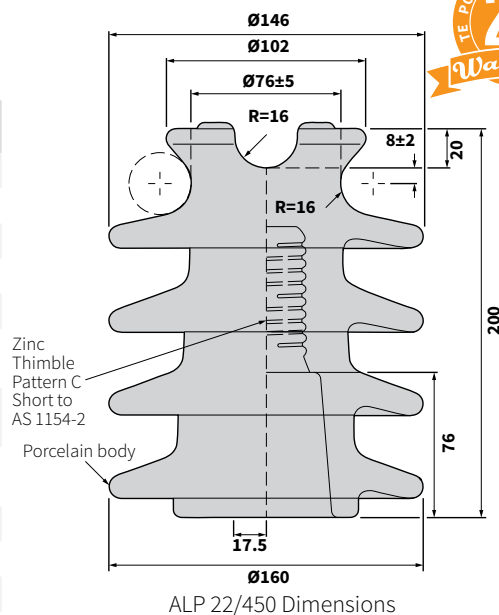


## 11KV PIN INSULATOR ACCESSORIES

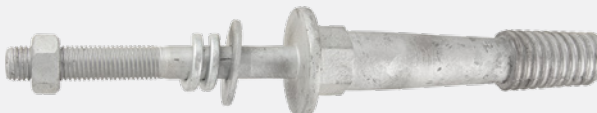

Cat No.	Description	Box Qty	Image
UM142-B-1-DH	1" LEAD HEAD GALVANISED PIN -1130W M20 × 280MM DOUBLE HELIX SPRING WASHER, SQUARE WASHER, NUT & LOCK NUT	25	
J211CZS	1" NYLON HEAD GALVANISED PIN - 1130W M20 × 267MM DOUBLE HELIX SPRING WASHER, SQUARE WASHER, NUT & LOCK NUT	25	

## 22KV PIN TYPE INSULATOR - ALP SERIES

Cat No.	TNALP22/450
RADIO SILENT GLAZE	YES
DIAMETER	200 X 160 X 76
CREEPAGE (MM)	450
NOM. VOLTAGE (KV)	22
GROOVE DIA. (MM)	32
POWER FREQUENCY WET WITHSTAND (KV)	50
IMPULSE WITHSTAND (KV)	150
CANTILEVER STRENGTH (KN)	11
NET WEIGHT (KG)	3.5
INSULATOR PIN	C200-11-XXMM-DH
QUANTITY PER CASE	6



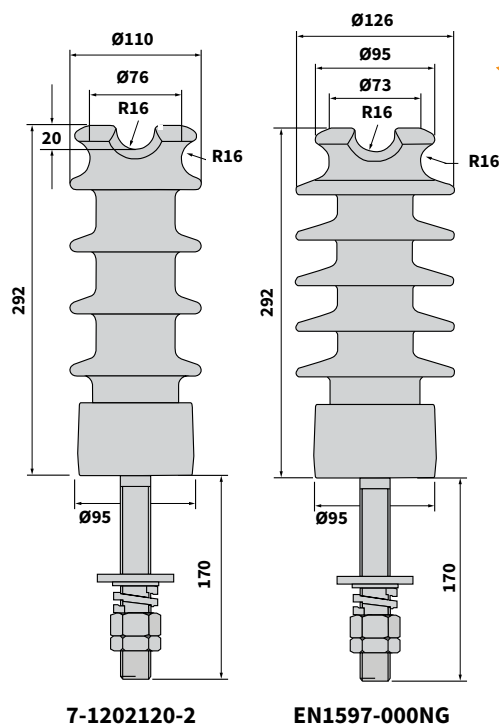
## ALP PIN INSULATOR ACCESSORIES

Cat No.	Description	Box Qty	Image
C200-11-20MM-DH	PAT C, GALVANISED PIN – ALP22/450 M20 × 165MM, ROUND WASHER, DOUBLE HELIX SPRING WASHER & NUT	12	
C200-11-24MM-DH	PAT C, GALVANISED PIN – ALP22/450 M24 × 165MM, ROUND WASHER, DOUBLE HELIX SPRING WASHER & NUT	12	



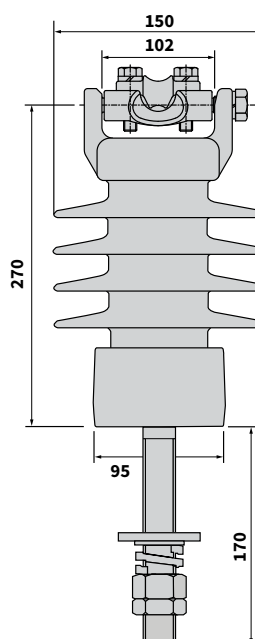
## 11KV TIE TOP POST INSULATOR

Cat No.	7-1202120-2 EN1597-000NG	
STYLE	TIE TOP	
GROOVE (MM)	32	
RATED VOLTAGE (KV)	11	
BIL (KV)	105	105
WET POWER FREQ. (KV)	50	72
CANTILEVER (KN)	12	10
CREEPAGE (MM)	300	400
APPROX. WEIGHT (KG)	5	5
MATERIAL	PORCELAIN	
PIN INCLUDED	M20 × 170MM WITH DOUBLE HELIX WASHER & LOCK NUT	
BOX QTY	3	



## 11KV CLAMP TOP POST INSULATOR

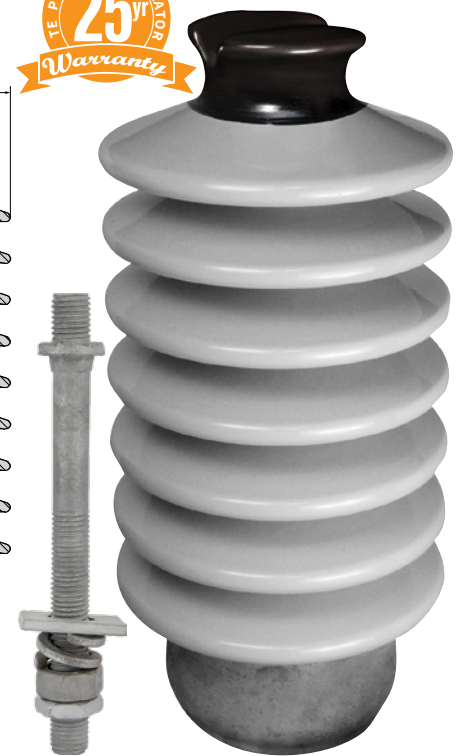
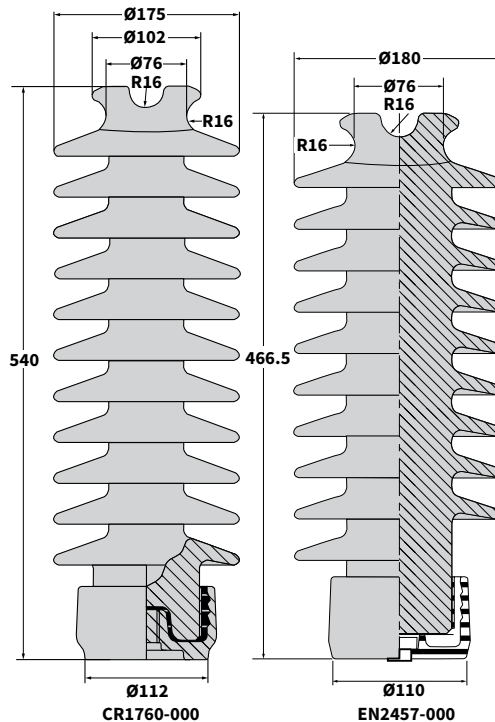
Cat No.	CL0058-000	
STYLE	CLAMP TOP	
RATED VOLTAGE (KV)	11	
BIL (KV)	95	
WET POWER FREQ. (KV)	38	
CANTILEVER (KN)	12.5	
CREEPAGE (MM)	350	
WEIGHT (KG)	7	
MATERIAL	PORCELAIN	
CLAMP INCLUDED	AL CLAMP, 7-32MM O.D.	
PIN INCLUDED	M20 × 170MM WITH DOUBLE HELIX WASHER & LOCK NUT	
BOX QTY	3	





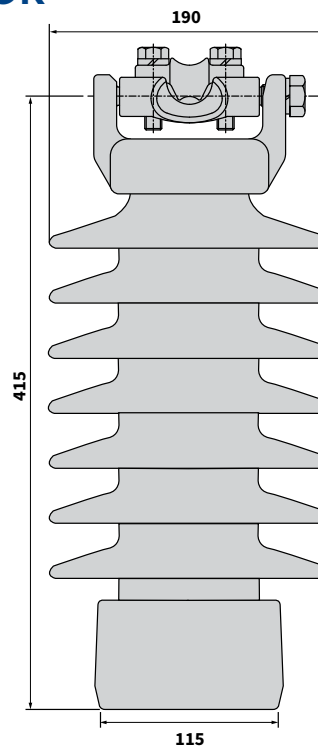
## 33KV TIE TOP POST INSULATOR

Cat No.	CR1760-000	EN2457-000
STYLE	TIE TOP	
GROOVE (MM)	32	
RADIO SILENT GLAZE	YES	
RATED VOLTAGE (KV)	33	
BIL (KV)	250	200
WET POWER FREQ. (KV)	120	110
CANTILEVER (KN)	11	13
CREEPAGE (MM)	1300	955
WEIGHT (KG)	17	13.6
MATERIAL	PORCELAIN	
PIN INCLUDED	M20 × 205MM STUD, DOUBLE HELIX WASHER, SQUARE WASHER & LOCK NUT	



## 33KV CLAMP TOP POST INSULATOR

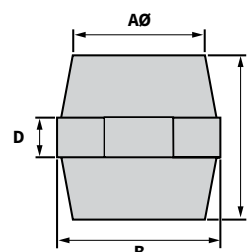
Cat No.	CJ8753-000
STYLE	VERTICAL CLAMP TOP
RATED VOLTAGE (KV)	33
BIL (KV)	200
WET POWER FREQ. (KV)	70
CANTILEVER (KN)	11
CREEPAGE (MM)	880
WEIGHT (KG)	17.5
MATERIAL	PORCELAIN
CLAMP INCLUDED	AL CLAMP, 7-32MM O.D.
PIN INCLUDED	M20 × 219MM STUD, SPRING WASHER, SQUARE WASHER & NUT



## STAND OFF INSULATORS

### LV STAND OFF INSULATORS

Cat No.	Ø A	B	C	D	Insert	kV Rating
1035EN	25	32	35	9	M6	3.3
1035FN	25	32	35	9	M8	
1040FN	35	40	40	10	M8	
1050GN	31	41	50	10	M10	
1050HN	31	41	50	10	M12	



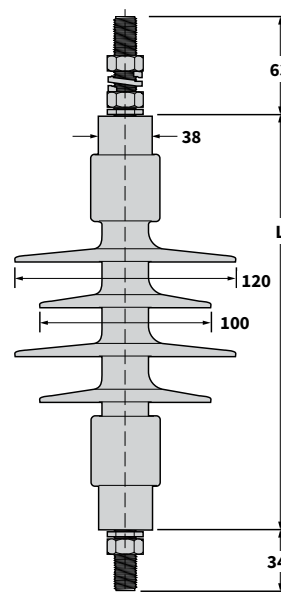
### MV STAND OFF INSULATORS

#### FEATURES

- High strength FRP core
- Standard stainless steel fittings
- Impenetrable interfacial sealing
- Pollution resistant EVA HV insulation housing in service since the 1970s
- Alternating shed configuration for optimal pollution flashover performance

#### BENEFITS

- Excellent performance in polluted environments
- Lightweight – easy installation and reduced transport costs
- High corrosion resistance
- Excellent resistance to vandalism
- Shatterproof design – breakages eliminated during installation

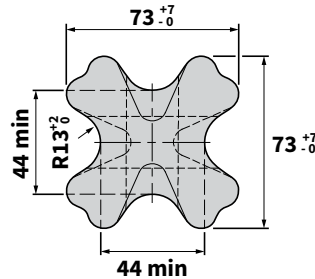
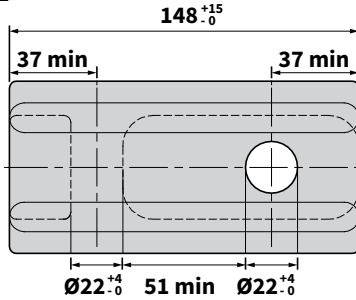


Cat No.	Rating (kV)	L (mm)	No. Sheds	Creepage (mm)	Dry Arc Distance (mm)	Wet AC Withstand (kV)	Impulse Withstand (kV)	Cantilever Load (nM)	MDCL (nM)	Tensile Load (kN)	Torque M12 (nM)
EPBI-19R-PPG-25KN-M0	19	226	4	497	205	52	159	580	290	25	50
EPBI-27R-PPG-25KN-M0	27	266	6	687	244	66	185				
EPBI-46R-PPG-25KN-M0	46	366	11	1169	347	104	252				

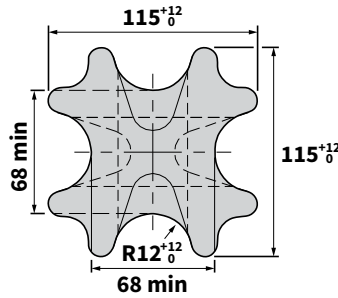
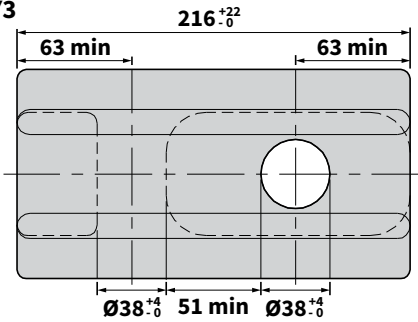
## STRAIN INSULATORS

### GUY STRAIN INSULATORS

GY2



GY3



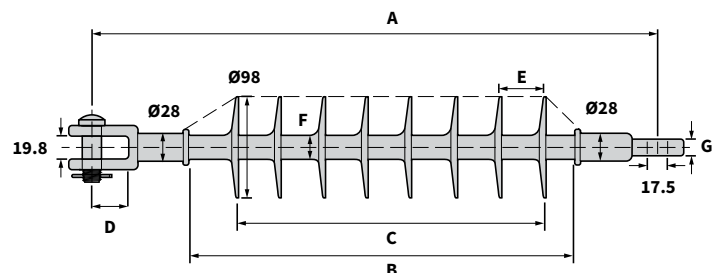
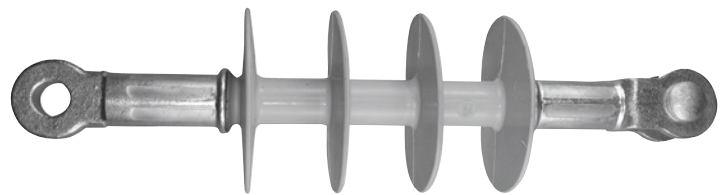
Cat No.	Type	Dry Flashover Voltage (kV)	Wet Flashover Voltage (kV)	Power Freq. Wet Withstand (kV)	Mechanical Failing Load (kN)	Net Weight (kg)	Box Quantity
7-1198679-2	GY2	35KV	18KV	15	71	1.1	6
3-1198665-3	GY3	55KV	25KV	20	222	4.3	4

## POLYMER INSULATORS

### POLYMER STRAIN INSULATORS

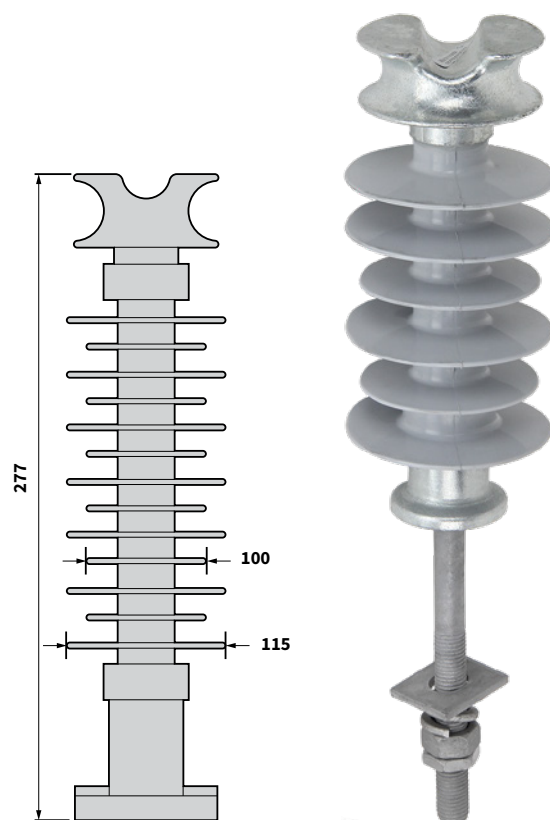
- Triple Seal design, to eliminate all moisture ingress
- Forged Steel End Fittings, to ensure a higher consistency of all critical dimensions
- Fibreglass Rod, for better traction & tension load on RML & SML
- Meets requirements of all applicable international standards

Cat No.	DS-15S	DS-28S	DS-35S
TYPICAL LINE VOLTAGE (KV)	15	28	35
SECTION LENGTH (MM)	330	432	559
DRY ARC (MM)	192	294	426
LEAKAGE (MM)	401	628	954
ELECTRICAL FLASHOVER			
- DRY 60HZ	90	130	170
- WET 60HZ	50	100	155
- CIFO POSITIVE	140	190	280
- CIFO NEGATIVE	145	220	290
WEIGHT (KG)	1.2	1.3	1.4
A (MM)	340	475	555
B (MM)	160	305	385
C (MM)	141	245	315
D (MM)	27	26	26
E (MM)	47	35	35
F (MM)	Ø24.5	Ø23	Ø23
G (MM)	16	14	14



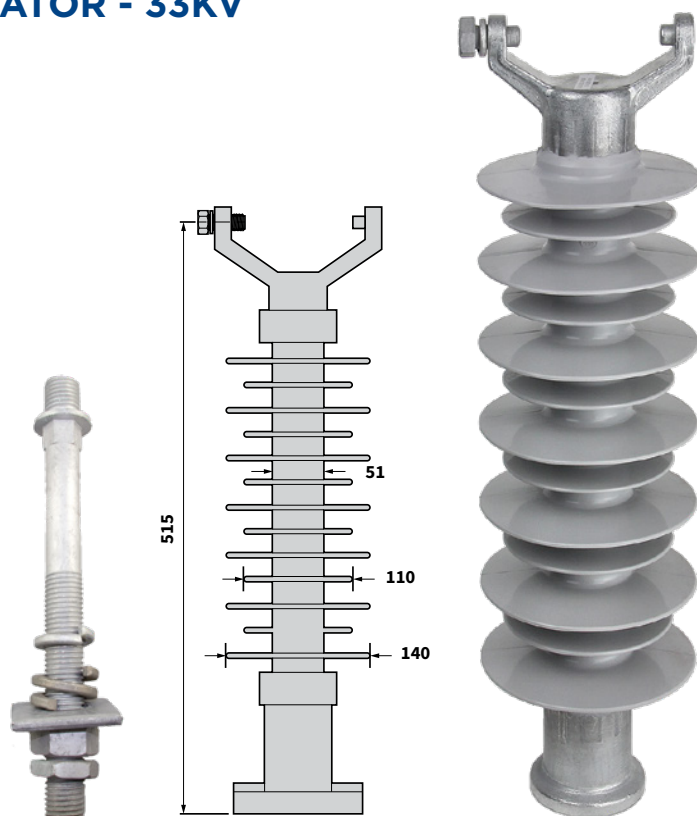
## SILICONE POST INSULATORS - 11KV

Technical Specifications	CZ2120-000
INSULATOR STYLE	TIE TOP
USAGE VOLTAGE (KV)	11
CREEPAGE DISTANCE (MM)	535
DRY ARC DISTANCE (MM)	223
NO OF SHEDS	6
SCL (KN)	11
WET POWER FREQUENCY WITHSTAND (KV)	38
DRY POWER FREQUENCY WITHSTAND (KV)	60
LIGHTNING IMPULSE WITHSTAND (KV)	105
WEIGHT (KG)	2.02
COLOUR	GREY
END FITTING	GALVANISED CAST STEEL
HOUSING	SILICONE
CORE	FRP
PIN INCLUDED	M20 × 219MM STUD, SPRING WASHER, DOUBLE HELIX SPRING WASHER SQUARE WASHER & NUT
BOX QTY	6 (48 × 6 PER PALLET)



## SILICONE VERTICAL CLAMP TOP INSULATOR - 33KV

Technical Specifications	BM5624-000
INSULATOR STYLE	HORIZONTAL CLAMP TOP
USAGE VOLTAGE (KV)	36
CREEPAGE DISTANCE (MM)	1224
DRY ARC DISTANCE (MM)	420
NO OF SHEDS	13
CANTILEVER LOAD (KN)	8
WET POWER FREQUENCY WITHSTAND (KV)	100
DRY POWER FREQUENCY WITHSTAND (KV)	130
LIGHTNING IMPULSE WITHSTAND (KV)	235
WEIGHT (KG)	6.5
COLOUR	GREY
END FITTING	GALVANISED CAST STEEL
HOUSING	SILICONE
CORE	FRP
CLAMP (NOT INCLUDED)	CAT NO. = 3-1198345-6 AL CLAMP, 7-32MM O.D.
PIN INCLUDED	M20 × 219MM STUD, SPRING WASHER, DOUBLE HELIX SPRING WASHER SQUARE WASHER & NUT



## EVA POST INSULATORS - 19KV, 36KV & 43KV

The Raychem RLP polymeric line post insulator combines mechanical strength with excellent pollution performance. It consists of a protruded fibreglass rod and a non-tracking polymer housing which is directly bonded to the metal end fitting. Corrosion resistant end fittings are crimped to the pultruded fibreglass core to allow the transition of mechanical loading to the line and mounting structure.

A patented crimp control technology monitors for damage to the fibreglass rod while achieving maximum mechanical strength. The direct bonding of the polymer housing to the metal end fitting results in an ideal moisture barrier in the sensitive interface area.

### TECHNICAL DATA

- Composite design
- Lightweight – easy installation
- Vandal and break resistant
- Impact resistant

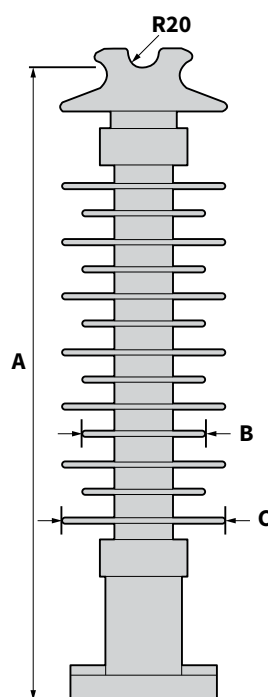
### EVA HOUSING

- High tracking and erosion resistance
- Excellent performance under polluted conditions
- Reduced maintenance costs
- Direct bonding to end fitting offers moisture barrier on fibreglass rod

For pins and clamps to fit this insulator range please see page 236.

## EVA VERTICAL TIE TOP - 19KV, 36KV & 43KV

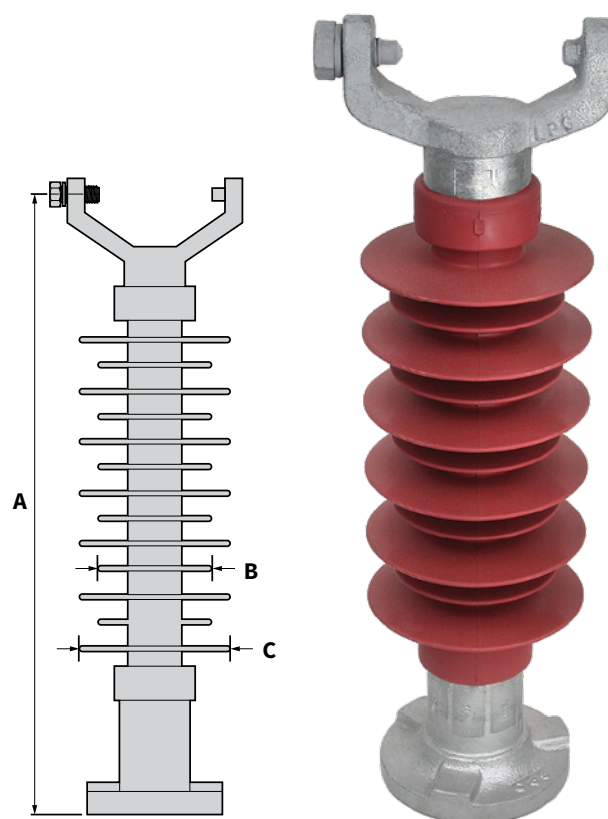
Cat No.	RLP-19R-FG	CN5209-000	RLP-43R-FG
USAGE VOLTAGE (KV)	19	36	43
GROOVE (MM)	40	40	40
CREEPAGE DISTANCE (MM)	424	922	1074
DRY ARC DISTANCE (MM)	169	300	340
NO OF SHEDS	4	11	13
A (MM)	285	415	455
B (MM)	100	92	92
C (MM)	120	122	122
SCL (KN) & RTL (KN)	12.5	12.5	12.5
MDCL (KN)	5.5	5.5	5.5
STL (KN)	25	25	25
AC DRY FLASHOVER VOLTAGE (KV)	104	163	176
AC DRY WITHSTAND VOLTAGE (KV)	95	146	159
AC WET FLASHOVER VOLTAGE (KV)	72	120	129
AC WET WITHSTAND VOLTAGE (KV)	61	103	112
IMPULSE WITHSTAND VOLTAGE (KV)	137	219	244
STUD SIZE (NOT INCLUDED)	M20	M20	M20





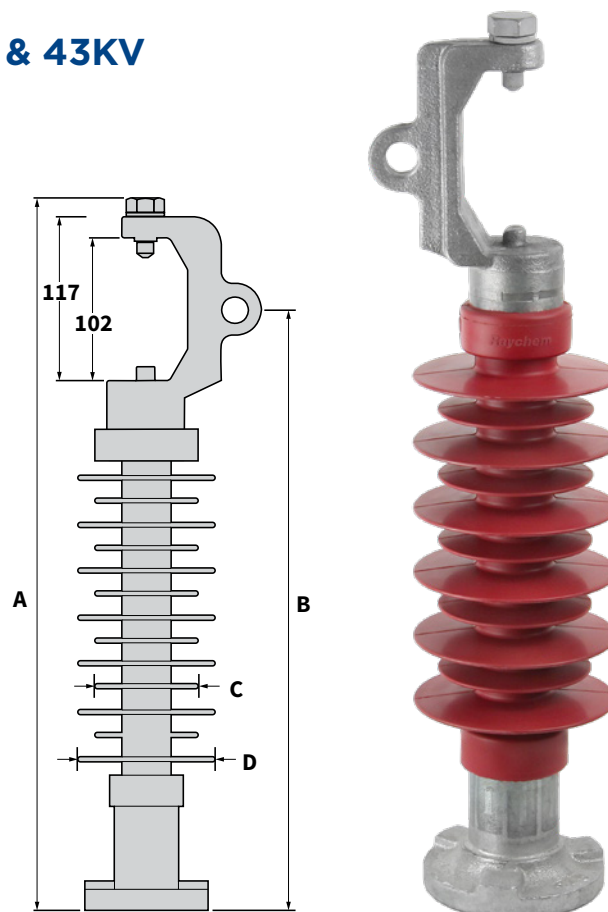
## EVA VERTICAL CLAMP TOP - 19KV, 36KV & 43KV

Cat No.	RLP-19R-VG	CN5208-000	RLP-43R-VG
USAGE VOLTAGE (KV)	19	36	43
CREEPAGE (MM)	424	922	1074
DRY ARC DISTANCE (MM)	169	300	340
NO OF SHEDS	4	11	13
A (MM)	299	429	469
B (MM)	100	92	92
C (MM)	120	122	122
SCL (KN) & RTL (KN)	12.5	12.5	12.5
MDCL (KN)	5.5	5.5	5.5
STL (KN)	25	25	25
AC DRY FLASHOVER VOLTAGE (KV)	104	163	176
AC DRY WITHSTAND VOLTAGE (KV)	95	146	159
AC WET FLASHOVER VOLTAGE (KV)	72	120	129
AC WET WITHSTAND VOLTAGE (KV)	61	103	112
IMPULSE WITHSTAND VOLTAGE (KV)	137	219	244
STUD SIZE (NOT INCL.)	M20	M20	M20
CLAMP (NOT INCL.)	COMPATIBLE CLAMP CAT NO. IS 3-1198345-6		



## EVA HORIZONTAL CLAMP TOP - 19KV, 36KV & 43KV

Cat No.	RLP-19R-HG	CR5420-000	RLP-43R-HG
USAGE VOLTAGE (KV)	19	36	43
CREEPAGE (MM)	424	922	1074
DRY ARC DISTANCE (MM)	169	300	340
NO OF SHEDS	4	11	13
A (MM)	401	531	571
B (MM)	320	450	490
C (MM)	100	92	92
D (MM)	120	122	122
SCL (KN) & RTL (KN)	12.5	12.5	12.5
MDCL (KN)	5.5	5.5	5.5
STL (KN)	25	25	25
AC DRY FLASHOVER VOLTAGE (KV)	104	163	176
AC DRY WITHSTAND VOLTAGE (KV)	95	146	159
AC WET FLASHOVER VOLTAGE (KV)	72	120	129
AC WET WITHSTAND VOLTAGE (KV)	61	103	112
IMPULSE WITHSTAND VOLTAGE (KV)	137	219	244
STUD SIZE (NOT INCL.)	M20	M20	M20
CLAMP (NOT INCL.)	COMPATIBLE CLAMP CAT NO. IS 3-1198345-6		



## EVA & SILICONE POST INSULATOR ACCESSORIES

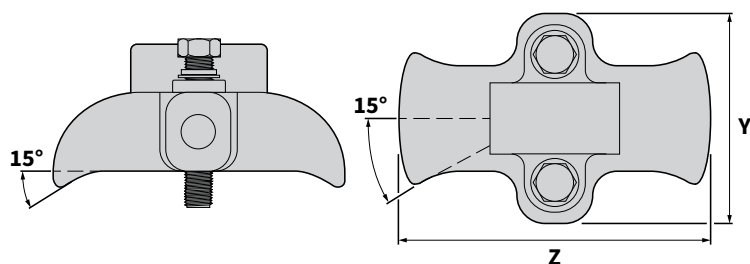
Cat No.	Description	Image
3-1198345-6	AL C/TOP CLAMP 7 - 32MM OD	
CN6147-000	STUD M20 X 218MM (X-ARM MOUNT)	
CN6148-000	STUD M20 X 90MM (CHANNEL MOUNT)	

## PIVOT SUPPORT CLAMPS

### ALUMINIUM PIVOT SUPPORT CLAMPS

Aluminium Pivot Support Clamps are designed for use with AAC, AAAC and ACSR conductors and supported on horizontal or vertical line post insulators and Cast Iron Pivot Support Clamps are designed for use with SC/GZ, SC/AC and other steel conductors in suspension.

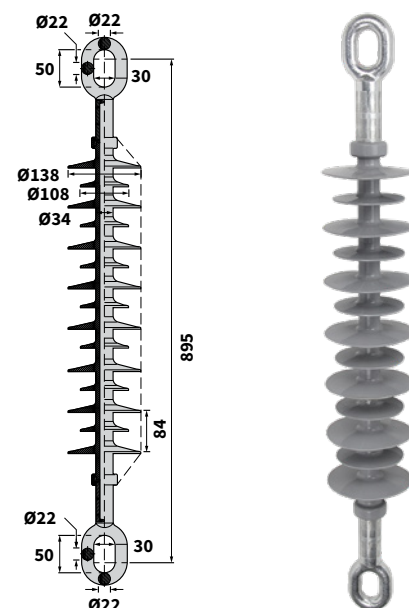
Reversible keeper allows a large conductor range for each clamp size.



Cat No.	Type	Clamp Range (mm)	Rated Strength (kN)	Dimensions (mm)			Approx. Weight (kg)
				Z	Y	Bolt Size	
TNTSC-0614	ALUMINIUM	6–14	12	133	99	M12	0.5
TNTSC-0921		9–21					0.5
TNTSC-1327		13–27					0.6
TNTSC-2538		25–38					0.6
3-1198345-6		7–32			0.5		
TNDTSC-0614	CAST IRON	6–14		98.5	M12	1.1	
TNDTSC-1327		13–27				1.2	
TNDTSC-2538		25–38				1.3	

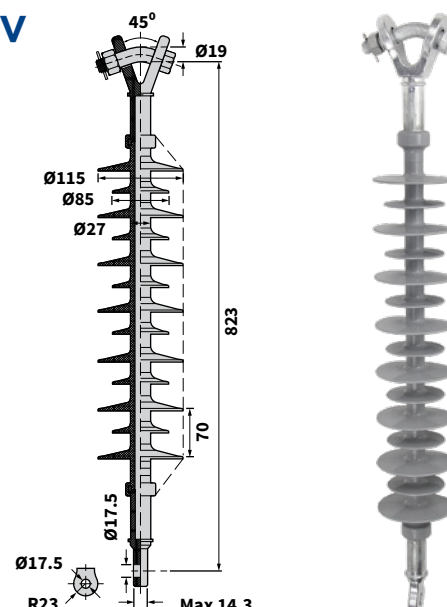
## FEE160CWO POLYMER STRAIN, 160KN, 66KV

Cat No.	FEE160CWO
USAGE VOLTAGE (KV)	69
NUMBER OF SHEDS	13
ARCING DISTANCE, MIN (MM)	615
LEAKAGE DISTANCE, MIN (MM)	1650
POWER FREQUENCY WITHSTAND VOLTAGE (KV)	DRY 1 MINUTE = 185 WET 1 MINUTE = 150
LIGHTNING IMPULSE WITHSTAND VOLTAGE (KV)	340
SPECIFIED MECHANICAL LOAD (KN)	160
ROUTINE TEST LOAD (KN)	80
FITTINGS	<ul style="list-style-type: none"> <li>- ROD: 24MM O.D., EPOXY &amp; GLASS FIBRE, ACID RESISTANT</li> <li>- WEATHERSHEDS: HTV SILICONE GREY</li> <li>- OVAL EYES: HOT DIP GALV FORGED STEEL (85µM MIN)</li> </ul>



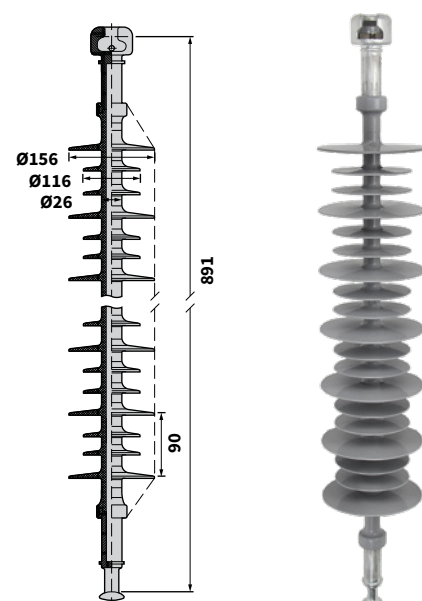
## FYT120CWO015S0R0 POLYMER STRAIN, 120KN, 66KV

Cat No.	FYT120CWO015S0R0
USAGE VOLTAGE (KV)	69
NUMBER OF SHEDS	15
ARCING DISTANCE, MIN (MM)	600
LEAKAGE DISTANCE, MIN (MM)	1500
LOW FREQUENCY WITHSTAND VOLTAGE (KV)	DRY 1 MINUTE = 175 WET 1 MINUTE = 135
CRITICAL IMPULSE WITHSTAND VOLTAGE (KV)	315
SPECIFIED MECHANICAL LOAD (KN)	120
ROUTINE TEST LOAD (KN)	60
FITTINGS	<ul style="list-style-type: none"> <li>- ROD: 18MM O.D., EPOXY &amp; GLASS FIBRE, ACID RESISTANT</li> <li>- WEATHERSHEDS: HTV SILICONE GREY</li> <li>- FITTINGS: HOT DIP GALV CAST IRON OR FORGED STEEL (85µM MIN)</li> <li>- SPLIT PIN: STAINLESS STEEL</li> </ul>



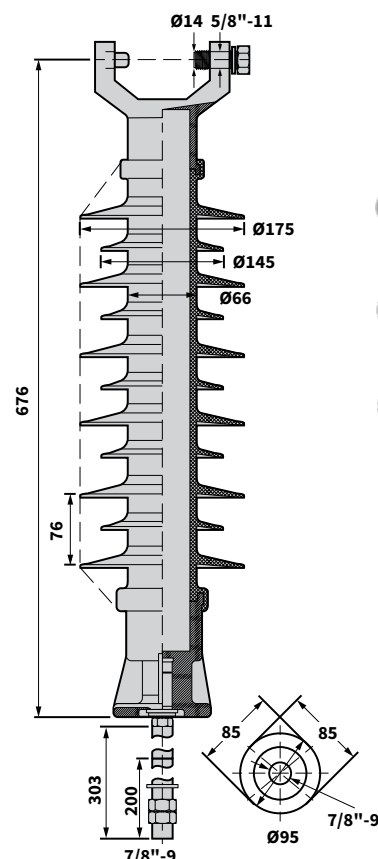
## FSB120XL023 POLYMER STRAIN, 120KN, 66KV

Cat No.	FSB120XL023
USAGE VOLTAGE (KV)	69
NUMBER OF SHEDS	19
ARCING DISTANCE, MIN (MM)	690
LEAKAGE DISTANCE, MIN (MM)	2480
POWER FREQUENCY WITHSTAND VOLTAGE (KV)	DRY 1 MINUTE = 220 WET 1 MINUTE = 180
LIGHTNING IMPULSE WITHSTAND VOLTAGE (KV)	405
SPECIFIED MECHANICAL LOAD (KN)	120
ROUTINE TEST LOAD (KN)	60
FITTINGS	<ul style="list-style-type: none"> <li>- ROD: 18MM O.D., EPOXY &amp; GLASS FIBRE, ACID RESISTANT</li> <li>- WEATHERSHEDS: HTV SILICONE</li> <li>- FITTINGS: HOT DIP GALV FORGED STEEL (SOCKET &amp; BALL) OR CAST STEEL (SOCKET ONLY) (85µM MIN)</li> <li>- SPLIT PIN: STAINLESS STEEL</li> </ul>



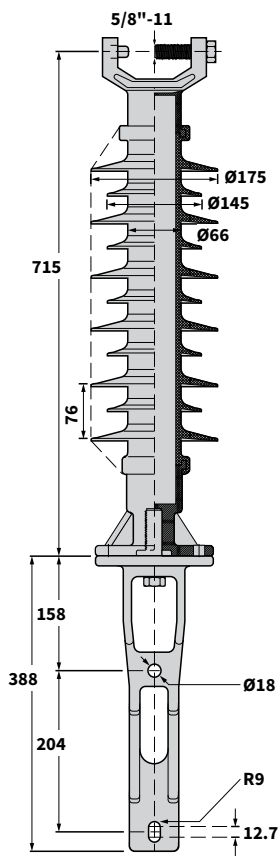
## NPVW55CW0011 POLYMER VERTICAL LINE POST, 66KV

Cat No.	NPVW55CW0011
USAGE VOLTAGE (KV)	69
NUMBER OF SHEDS	11
ARCING DISTANCE, MIN (MM)	517
LEAKAGE DISTANCE, MIN (MM)	1453
LOW FREQUENCY FLASHOVER VOLTAGE (KV) - DRY	225
- WET	175
CRITICAL IMPULSE FLASHOVER VOLTAGE (KV) - POSITIVE	335
- NEGATIVE	370
SPECIFIED CANTILEVER LOAD (KN)	9.5
MAXIMUM DESIGN CANTILEVER LOAD (KN)	6.2
ROUTINE TENSILE TEST LOAD (KN)	11.2
APPROXIMATE WEIGHT (KG)	12
ROD	55MM NOM. Ø, EPOXY IMPREGNATED GLASS FIBRES
WEATHERSHEDS	HTV SILICONE
END FITTINGS	HOT DIP GALVANISED CAST IRON OR CAST STEEL (85µM), BOLT 5/8"-11 + SPRING WASHER, Q235 STUD
PIN INCLUDED	7/8"-9 STUD WITH LOCK NUTS AND WASHERS INCLUDED, 303MM



## NPVF55CW0011 POLYMER VERTICAL LINE POST, 66KV

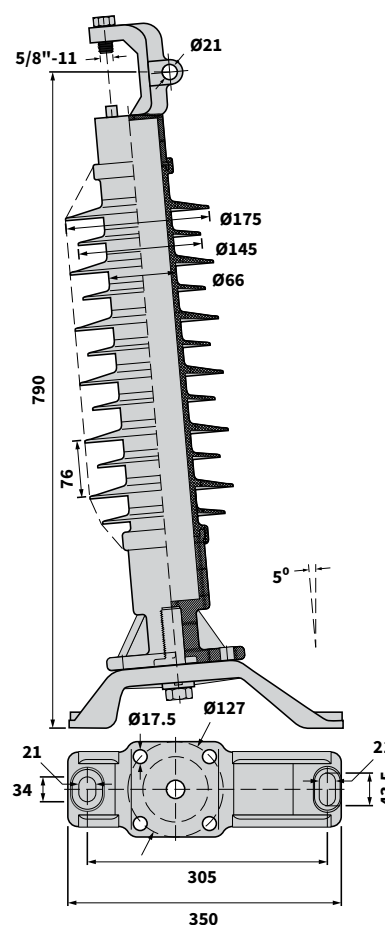
Cat No.	NPVF55CW0011
USAGE VOLTAGE (KV)	69
NUMBER OF SHEDS	11
ARCING DISTANCE, MIN (MM)	517
LEAKAGE DISTANCE, MIN (MM)	1460
LOW FREQUENCY FLASHOVER VOLTAGE (KV) - DRY	225
- WET	175
CRITICAL IMPULSE FLASHOVER VOLTAGE (KV) - POSITIVE	335
- NEGATIVE	515
SPECIFIED CANTILEVER LOAD (KN)	9.5
MAXIMUM WORKING CANTILEVER LOAD (KN)	7.2
ROUTINE TENSILE TEST LOAD (KN)	11.2
APPROXIMATE WEIGHT (KG)	20.2
ROD	55MM NOM. Ø, EPOXY IMPREGNATED GLASS FIBRES
WEATHERSHEDS	HTV SILICONE GREY
END FITTINGS	HOT DIP GALVANISED CAST IRON / STEEL (85µM), BOLT 5/8"-11 + SPRING WASHER
GAIN BASE INCLUDED	COMPATIBLE WITH CONCRETE POLE (FLAT SURFACE)





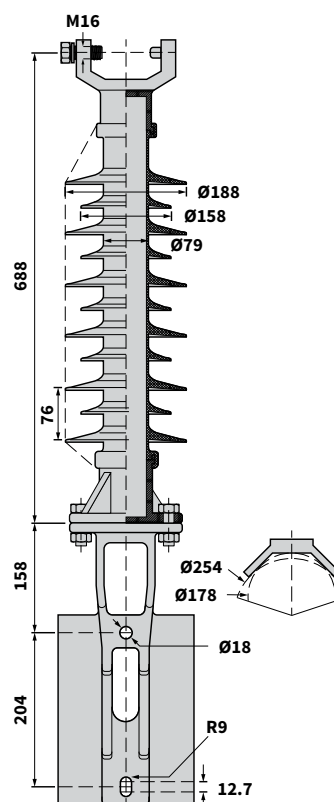
## NPKF55CWO011 POLYMER HORIZONTAL LINE POST, 66KV

Cat No.	NPKF55CWO011
USAGE VOLTAGE (KV)	69
NUMBER OF SHEDS	11
ARCING DISTANCE, MIN (MM)	517
LEAKAGE DISTANCE, MIN (MM)	1460
LOW FREQUENCY FLASHOVER VOLTAGE (KV) - DRY	225
- WET	175
CRITICAL IMPULSE FLASHOVER VOLTAGE (KV) - POSITIVE	335
- NEGATIVE	515
SPECIFIED CANTILEVER LOAD (KN)	8.5
MAXIMUM WORKING CANTILEVER LOAD (KN)	7.2
ROUTINE TENSILE TEST LOAD (KN)	11.2
APPROXIMATE WEIGHT (KG)	16
ROD	55MM NOM. Ø, EPOXY IMPREGNATED GLASS FIBRES
WEATHERSHEDS	HTV SILICONE GREY
END FITTINGS	HOT DIP GALVANISED CAST IRON / STEEL (85µM), BOLT 5/8"-11 + SPRING WASHER
GAIN BASE INCLUDED	COMPATIBLE WITH CONCRETE POLE (FLAT SURFACE)



## NPVF68CW0011 POLYMER VERTICAL HD LINE POST, 66KV

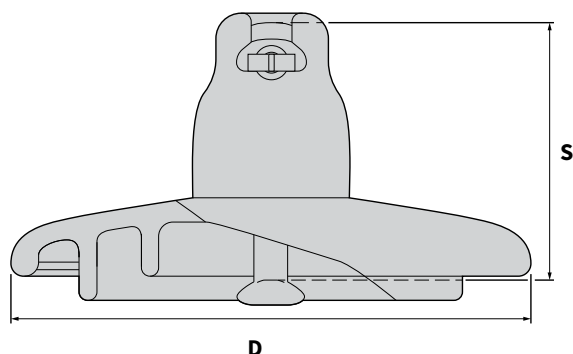
Cat No.	NPVF68CWO011
USAGE VOLTAGE (KV)	69
NUMBER OF SHEDS	11
ARCING DISTANCE, MIN (MM)	520
LEAKAGE DISTANCE, MIN (MM)	1465
LOW FREQUENCY FLASHOVER VOLTAGE (KV) - DRY	220
- WET	175
CRITICAL IMPULSE FLASHOVER VOLTAGE (KV) - POSITIVE	330
- NEGATIVE	510
SPECIFIED CANTILEVER LOAD (KN)	28.6
MAXIMUM WORKING CANTILEVER LOAD (KN)	14.3
ROUTINE TENSILE TEST LOAD (KN)	16.5
APPROXIMATE WEIGHT (KG)	22.5
ROD	68MM NOM. Ø, EPOXY IMPREGNATED GLASS FIBRES
WEATHERSHEDS	HTV SILICONE GREY
END FITTINGS	HOT DIP GALVANISED CAST IRON OR CAST STEEL (85µM)
GAIN BASE INCLUDED	COMPATIBLE WITH WOOD POLE, DIA 178-254MM





# TOUGHENED GLASS SUSPENSION INSULATORS

## SEDIWER BALL & SOCKET TYPE, STANDARD PROFILE - 70KN/100KN



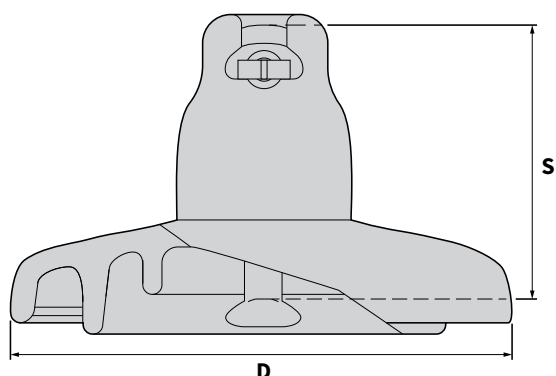
Cat No.		F70/127	F70/146	F100/127	F100/146
IEC CLASS <sup>(1)</sup>		U70BS	U70BL	U100BS	U100BL
MECHANICAL CHARACTERISTICS					
MIN MECHANICAL FAILING LOAD	KN	70	70	100	100
DIMENSIONS					
DIAMETER (D)	MM	255	255	255	255
SPACING (S)	MM	127	146	127	146
CREEPAGE DISTANCE	MM	320	320	320	320
METAL FITTING SIZE <sup>(2)</sup>		16A	16A	16A	16A
ELECTRICAL CHARACTERISTICS <sup>(3)</sup>					
POWER FREQ. WITHSTAND VOLTAGE					
- DRY ONE MINUTE	KV	70	70	70	70
- WET ONE MINUTE	KV	40	40	40	40
DRY LIGHTNING IMPULSE WITHSTAND VOLTAGE	KV	100	100	100	100
PUNCTURE WITHSTAND VOLTAGE	KV	130	130	130	130

(1) in accordance with IEC publication 60305

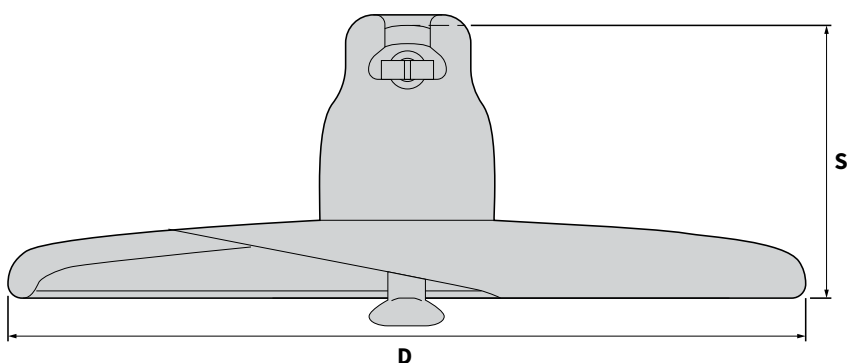
(2) in accordance with IEC publication 60120

(3) in accordance with IEC publication 60383-1

## SEDIVER BALL & SOCKET TYPE, FOG & OPEN PROFILE - 70KN/100KN



FOG TYPE PROFILE



OPEN TYPE PROFILE



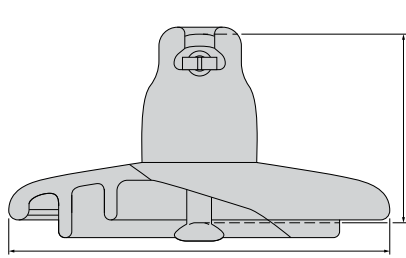
Cat No.	F9P-A/146		Fog	F100P-146	F100PF/146	Open
						F100D/127
IEC CLASS <sup>(1)</sup>			U100BLP			
MECHANICAL CHARACTERISTICS						
MIN MECHANICAL FAILING LOAD	KN	100		100	100	100
DIMENSIONS						
DIAMETER (D)	MM	255		280	330	380
SPACING (S)	MM	146		146	146	127
CREEPAGE DISTANCE	MM	390		445	545	365
METAL FITTING SIZE <sup>(2)</sup>		16A		16A	16A	16A
ELECTRICAL CHARACTERISTICS <sup>(3)</sup>						
POWER FREQ. WITHSTAND VOLTAGE						
- DRY ONE MINUTE	KV	72		80	90	60
- WET ONE MINUTE	KV	42		50	55	50
DRY LIGHTNING IMPULSE WITHSTAND VOLTAGE	KV	110		125	140	90
PUNCTURE WITHSTAND VOLTAGE	KV	130		130	130	130

(1) in accordance with IEC publication 60305

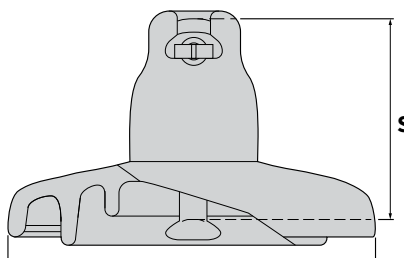
(2) in accordance with IEC publication 60120

(3) in accordance with IEC publication 60383-1

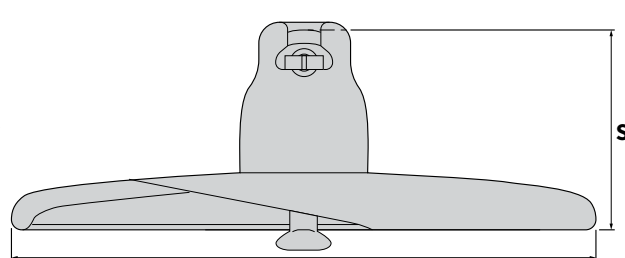
## SEDIVER BALL & SOCKET TYPE, STANDARD, FOG & OPEN PROFILE - 120KN



**D**  
STANDARD TYPE PROFILE



**D**  
FOG TYPE PROFILE



**D**  
OPEN TYPE PROFILE

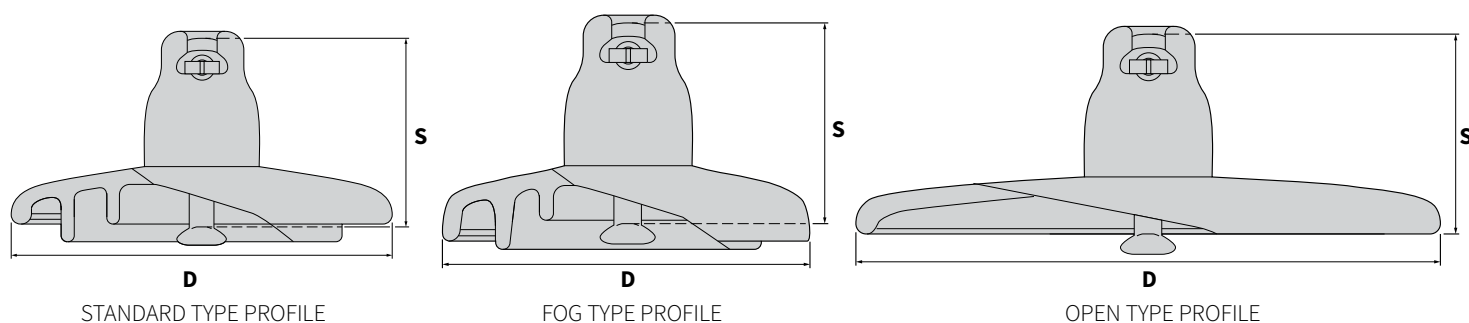
Cat No.	Standard		Fog		Open	
	F12/127	F12/146	F12P-A/146	F120P/146	F12D/127	
IEC CLASS <sup>(1)</sup>		U120B		U120BP		
MECHANICAL CHARACTERISTICS						
MIN MECHANICAL FAILING LOAD	KN	120	120	120	120	
DIMENSIONS						
DIAMETER (D)	MM	255	255	255	280	380
SPACING (S)	MM	127	146	146	146	127
CREEPAGE DISTANCE	MM	320	320	390	445	365
METAL FITTING SIZE <sup>(2)</sup>		16A	16A	16A	16A	16A
ELECTRICAL CHARACTERISTICS <sup>(3)</sup>						
POWER FREQ. WITHSTAND VOLTAGE						
- DRY ONE MINUTE	KV	70	70	72	80	60
- WET ONE MINUTE	KV	40	40	42	50	50
DRY LIGHTNING IMPULSE WITHSTAND VOLTAGE	KV	100	100	110	125	90
PUNCTURE WITHSTAND VOLTAGE	KV	130	130	130	130	130

(1) in accordance with IEC publication 60305

(2) in accordance with IEC publication 60120

(3) in accordance with IEC publication 60383-1

## SEDIVER BALL & SOCKET TYPE, STANDARD, FOG & OPEN PROFILE - 160KN



Cat No.	Standard		Fog		Open
	F160/146	F160/170	F160P/146	F160P/170	F160D/146
IEC CLASS <sup>(1)</sup>	U160BS	U160BL	U160BSP	U160BLP	
MECHANICAL CHARACTERISTICS					
MIN MECHANICAL FAILING LOAD	KN	160	160	160	160
DIMENSIONS					
DIAMETER (D)	MM	280	280	330	420
SPACING (S)	MM	146	170	146	146
CREEPAGE DISTANCE	MM	380	380	545	545
METAL FITTING SIZE <sup>(2)</sup>		20	20	20	20
ELECTRICAL CHARACTERISTICS <sup>(3)</sup>					
POWER FREQ. WITHSTAND VOLTAGE					
- DRY ONE MINUTE	KV	75	75	90	90
- WET ONE MINUTE	KV	45	45	55	55
DRY LIGHTNING IMPULSE WITHSTAND VOLTAGE	KV	110	110	140	140
PUNCTURE WITHSTAND VOLTAGE	KV	130	130	130	130

(1) in accordance with IEC publication 60305

(2) in accordance with IEC publication 60120

(3) in accordance with IEC publication 60383-1



## IEC/BS STRING ELECTRICAL RATINGS

### STANDARD PROFILE

Standard profile suspension insulator string withstand voltages based on the test procedure of International Standard IEC 60383-93 and British Standard BS 60383

Cat No.	Diameter/Spacing Ø 255/127			Diameter/Spacing Ø 255/146 – Ø 280/146		
	F70/170 – F100/127 – F12/127			F70/146 – F100/146 – F12/146 – F160/146		
	Power Frequency Withstand Voltage (kV)		Lightning Impulse Withstand Voltage (kV)	Power Frequency Withstand Voltage (kV)		Lightning Impulse Withstand Voltage (kV)
No. of Units	Dry	Wet		Dry	Wet	
2	113	65	175	130	75	195
3	157	100	245	180	115	275
4	204	135	320	235	155	360
5	244	170	395	280	195	430
6	283	200	460	325	230	505
7	326	231	525	375	265	580
8	365	261	585	420	300	660
9	404	283	660	465	325	730
10	444	326	720	510	375	800
11	478	357	785	550	410	880
12	518	383	850	595	440	955
13	552	413	920	635	475	1025
14	587	444	985	675	510	1095
15	622	470	1050	715	540	1160
16	657	496	1115	755	570	1230
17	696	522	1180	800	600	1300
18	744	552	1240	855	635	1370
19	761	578	1310	875	665	1440
20	796	609	1365	915	700	1510
21	826	635	1425	950	730	1575
22	861	661	1490	990	760	1640
23	896	687	1550	1030	790	1710
24	926	713	1610	1065	820	1775
25	957	744	1670	1100	855	1850
26	992	765	1735	1140	880	1920
27	1022	792	1800	1175	910	1990
28	1057	813	1860	1215	935	2060
29	1092	839	1920	1255	965	2130
30	1122	861	1980	1290	990	2200





## IEC/BS STRING ELECTRICAL RATINGS

## STANDARD PROFILE

Standard profile suspension insulator string withstand voltages based on the test procedure of International Standard IEC 60383-93 and British Standard BS 60383

Cat No.	Diameter/Spacing Ø 280/170 F160/170 – F21/170 – F24/170			Diameter/Spacing Ø 320/195 – Ø 360/205 F300/195 – F400/205		
	Power Frequency Withstand Voltage (kV)		Lightning Impulse Withstand Voltage (kV)	Power Frequency Withstand Voltage (kV)		Lightning Impulse Withstand Voltage (kV)
	Dry	Wet		Dry	Wet	
2	140	80	215	155	90	230
3	200	120	305	220	140	340
4	250	160	385	290	180	430
5	300	200	470	350	220	530
6	350	240	560	405	260	620
7	400	280	640	465	300	700
8	450	320	720	515	350	790
9	500	350	810	570	390	880
10	545	380	900	620	440	970
11	590	420	980	675	490	1060
12	635	455	1070	725	540	1150
13	675	490	1140	775	580	1240
14	720	520	1220	825	620	1330
15	760	550	1300	870	660	1425
16	810	585	1380	920	700	1520
17	850	615	1460	970	740	1610
18	895	650	1550	1020	780	1700
19	930	680	1620	1070	820	1790
20	970	710	1690	1110	860	1880
21	1000	740	1770	1160	900	1970
22	1050	775	1840	1210	940	2050
23	1090	805	1920	1260	980	2140
24	1130	835	2000	1310	1015	2230
25	1170	870	2080	1360	1050	2320
26	1210	900	2160	1410	1085	2410
27	1250	930	2240	1460	1120	2500
28	1290	960	2320	1510	1155	2600
29	1330	990	2400	1550	1190	2700
30	1370	1030	2480	1600	1225	2800



## IEC/BS STRING ELECTRICAL RATINGS

### FOG TYPE PROFILE

Fog type profile suspension insulator string withstand voltages based on the test procedure of International Standard IEC 60383-93 and British Standard BS 60383

Cat No.	Diameter/Spacing Ø 280/146 – Ø 330/146			Diameter/Spacing Ø 330/170		
	F100P/146 – F120P/146 – F160P/146 – 100PF/146			60P/170 – F210P/170		
	Power Frequency Withstand Voltage (kV)		Lightning Impulse Withstand Voltage (kV)	Power Frequency Withstand Voltage (kV)		Lightning Impulse Withstand Voltage (kV)
No. of Units	Dry	Wet		Dry	Wet	
2	140	85	210	150	105	235
3	195	115	295	210	150	335
4	240	150	380	265	190	435
5	290	180	465	320	230	535
6	335	210	530	370	270	625
7	380	240	600	420	300	710
8	425	270	680	470	335	800
9	465	300	760	515	365	890
10	510	330	840	570	395	980
11	550	360	920	610	430	1070
12	585	390	1000	660	460	1170
13	630	410	1080	700	490	1260
14	670	430	1160	745	520	1355
15	710	460	1240	785	550	1450
16	750	490	1320	830	575	1540
17	785	510	1410	870	605	1640
18	825	530	1500	910	630	1730
19	860	550	1580	950	655	1810
20	895	570	1655	990	680	1900
21	925	590	1730	1030	700	1990
22	960	610	1810	1060	720	2080
23	995	630	1885	1090	740	2160
24	1025	650	1950	1130	755	2245
25	1060	670	2025	1170	780	2325
26	1090	690	2100	1200	800	2410
27	1120	710	2180	1250	825	2490
28	1155	730	2260	1290	850	2575
29	1185	750	2340	1330	885	2650
30	1215	770	2420	1360	910	2720



## IEC/BS STRING ELECTRICAL RATINGS

## OPEN TYPE PROFILE

Standard profile suspension insulator string withstand voltages based on the test procedure of International Standard IEC 60383-93 and British Standard BS 60383

Cat No.	Diameter/Spacing Ø 380/127 F12D/127			Diameter/Spacing Ø 380/146 – Ø 420/146 F12D/146 – F160D/146 – B160D/146		
	No. of Units	Power Frequency Withstand Voltage (kV)	Lightning Impulse Withstand Voltage (kV)	No. of Units	Power Frequency Withstand Voltage (kV)	Lightning Impulse Withstand Voltage (kV)
		Dry	Wet		Dry	Wet
2	95	75	160	110	85	265
3	135	110	225	160	125	235
4	175	145	290	205	165	310
5	215	180	355	255	205	380
6	255	210	420	305	240	450
7	290	245	490	355	280	525
8	330	280	555	405	320	595
9	370	310	620	455	360	670
10	410	345	685	505	395	740
11	450	380	750	555	435	810
12	490	410	815	605	470	885
13	530	445	885	655	510	955
14	570	480	950	705	550	1030
15	610	515	1015	755	590	1100
16	650	545	1080	800	625	1175
17	690	580	1145	850	665	1245
18	730	615	1210	900	705	1315
19	770	645	1280	950	745	1390
20	810	680	1345	1000	780	1460
21	850	715	1410	1050	820	1535
22	890	750	1475	1100	860	1605
23	930	780	1540	1150	895	1675
24	970	815	1605	1200	935	1750
25	1010	850	1675	1250	975	1825
26	1050	880	1740	1290	1010	1895
27	1090	915	1805	1350	1050	1965
28	1130	950	1870	1400	1090	2035
29	1170	980	1935	1450	1125	2110
30	1210	1015	2000	1495	1165	2180





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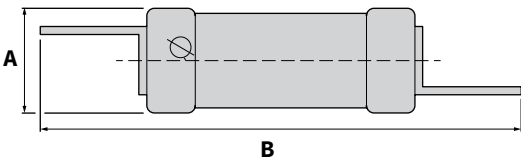




FUSE LINKS

HRC FUSE LINK STAGGERED TAGS - NS TYPE (G06)

- Rated Voltage: 550V AC
- Rated breaking capacity: 80kA
- Standard specifications: BS88-2/IEC 60269-2-1
- Class: gG/Q1

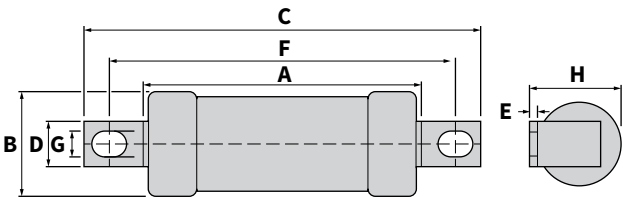


Cat No.	Type	Amps	Pack Size	Dimensions (mm)	
				A	B
TNNS2	STANDARD	2	20	13.9	50.8
TNNS4	STANDARD	4	20	13.9	50.8
TNNS6	STANDARD	6	20	13.9	50.8
TNNS10	STANDARD	10	20	13.9	50.8
TNNS10M16	M/R	10	20	13.9	50.8
TNNS16	STANDARD	16	20	13.9	50.8
TNNS16M20	M/R	16	20	13.9	50.8
TNNS20	STANDARD	20	20	13.9	50.8
TNNS20M25	M/R	20	20	13.9	50.8
TNNS25	STANDARD	25	20	13.9	50.8
TNNS25M32	M/R	25	20	13.9	50.8
TNNS32	STANDARD	32	20	13.9	50.8
TNNS32M40	M/R	32	20	13.9	50.8



HRC FUSE LINK OFFSET TAGS 73MM FIXING CENTRE - TIA TYPE (H07)

- Rated Voltage: 550V AC
- Rated breaking capacity: 80kA
- Standard specifications: BS88-2/IEC 60269-2-1
- Class: gG/Q1

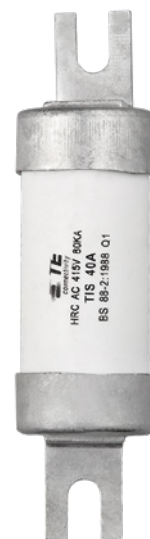
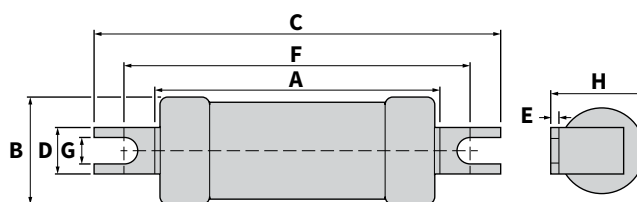


Cat No.	Type	Amps	Pack Size	Dimensions (mm)							
				A	B	C	D	E	F	G	H
TNTIA10	STANDARD	10	10	52	22	82	8.5	1.2	73	5.5	24
TNTIA16	STANDARD	16	10	52	22	82	8.5	1.2	73	5.5	24
TNTIA20	STANDARD	20	10	52	22	82	8.5	1.2	73	5.5	24
TNTIA25	STANDARD	25	10	52	22	82	8.5	1.2	73	5.5	24
TNTIA32	STANDARD	32	10	52	22	82	8.5	1.2	73	5.5	24
TNTIA32M40L	M/R	32	10	52	22	82	8.5	1.2	73	5.5	24
TNTIA32M50	M/R	32	10	52	22	82	8.5	1.2	73	5.5	24
TNTIA32M63	M/R	32	10	52	22	82	8.5	1.2	73	5.5	24



## HRC FUSE LINK OFFSET TAGS 73MM FIXING CENTRE - TIS TYPE (K07)

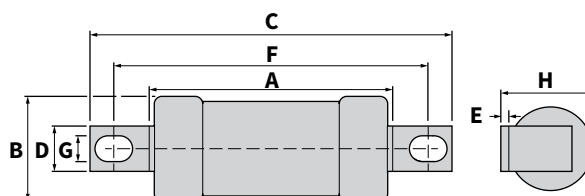
- Rated Voltage: 550V AC
- Rated breaking capacity: 80kA
- Standard specifications: BS88-2/  
IEC 60269-2-1
- Class: gG/Q1



Cat No.	Amps	Pack Size	Dimensions (mm)							
			A	B	C	D	E	F	G	H
TNTIS40	40	10	53	22	85.5	12	1.6	73	5.5	24
TNTIS50	50	10	53	22	85.5	12	1.6	73	5.5	24
TNTIS63	63	10	53	22	85.5	12	1.6	73	5.5	24
TNTIS63M80	63	10	53	22	85.5	12	1.6	73	5.5	24
TNTIS63M100	63	10	53	22	85.5	12	1.6	73	5.5	24
TNTIS80	80	10	53	22	85.5	12	1.6	73	5.5	24
TNTIS100	100	10	53	22	85.5	12	1.6	73	5.5	24

## HRC FUSE LINK OFFSET TAGS 94MM FIXING CENTRE - TCP TYPE (L14)

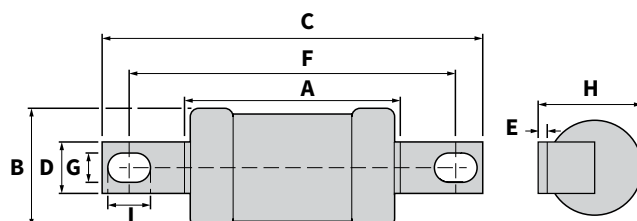
- Rated Voltage: 550V AC
- Rated breaking capacity: 80kA
- Standard specifications: BS88-2/  
IEC 60269-2-1
- Class: gG/Q1



Cat No.	Amps	Pack Size	Dimensions (mm)							
			A	B	C	D	E	F	G	H
TNTCP32	32	10	63	28	109	18	2.4	94	8.7	30
TNTCP40	40	10	63	28	109	18	2.4	94	8.7	30
TNTCP50	50	10	63	28	109	18	2.4	94	8.7	30
TNTCP63	63	10	63	28	109	18	2.4	94	8.7	30
TNTCP80	80	10	63	28	109	18	2.4	94	8.7	30
TNTCP100	100	10	63	28	109	18	2.4	94	8.7	30
TNTCP100M125	100	10	63	28	109	18	2.4	94	8.7	30
TNTCP100M160	100	10	63	28	109	18	2.4	94	8.7	30

## HRC FUSE LINK OFFSET TAGS 94MM FIXING CENTRE - TFP TYPE (M14)

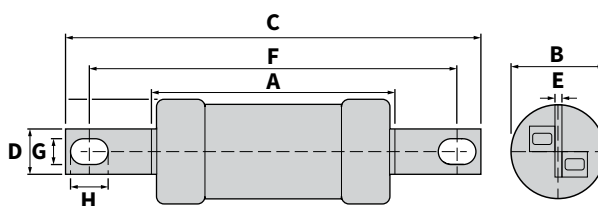
- Rated Voltage: 550V AC
- Rated breaking capacity: 80kA
- Standard specifications: BS88-2/  
IEC 60269-2-1
- Class: gG/Q1



Cat No.	Amps	Pack Size	Dimensions (mm)								
			A	B	C	D	E	F	G	H	I
TNTFP125	125	10	63	40	109	18	2.4	94	8.7	41	10
TNTFP160	160	10	63	40	109	18	2.4	94	8.7	41	10
TNTFP200	200	10	63	40	109	18	2.4	94	8.7	41	10

## HRC FUSE LINK CENTRAL TAGS 111MM FIXING CENTRE - TBC TYPE

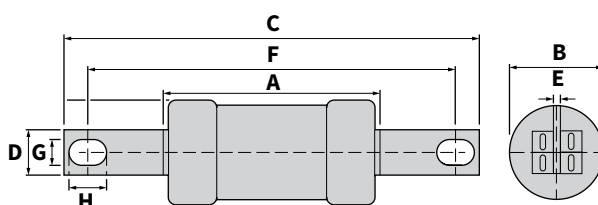
- Rated Voltage: 550V AC
- Rated breaking capacity: 80kA
- Standard specifications: BS88-2/  
IEC 60269-2-1
- Class: gG/Q1



Cat No.	Amps	Pack Size	Dimensions (mm)							
			A	B	C	D	E	F	G	H
TNTBC32	32	10	53	22	128	14	1.5	111	9	12
TNTBC50	50	10	53	22	128	14	1.5	111	9	12
TNTBC63	63	10	53	22	128	14	1.5	111	9	12

## HRC FUSE LINK CENTRAL TAGS 111MM FIXING CENTRE - TC TYPE (L09)

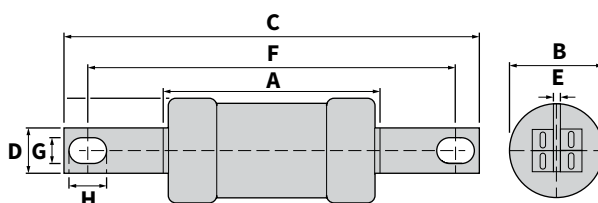
- Rated Voltage: 550V AC
- Rated breaking capacity: 80kA
- Standard specifications: BS88-2/  
IEC 60269-2-1
- Class: gG/Q1



Cat No.	Amps	Pack Size	Dimensions (mm)							
			A	B	C	D	E	F	G	H
TNTC80	80	5	62	28	134	18	3.2	111	8.7	14
TNTC100	100	5	62	28	134	18	3.2	111	8.7	14

## HRC FUSE LINK CENTRAL TAGS 111MM FIXING CENTRE - TF TYPE (M09)

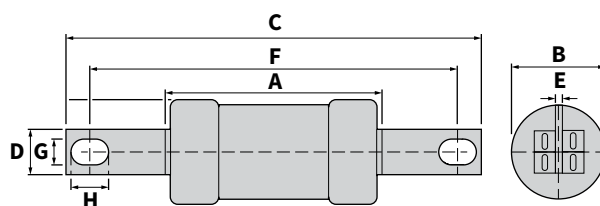
- Rated Voltage: 550V AC
- Rated breaking capacity: 80kA
- Standard specifications: BS88-2/  
IEC 60269-2-1
- Class: gG/Q1



Cat No.	Amps	Pack Size	Dimensions (mm)							
			A	B	C	D	E	F	G	H
TNTF125	125	5	62	40	134	18	3.2	111	8.7	14
TNTF160	160	5	62	40	134	18	3.2	111	8.7	14
TNTF200	200	5	62	40	134	18	3.2	111	8.7	14

## HRC FUSE LINK CENTRAL TAGS 111MM FIXING CENTRE - TKF TYPE (N09)

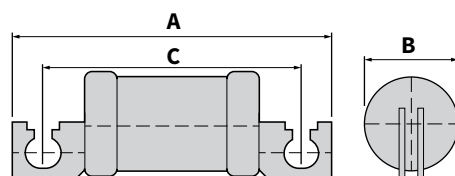
- Rated Voltage: 550V AC
- Rated breaking capacity: 80kA
- Standard specifications: BS88-2/IEC 60269-2-1
- Class: gG/Q1



Cat No.	Amps	Pack Size	Dimensions (mm)							
			A	B	C	D	E	F	G	H
TNTKF250	250	1	65	56	134	25	6.5	111	9	14

## HRC FUSE LINK J TYPE FEEDER PILLAR 76MM FIXING CENTRE - JHU TYPE (MJ29)

- Rated Voltage: 550V AC
- Rated breaking capacity: 80kA
- Standard specifications: BS88-2/IEC 60269-2-1
- Class: gG/Q1

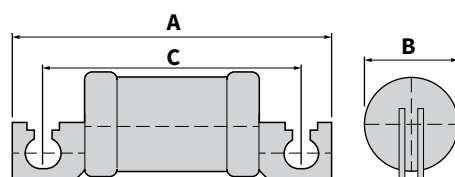


Cat No.	Amps	Pack Size	Dimensions (mm)		
			A	B	C
TNJHU63	63	3	100	40	76
TNJHU100	100	3	100	40	76
TNJHU160	160	3	100	40	76
TNJHU200	200	3	100	40	76

\*Other current ratings available on request

## HRC FUSE LINK J TYPE FEEDER PILLAR 82MM FIXING CENTRE - JPU TYPE (MJ30)

- Rated Voltage: 550V AC
- Rated breaking capacity: 80kA
- Standard specifications: BS88-2/IEC 60269-2-1
- Class: gG/Q1

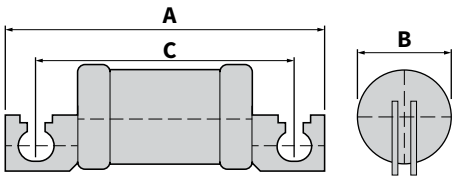


Cat No.	Amps	Pack Size	Dimensions (mm)		
			A	B	C
TNJPU63	63	3	111	40	82
TNJPU100	100	3	111	40	82
TNJPU125	125	3	111	40	82
TNJPU160	160	3	111	40	82
TNJPU200	200	3	111	40	82
TNJPU250	250	3	111	40	82
TNJPU315	315	3	111	40	82
TNJPU400	400	3	111	40	82



HRC FUSE LINK J TYPE FEEDER PILLAR 92MM FIXING CENTRE - JSU TYPE (MJ31)

- Rated Voltage: 550V AC
- Rated breaking capacity: 80kA
- Standard specifications: BS88-2/ IEC 60269-2-1
- Class: gG/Q1

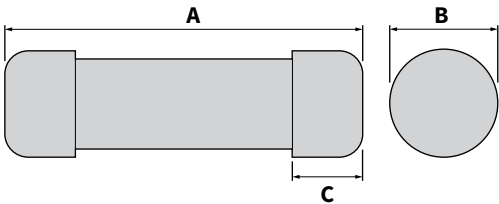


Cat No.	Amps	Pack Size	Dimensions (mm)		
			A	B	C
TNJSU63	63	3	131	46	92
TNJSU80	80	3	131	46	92
TNJSU100	100	3	131	46	92
TNJSU160	160	3	131	46	92
TNJSU200	200	3	131	46	92
TNJSU315	315	3	131	46	92
TNJSU355	355	3	131	46	92
TNJSU400	400	3	131	46	92

\*Other current ratings available on request

HRC FUSE LINK CYLINDRICAL 10X38MM

- Rated Voltage: 500V AC
- Rated breaking capacity: 120kA
- Standard specifications: IEC 60269-2-1
- Class: gG/gL



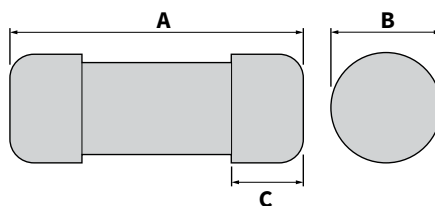
Cat No.	Amps	Pack Size	Dimensions (mm)		
			A	B	C
CH10-NB002	2	10	38	10.3	9.5
CH10-NB004	4	10	38	10.3	9.5
CH10-NB006	6	10	38	10.3	9.5
CH10-NB010	10	10	38	10.3	9.5
CH10-NB016	16	10	38	10.3	9.5
CH10-NB020	20	10	38	10.3	9.5
CH10-NB025	25	10	38	10.3	9.5
CH10-NB032	32	10	38	10.3	9.5





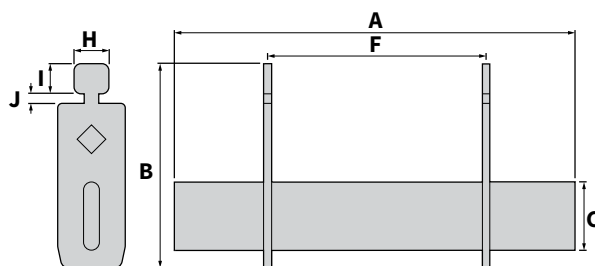
## HRC FUSE LINK CYLINDRICAL 22X58MM - ME TYPE (KR85)

- Rated Voltage: 500V AC
- Rated breaking capacity: 100kA
- Standard specifications: IEC EN 60269-2-1
- Class: gG/gL



Cat No.	Amps	Pack Size	Dimensions (mm)		
			A	B	C
TNME5	5	5	58	22	9.5
TNME10	10	5	58	22	9.5
TNME15	15	5	58	22	9.5
TNME20	20	5	58	22	9.5
TNME30	30	5	58	22	9.5
TNME40	40	5	58	22	9.5
TNME50	50	5	58	22	9.5
TNME60	60	5	58	22	9.5
TNME80	80	5	58	22	9.5
TNME100	100	5	58	22	9.5

## SOLID BLADE LINKS DIN TYPE - (NH)

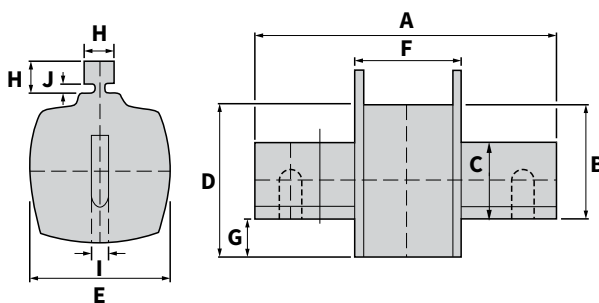


Cat No.	Amps	Dimensions (mm)						
		A	B	C	F	H	I	J
TNDIN1250A	250	135	48	21	68	10	6	2.5
TNDIN2400A	400	150	48	27	68	10	6	2.5
TNDIN2630A	630	150	58	33	68	10	6	2.5
TNDIN3630A	630	150	60	33	68	10	6	2.5



## FUSE LINK DIN TYPE SIZE 00 - (NH00)

- Rated Voltage: 690V AC
- Rated breaking capacity: 120kA
- Standard specifications: IEC EN 60269-2-1
- Class: gG/gL

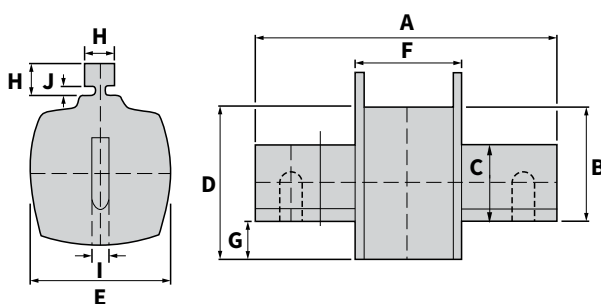


Cat No.	Amps	Pack Size	Dimensions (mm)									
			A	B	C	D	E	F	G	H	I	J
TNNH0032	32	5	78.5	35	15	45	29	49	11.5	10	6	2.5
TNNH0063	63	5	78.5	35	15	45	29	49	11.5	10	6	2.5
TNNH0080	80	5	78.5	35	15	45	29	49	11.5	10	6	2.5
TNNH00100	100	5	78.5	35	15	45	29	49	11.5	10	6	2.5
TNNH00125	125	5	78.5	35	15	45	29	49	11.5	10	6	2.5
TNNH00160	160	5	78.5	35	15	45	29	49	11.5	10	6	2.5



## FUSE LINK NH DIN TYPE SIZE 1 - (NH1)

- Rated Voltage: 500V/690V AC
- Rated breaking capacity: 120kA
- Standard specifications: IEC EN 60269-2-1
- Class: gG/gL



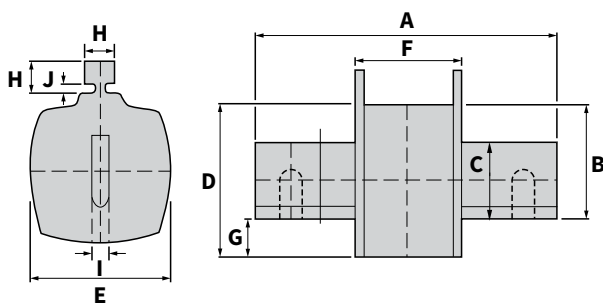
Cat No.	Amps	Pack Size	Dimensions (mm)									
			A	B	C	D	E	F	G	H	I	J
TNNH163	63	3	135	40	21	48	48	68	12	10	6	2.5
TNNH180	80	3	135	40	21	48	48	68	12	10	6	2.5
TNNH1100	100	3	135	40	21	48	48	68	12	10	6	2.5
TNNH1125	125	3	135	40	21	48	48	68	12	10	6	2.5
TNNH1160	160	3	135	40	21	48	48	68	12	10	6	2.5
TNNH1200	200	3	135	40	21	48	48	68	12	10	6	2.5
TNNH1250	250	3	135	40	21	48	48	68	12	10	6	2.5





## FUSE LINK DIN TYPE SIZE 2 - (NH2)

- Rated Voltage: 500V/690V AC
- Rated breaking capacity: 120kA
- Standard specifications: IEC EN 60269-2-1
- Class: gG/gL

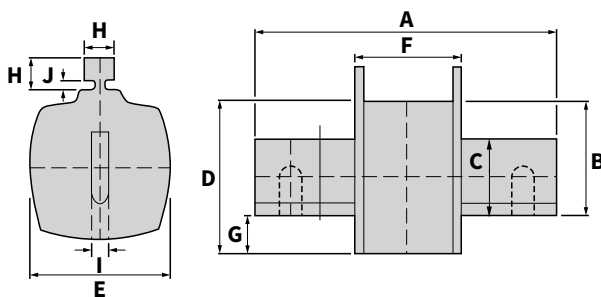


Cat No.	Amps	Pack Size	Dimensions (mm)									
			A	B	C	D	E	F	G	H	I	J
TNNH263	63	1	150	48	27	58	58	68	13	10	6	2.5
TNNH280	80	1	150	48	27	58	58	68	13	10	6	2.5
TNNH2100	100	1	150	48	27	58	58	68	13	10	6	2.5
TNNH2125	125	1	150	48	27	58	58	68	13	10	6	2.5
TNNH2160	160	1	150	48	27	58	58	68	13	10	6	2.5
TNNH2200	200	1	150	48	27	58	58	68	13	10	6	2.5
TNNH2250	250	1	150	48	27	58	58	68	13	10	6	2.5
TNNH2315	315	1	150	48	27	58	58	68	13	10	6	2.5
TNNH2400	400	1	150	48	27	58	58	68	13	10	6	2.5



## FUSE LINK NH DIN TYPE SIZE 3 - (NH3)

- Rated Voltage: 690V AC
- Rated breaking capacity: 120kA
- Standard specifications: EN 60269-2-1
- Class: gG/gL



Cat No.	Amps	Pack Size	Dimensions (mm)									
			A	B	C	D	E	F	G	H	I	J
TNNH3315	315	1	150	60	33	67	67	68	14	10	6	2.5
TNNH3400	400	1	150	60	33	67	67	68	14	10	6	2.5
TNNH3500	500	1	150	60	33	67	67	68	14	10	6	2.5
TNNH3630	630	1	150	60	33	67	67	68	14	10	6	2.5





TYPE K & TYPE T FUSE LINKS - 11KV, 22KV, 33KV

Type K and Type T fuse links are made in complete accordance with ANSI/ NEMA standards. These fuse links assure system protection because they are precision manufactured. The fusible materials used are under continual control during manufacture. Pre-tested to guarantee their electrical values, these materials are held to precise tolerances. At critical points during

the manufacturing process, rigid inspections are made. These Type K and Type T fuse links are designed to carry 150% of their rated current without damage to the fuse link itself or the cutout in which it is installed. This capacity is for special loading situations, such as short-time overloads and cold load pick-up.

**Note:** Fuse carriers and cutout units can be found on page 269.



TYPE T FUSE LINKS

Application – Type T fuse links provide slower time current characteristics than the Type K links. Type T links coordinate particularly well with automatic oil-circuit reclosers.



TYPE K FUSE LINKS

Application – The fast characteristics of Type K fuse links were established by ANSI/NEMA to provide fuse links that would meet existing coordination schemes.



Cat No.		Description
T Speed	K Speed	
M1TA23	M1KA23	1A FUSELINK 23"
M2TA23	M2KA23	2A FUSELINK 23"
M3TA23	M3KA23	3A FUSELINK 23"
M6TA23	M6KA23	6A FUSELINK 23"
M8TA23	M8KA23	8A FUSELINK 23"
M10TA23	M10KA23	10A FUSELINK 23"
M12TA23	M12KA23	12A FUSELINK 23"
M15TA23	M15KA23	15A FUSELINK 23"
M20TA23	M20KA23	20A FUSELINK 23"
M25TA23	M25KA23	25A FUSELINK 23"
M30TA23	M30KA23	30A FUSELINK 23"
M40TA23	M40KA23	40A FUSELINK 23"
M50TA23	M50KA23	50A FUSELINK 23"
M65TA23	M65KA23	65A FUSELINK 23"
M80TA23	M80KA23	80A FUSELINK 23"
M100TA23	M100KA23	100A FUSELINK 23"



# LV OVERHEAD FUSE SWITCHES

## K223NZ FUSED IPC

This fuse carrier is designed to use a 10.3x38mm fuse cartridge or neutral tube. It provides electrical protection to insulated service or street light conductors connected to a low voltage circuit. Maximum rating is 20A.

Michaud fuse carriers offer the added simplicity of being an insulation piercing connector (IPC), meaning the insulation on the conductor does not need to be removed. The special shear head bolt breaks off at the correct torque ensuring an accurate and consistent connection pressure is reached.

### KEY FEATURES

- Wide range-taking ability on both main and tap
- Specially designed for the New Zealand market
- UV Stabilised black body
- Built-in end cap for tap conductor
- Double circlip for retention of fuse
- Captured fuse base, will stay in place even without fuse link
- Watertight cable entry points
- IPC connection
- 13mm shear head bolt for exact installation every time
- Fuse Links are CH10-NB range found on page 254



Cat No.	Fuse Link Style	Cable Range (mm <sup>2</sup> )	Amps
K223NZ	10.3 × 38MM BARREL, CH10-NB RANGE	6–95 MAIN, 1.5–16 TAIL	20





TNNHP100

KEY FEATURES

- UV Stabilised Glass Reinforced body
- Double Circlip for retention of fuselink
- Captured fuse base, will stay in place even without fuse link
- Watertight cable entry ports
- Stainless steel bracket for cross arm application
- Swan neck pin for pole application
- Contacts are made of high quality materials and tested for performance
- Conductor range 6-35mm<sup>2</sup>



SWAN/NECK/PIN



TNNHP100



TNNHP100A

Cat No.	Description	Fuse Link Style	Cable Range (mm <sup>2</sup> )	Amps
TNNHP100	FUSE CARRIER	22 × 58MM BARREL	6–35	100
TNNHP100A	FUSE CARRIER & SWAN NECK ADAPTOR	22 × 58MM BARREL	6–35	100
SWAN/NECK/PIN	NYLON HEAD THREADED PIN FOR TNNHP100A			

K491

This fuse switch disconnect is a single phase device that is normally used as a house service fuse or isolation point. It provides electrical protection to an individual customer. It is designed to accommodate up to 100A 22x58mm barrel fuse cartridge or neutral tube (according to IEC 269-2.1). It suits aluminium or copper insulated cables from 6 up to 35mm<sup>2</sup>.

- Installation tool: 13mm socket/ spanner



Cat No.	Fuse Link Style	Bracket Configuration	Cable Range (mm <sup>2</sup> )	Amps
K491	22 × 58MM BARREL	STRAIGHT SINGLE BRACKET	6–35	100
K491TWBRKT	22 × 58MM BARREL	TWISTED SINGLE BRACKET		
K491BRAC001X3	NH00 DIN STYLE	3 UNITS ON STRAIGHT 3 WAY BRACKET		



## K291 & K292

These fuse switch disconnects are single phase devices that are normally used as house service fuses or isolation points. They provide electrical protection to either an aerial service supplying an individual customer or for a low voltage circuit of a pole mounted transformer.

- Installation tool: 13mm socket/spanner

There are two types of FSD; the K292 suits 160A size 00 DIN fuse links and 240A solid connecting links (according to IEC 269-2.1) and the K291 suits up to 100A 22x58 barrel fuse links (according to IEC 269-2.1). FSD suits aluminium or copper insulated cables from 6 up to 95mm<sup>2</sup>.



Cat No.	Fuse Link Style	Bracket Configuration	Cable Range (mm <sup>2</sup> )	Amps
K291	22 × 58MM BARREL	STRAIGHT SINGLE BRACKET	6–95	100
K291TWRKT		TWISTED SINGLE BRACKET		
K292	NH00 DIN STYLE	STRAIGHT SINGLE BRACKET	6–95	160
K292TWRKT		TWISTED SINGLE BRACKET		
K292X3KIT	NH00 DIN STYLE	3 UNITS ON STRAIGHT 3 WAY BRACKET	6–95	160

## OVERHEAD FUSE SWITCH BRACKETS

### KEY FEATURES

- All brackets are made of galvanised steel highly resistant to corrosion
- Fixing on pole is achieved by bolting galvanised bracket to pole/crossarm
- All brackets will fit all overhead Michaud fittings
- All overhead Michaud fuse carriers come with an individual bracket

Cat No.	Style	No. of Fuses	Compatible Fuses
BRAC001	STRAIGHT	UP TO 3	K491, K291, K292
BRAC002		1	
BRAC005		UP TO 4	
BRAC001TWISTED	TWISTED	UP TO 3	
BRAC002TWISTED		1	
6459312200	STRAIGHT	3PH UNIT	KRONE KGH
6459312300		1PH UNIT	



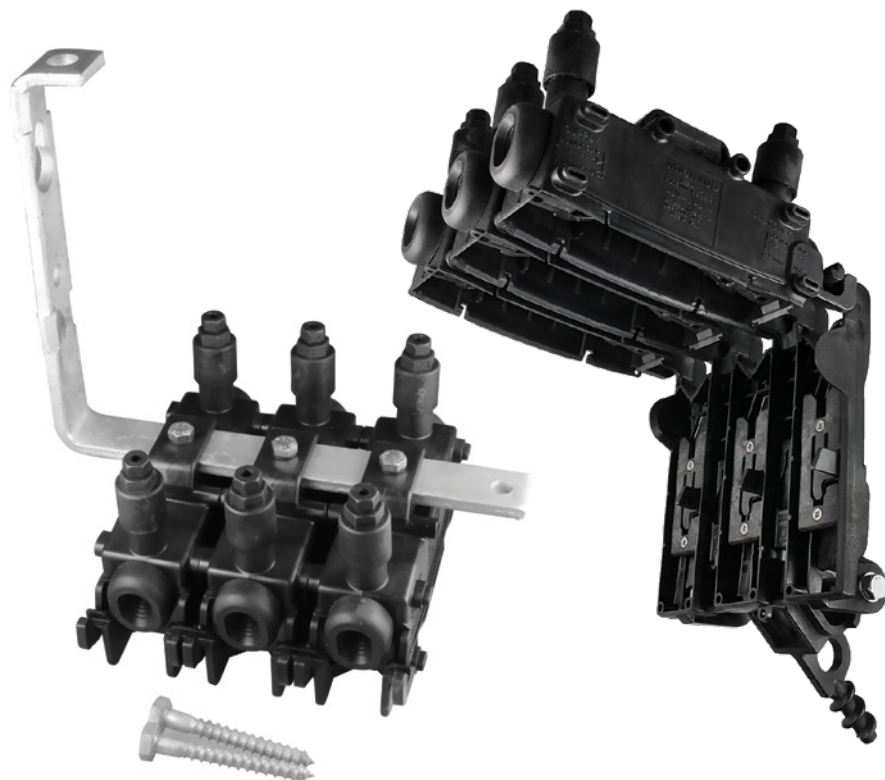
BRAC001

BRAC002TWISTED

## K293 - 160A GANGED UNIT

### FEATURES

- Triple pole
- Al-Cu insulated conductor section ranges from 6 to 95mm<sup>2</sup>
- Fully insulated terminals
- Connection is established using insulation piercing technology
- Fuse holders are opened, removed and closed simultaneously using a hook stick or a stick to be screwed on the adaptor
- The polarity test points are accessible on each terminal without removing the fuse holders
- IP33 rated
- The bracket is made of galvanised steel highly resistant to corrosion
- This range meets the criteria of IEC 60 947-3 and IEC 602 69-2
- Installation tool: 13mm socket/spanner



Cat No.	Description
K293STRBRKT	MICHAUD K293 3PH 160A FUSE UNIT COMES WITH STRAIGHT BRACKET
K293TWBRKT	MICHAUD K293 3PH 160A FUSE UNIT COMES WITH TWISTED BRACKET

## KGH160 - 160/250A

### FEATURES

- Fully insulated
- On-load switching capability
- Corrosion proof
- Suits standard hook-stick
- Integral mounting bracket for bolting or strapping
- Takes size 00 NH fuse links or connecting links
- Rated operational voltage is 480V
- Can be mounted side by side, with ganged or unganged operation for two or three pole requirements



Cat No.	Catalogue Reference	No. of Poles	Ganged Switching	Pillar Ni Plated for 1x16-95mm <sup>2</sup> Al & Cu Compacted Cables	Insulation Piercing for 2x25-150mm <sup>2</sup> Al & Cu Compacted Cables
6459101500	KGH160 NH TUNNEL-TUNNEL	1	-	IN/OUT	-
6459101510	SWITCH KGH160 NH IPC-IPC	1	-	-	IN/OUT
6459101700	KGH160/3 GANGED	3	YES	IN/OUT	-

## KGH250 - 250A

### FEATURES

- Extremely compact
- Three-pole units
- On-load switching capability
- Corrosion proof
- Fully insulated
- Suits standard hook-stick
- Individual, hinged terminal covers for maximum safety
- Takes size 1-2 NH fuse links
- Rated operational voltage is 450V
- Triple pole switch is supplied with mounting bracket



Cat No.	Catalogue Reference	Bracket Included	Ganged Switching	Pillar		IPC	Lug
				For 2x16-95mm <sup>2</sup> Al Compacted Cables	Ni Plated for 2x16-95mm <sup>2</sup> Al & Cu Compacted Cables	For 2x25-150mm <sup>2</sup> Al & Cu Compacted Cables	12mm Stud for Lugs of up to 40mm Palm Width
6459100100	KGH250 T95AL-T95AL	YES	YES	IN/OUT	-	-	-
6459100101	KGH250 T95AL/C-T95AL/C	NO	YES	-	IN/OUT	-	-
6459100110	KGH250 LUG-LUG	NO	YES	-	-	-	IN/OUT
6459111800	SWITCH ABC IPC 250 2 × 25-150MM <sup>2</sup>	YES	YES	-	-	IN/OUT	-

## KGH400 - 400A (630A WITH SOLID LINK)

### FEATURES

- Extremely compact
- One or three-pole units
- On-load switching capability
- Corrosion proof
- Fully insulated
- Suits standard hook-stick
- Takes size 1-2 NH fuse links
- Rated operational voltage is 450V (630A with TNDIN2630A)
- Individual, hinged terminal covers for maximum safety
- Triple pole switch is supplied with mounting bracket



Cat No.	Catalogue Reference	No. of Poles	Bracket Included	Ganged	Pillar		IPC	Lug
					For 2x16-95mm <sup>2</sup> Al Compacted Cables	Ni Plated for 2x50-150mm <sup>2</sup> Al & Cu cables	For 2x25-150mm <sup>2</sup> Al & Cu Compacted Cables	12mm Stud for Lugs of up to 40mm Palm Width
6459100121	T150AL/C-T150AL/C	3	YES	YES	-	IN/OUT	-	-
6459100130	LUG-LUG				-	-	-	IN/OUT
6459100131	T95AL-LUG				IN	-	OUT	-
6459111520	2 × 50-185TUN/2 × 50-150TUN	1	NO	-	-	IN/OUT	-	-
6459111550	KGH400/1 IPC 25-150MM <sup>2</sup>				-	-	IN/OUT	-
6459111560	LUG/LUG UNGANGED				-	-	-	IN/OUT
6459112200	2X25-150MM <sup>2</sup> IPC	3	YES	YES	-	-	IN/OUT	-
				TNDIN2630A DIN2 630A SOLID LINK ONLY				



## LOW VOLTAGE SWITCHES

### LVI TYPE FEATURES

- Non-Porous Porcelain Insulator
- Silver to silver front contacts
- Front contact pressure assured via stainless steel spring
- Hinge Joint – Silver washers with constant pressure 'Belleville' washer
- Multi-purpose terminal palm with various connector kits are available

### LVI TYPE SPECIFICATIONS

- Rated Voltage: 480V
- Rated Current: 630A / 800A / 1600A
- Rated Short-Time Current: 20kA

### LVFI TYPE FEATURES

- Non-Porous Porcelain Insulator
- Silver to silver front contacts
- Front contact pressure assured via stainless steel spring
- Hinge Joint – Silver washers with constant pressure 'Belleville' washer
- Multi-purpose terminal palm with various connector kits are available

### LVFI TYPE SPECIFICATIONS

- Rated Voltage: 480V
- Rated Current: 400A / 630A / 800A
- Rated Short-Time Current: 36kA

**NOTE:** Suitable for use with BS88 in-line tag fuse link cartridges with mounting centre.



LVI - Solid Link Type



LVFI - Fused Link Type

Cat No.	Type	Rated Short-Time Current (kA)	Rated Voltage (Ue)	Rated Current (Ie) Amp	Clearance to Earth (mm)
NZ4284SECV	LVI	20	480	630	32
NZ4296SECV				1600	
NZ4239SECV	LVFI	20	480	400	32
NZ4286SECV				630	

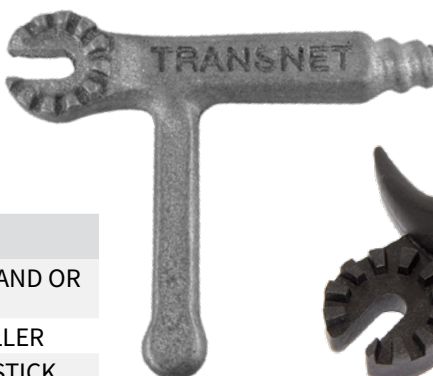
## FUSE PULLING TOOLS

Designed specifically to remove the fuse holder from the overhead fuse carriers, both have the hotstick attachment.

### APPLICATION

For use with K491, K291, K292, K293 and TNNHP100 Fuse Units

Cat No.	Description
TNHSFP	HOUSE SERVICE FUSE PULLER FOR HAND OR HOTSTICK APPLICATION
DUALPULLER	DUAL HOUSE SERVICE & FUSE PULLER
K293-TOOL	FUSE PULLER FOR K293 WITH HOTSTICK ATTACHMENT



DUALPULLER



TNHSFP



K293-TOOL





# LV UNDERGROUND FUSE SWITCHES

## 65U FUSE CARRIER

Compression style installation is required for this fuse carrier. Designed for lighting applications, the 65U is fully submersible and perfect for lighting installations. The rubber housing is easily adjusted to fit a range of conductor sizes. This fuse carrier is simple to use, just push the two halves together to create a friction seal.

Fuse Link Style = HRC 10x38mm  
Fuse Link Cat No. = CH10-NB0xx (xx denotes amps)



Cat No.	Fuse Link Style	Description	Cable Range (mm <sup>2</sup> )	Amps
65U	10X38MM BARREL	WATERTIGHT	2.5–16	30

## STREETLIGHT CUTOUTS

Designed for strength, durability, ease of installation & to meet the full requirements of BS 7654, this streetlight cutout features a secure & quick release carrier for safe & easy access. The special cam operated fuse handle ensures electrical disconnection is achieved before the unit is opened. Max 25A fuse rating, IP22 rated, PVC grommets at cable entry.

Stainless Steel hanger bracket included

Fuse Link Style = LST6, 6amp fuse link included  
Replacement Fuse Link Cat No. = LST6, 6amps



Cat No.	Fuse Link Style	Description	Dimensions HxWxD (mm)	Max Cable Size (mm <sup>2</sup> )	Max Amps
LST6		REPLACEMENT FUSE LINK, 6AMP			
FD150-1-NZ	LST6	SINGLE POLE, SINGLE FUSE	150 × 69 × 56	16	25
FD221/K3		DOUBLE POLE, TWIN FUSE	150 × 87 × 63	10	25

## TNFC - K07 STYLE FUSE CARRIERS

The K07 style fuse carriers have been used in New Zealand for many years, they are available in sizes up to 100A. These fuse carriers are perfect for use as customer connections in low voltage pillar boxes.

- Made from tough flame retardant material
- DIN rail mounting with easy to remove carrier
- Meets requirements for AS 60269 standard

Cat No.	Current (A)	Voltage (V)	Max Cable Size (mm <sup>2</sup> )	Fuse Type	Dimensions HxWxD (mm)
TNFC32BW	32	550	16	NS	75.5 × 26.5 × 54
TNFC32FW			16		
TNFC32PANEL			16		
TNFC32STUD			16		
TNFC63BW	63	690	35	TIA/TIS	110 × 35 × 75
TNFC63FW			50		
TNFC100FW	100	690	95	TCP	140 × 51 × 100
TNFCRSM100			50	TIS/OS	110 × 35 × 75



## TE - K07 STYLE FUSE CARRIER

This K07 style fuse carrier is a classic design, well recognised in New Zealand and already in use here. Available in 63A option only it is perfect for use as a customer connection in low voltage pillar boxes.

- Made from tough flame retardant material
- DIN rail mounting with easy to remove carrier

Cat No.	Current (A)	Fuse Type	Connection Type
2-361000-0	63	OFFSET TAG 73MM CENTRE	FRONT WIRE



## K221

This Insulation Piercing fuse carrier is designed to accommodate 22x58mm barrel fuse cartridges, neutral tube or mini-switch. It is designed for use without mechanical load. Mechanical

tightening terminals allow installation in the Aerial Bundled Conductors (ABC) using a simple spanner. The K221 has an IP65 rating which makes it perfect for use in pillar boxes.

Fuse Link Style = HRC 22x58mm, ME Type (KR85)  
Fuse Link Cat No. = TNMExxx (xxx denotes amps)

Cat No.	Fuse Link Style	Description	Cable Range (mm <sup>2</sup> )	Amps
K221	22 × 58MM BARREL	IP65-IPC	6-50	100





## K199

This Insulation Piercing Pit Connector is designed to accommodate a 22x58mm fuse cartridge, neutral tube or mini-switch. It is used to connect the customer to the underground supply cable. It is designed to be installed in a pit and to operate fully submersed in water. Mechanical tightening terminals allow installation on a conductor using a simple hexagon wrench.

Fuse Link Style = HRC 22x58mm, ME Type (KR85)

Fuse Link Cat No. = TNMExxx (xxx denotes amps)

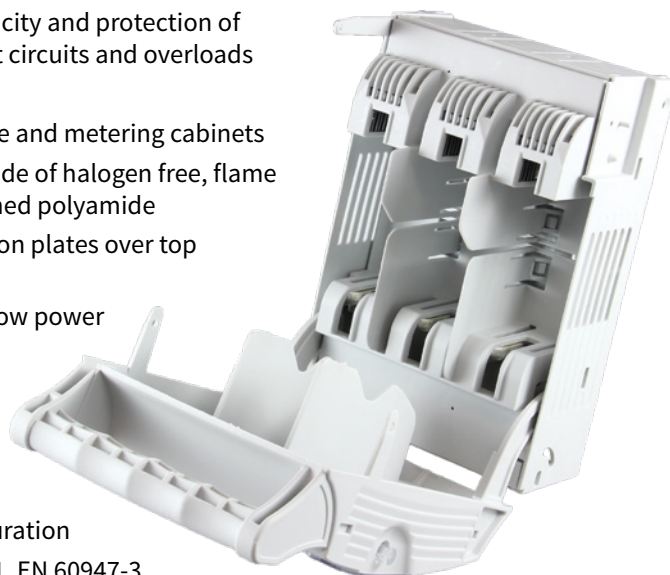
Cat No.	Fuse Link Style	Description	Cable Range (mm <sup>2</sup> )	Amps
K199	22X58MM BARREL	IP68-IPC	6-50	100



## RBK PRO - HORIZONTAL FUSE SWITCH DISCONNECT

Designed for distribution of electricity and protection of electrical equipment against short circuits and overloads with industrial fuse links.

- For LV distribution boards, cable and metering cabinets
- The thermoplastic parts are made of halogen free, flame retardant, fibreglass strengthened polyamide
- Arc chutes with steel deionisation plates over top contacts
- Silver plated contacts provide low power loss
- Voltage test performed through test holes in fuse link cover
- Available in sizes 00 - 4
- Standard DIN mounting configuration



This range conforms to EN 60947-1, EN 60947-3, IEC 60947-1 and IEC 60947-3 standards

Cat No.		DIN Fuse Size	No. of Phases	Amps	Mounting Style	Terminals
Standard	Marine Grade					
63-823191-081	63-823191-081-A4	000	3	160	PANEL MOUNT	M8 BOLTED
63-930517-021	63-930517-021-A4		1		PANEL MOUNT	
63-823256-051	63-823256-051-A4	00	3	160	BUS BAR MOUNT	M8 BOLTED
63-823259-121	63-823259-121-A4					
63-811748-021	63-811748-021-A4	1	3	250	PANEL MOUNT	M10 BOLTED
63-811685-061	63-811685-061-A4	2	3	400	PANEL MOUNT	M10 BOLTED
63-811501-041	63-811501-041-A4			630		
1115270147T	1115270147T-A4	4A	3	1250	PANEL MOUNT	M16 BOLTED
1115270148T	1115270148T-A4			1600		



## ARS - VERTICAL FUSE SWITCH DISCONNECT

Designed for distribution of electricity and protection of electrical equipment against short circuits and overloads with industrial fuse links.

- Original style design
- Doors made of transparent Polycarbonate, handle casing made of PA 6 and body is made of Thermoset PU
- Arc chutes with deionisation plates over every contact
- Available in single pole and three pole switching
- Width 50mm, 100mm and 200mm
- Standard DIN mounting configuration

This range conforms to IEC 60947-1 and IEC 60947-3 standards.



Standard	Cat No. Marine Grade	DIN Fuse Size	No. of Phases	Amps	Operation Type	Terminals
63-811410-011	63-811410-011-A4	00	3	160	INDIVIDUAL	M8
63-811216-161	63-811216-161-A4	1	3	250		M10
63-811216-051	63-811216-051-A4	2	3	400		M10
63-811216-061	63-811216-061-A4	3	3	630		M12

## ARS PRO - VERTICAL FUSE SWITCH DISCONNECT

Designed for distribution of electricity and protection of electrical equipment against short circuits and overloads with industrial fuse links.

- Fibreglass reinforced, self extinguishing thermoplastics of V0 flammability class
- Double clearance between open contacts
- Arc chutes with deionisation plates over every contact
- Reversibility - top/bottom cable terminal connection
- Available in single pole and three pole switching
- Voltage test performed through test holes leading to blade contacts
- Suitable for top cable terminal connection
- Width 50mm, 100mm and 200mm
- Standard DIN mounting configuration

This range conforms to EN 60947-1, EN 60947-3, IEC 60947-1 and IEC 60947-3 standards.



Standard	Cat No. Marine Grade	DIN Fuse Size	No. of Phases	Amps	Operation Type	Terminals
63-811410-061	63-811410-061-A4	00	3	160	INDIVIDUAL	M8
63-811806-061	63-811806-061-A4				GANGED	
63-811801-031	63-811801-031-A4	2	3	400	INDIVIDUAL	M10
63-811802-031	63-811802-031-A4				GANGED	
63-811801-041	63-811801-041-A4	3	3	630	INDIVIDUAL	M12
63-811802-041	63-811802-041-A4				GANGED	
63-811757-011	63-811757-011-A4			1250	INDIVIDUAL	
63-811758-011	63-811758-011-A4				GANGED	





## MV OVERHEAD DDOS (CUTOUTS)

These overhead cutouts are RUS Approved and meet or exceed all applicable ANSI performance requirements. All testing is performed at an accredited independent laboratory.

### FEATURES

- All copper current path provides minimum electrical resistance
- Available in Porcelain and Polymer variants
- Lower contacts are backed up by stainless steel springs to ensure excellent current transfer with the fuse tube trunnion
- Rugged construction designed to withstand heavy fault interrupt and reclosure forces
- Interchangeable fuse holder design compatible with other cutouts in the utility market
- Moisture resistant fibreglass reinforced fuse tube with arc-quenching inner liner and a UV resistant exterior coating
- Grooved flipper with stainless steel torsion spring provides proper fuselink tension and prevents breakage
- Silver plated moveable contacts for steady current transfer and low operating temperatures
- RUS approved
- Approvals  
IEEE 37.41-2016  
IEEE 37.42-2016  
CSA C310-09

Standard, stocked parts are listed in the table, for any custom requirements please be aware there are multiple options available, contact us to discuss this further.

### OPTIONS

- 2 Insulator Material Options - Polymer and Porcelain
- 2 Earthing Options - J Hook and Extended HDG bracket
- 2 Creepage Lengths - 125kV BIL (343mm creepage) and 150kV BIL (432mm creepage)
- 2 Corrosion Resistance Levels - Galvanised and 316 Stainless Steel fittings
- 4 Fuse Holder Options - 8kA, 12kA, Link Break and Solid Link
- 3 Connection Types - PG Clamp, Bolt for lug connection and Eye Bolt



## POLYMER MV OVERHEAD CUTOUT

Stocked models are listed below, customised options are available on request, please contact us with your requirements.



**NOTE:** Fuse links can be found on page 258.

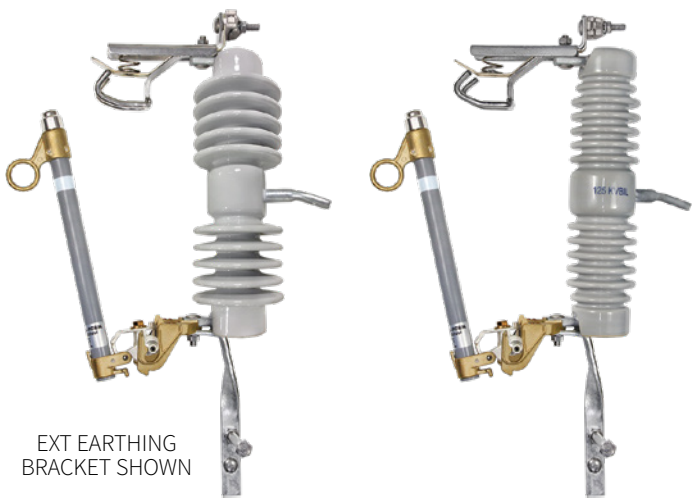
Cat No.	Insulator Material	Insulator Creepage (mm)	Corrosion Resistance	BIL (kV)	Connector	Earthing Attachment	kA Rating
CSG27-125-C-12BK	POLYMER	343	HDG	125	PG CONNECTOR	EXT EARTHING BRACKET	12
CSG27-125-C-12HK		343	HDG	125		EXT EARTHING HOOK	
CSM27-150-C-12BK		584	316 STAINLESS	150		EXT EARTHING BRACKET	





PORCELAIN MV OVERHEAD CUTOUT

Stocked models are listed below, customised options are available on request, please contact us with your requirements.



**NOTE:** Fuse links can be found on page 258.

Cat No.	Insulator Material	Insulator Creepage (mm)	Corrosion Resistance	BIL (kV)	Connector	Earthing Attachment	kA Rating
CPG27-125-N-8BK	PORCELAIN	343	HDG	125	LUG	EXT EARTHING BRACKET	8
CPG27-125-C-12BK	PORCELAIN	343	HDG	125	PG CONNECTOR		12
CPM27-150-C-12BK	PORCELAIN	432	316 STAINLESS	150	PG CONNECTOR		12

MV OVERHEAD CUTOUT ACCESSORIES



CFH27-100A-12KA



CFH27-100AK-12KA



CFH27LK-100A-12KA



USCO-008/300ALINK

**NOTE:** Fuse links can be found on page 258.

Cat No.	Description
CFH27-100A-12KA	REPLACEMENT FUSE TUBE FOR 11KV, 12KA ALUMA-FORM CUTOUTS
CFH27-100AK-12KA	REPLACEMENT FUSE TUBE WITH KICKOUT SPRING FOR LOW FAULT CURRENT APPLICATIONS
CFH27LK-100A-12KA	LINK BREAK FUSE TUBE ASSEMBLY ONLY
USCO-008/300ALINK	300A SOLID LINK FOR USE WITH CSG27 RANGE OF 125KV BIL POLYMER CUTOUTS

## MV OVERHEAD INLINE DISCONNECT SWITCHES

### SUPERIOR MECHANICAL PERFORMANCE

- Rigid Blade Design
- **Incredibly easy blade to pull & close (longest mechanical advantage)**
- Contact design avoids any areas for trapped ice to interfere with blade structure
- Large formed galvanised steel load buster hook
  - Optimally positioned for easy loadbuster tool attachment and removal after opening
  - Stronger than castings

### SUPERIOR ELECTRICAL PERFORMANCE

- Best electrical conductivity
- Full silver plating on hinge, contact and blades
- Maximum contact temperature 10-15% lower than competitors

Alternative configurations & connections available

25kA sym 1 sec short-time withstand



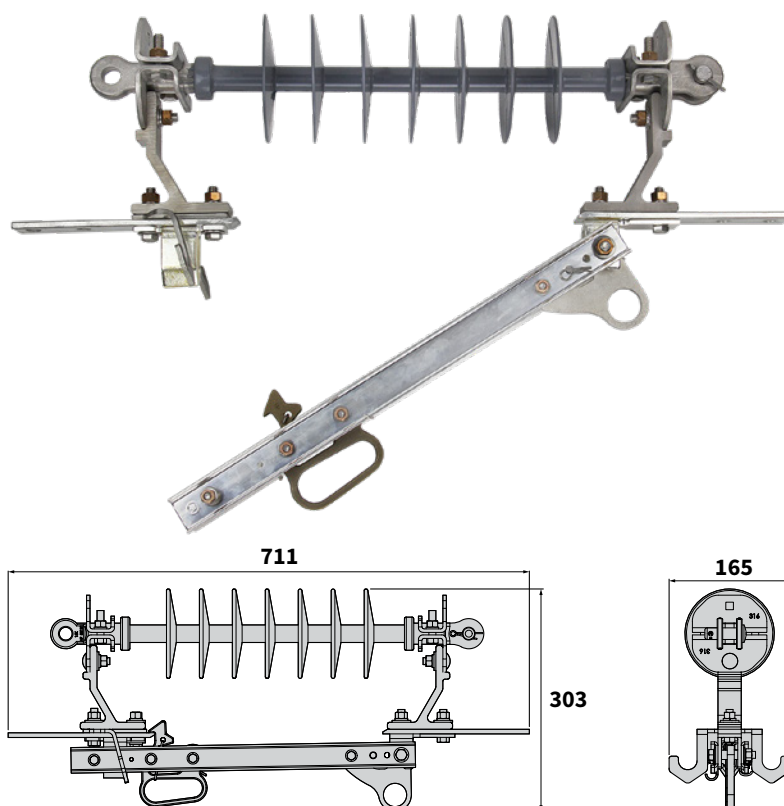
## INLINE DISCONNECT SWITCH

Inline Disconnect Switch, 15-35kV, 900A, 200kV BIL silicone insulator, marine grade (316SS hardware and brackets. All Aluminium components nickel plated, all hex nuts silicone bronze)

### FEATURES

- 900A, 15-35kV
- Polymer Insulator
- Silver plated copper blades
- Aluminium and HDG Steel Bases
- Integral 90° blade stop
- Silver plated brass contact & hinge
- Tin plated copper terminals
- Pull to Open / Pull to Close operation
- All stainless steel option

Stocked model listed below, customised options are available on request, please contact us with your requirements.



Cat No.	Fittings	Rated Voltage (kV)	Rated Current (A)	Description
HDS900A-IN35S-200NML	316 STAINLESS STEEL	15-35	900	INLINE DISCONNECT SWITCH



INLINE DISCONNECT SWITCH COMPLETE KITSET

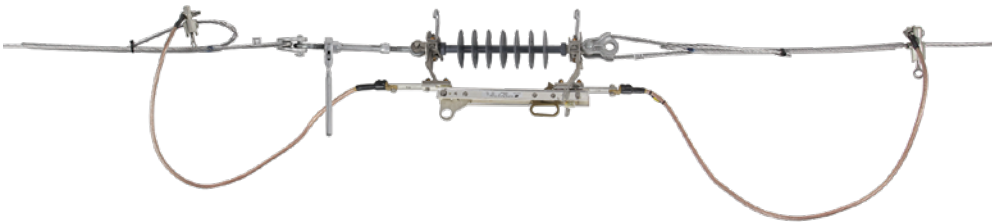
This unit includes all the hardware required to install an inline disconnect switch. Designed and assembled in NZ.

SWITCH FEATURES

- 900A, 15-35kV
- Polymer Insulator
- Silver plated copper blades
- Aluminium and HDG Steel Bases
- Integral 90° blade stop
- Silver plated brass contact & hinge
- Tin plated copper terminals
- Pull to Open / Pull to Close operation
- All stainless steel option

FLEXIBLE CABLE FEATURES

- 50mm<sup>2</sup> Flexible Cu Stranded Conductor (Class 6)
- Transparent PVC Insulation
- Meets requirements of IEC 61138 and IEC 60227-1



KITSET COMPONENTS

- Inline Disconnect Switch made in USA
- Turnbuckle
- Podger features removable handle
- Industry standard live line clamps
- 50mm<sup>2</sup> Flexible Copper leads with clear sheath, 1.5m long

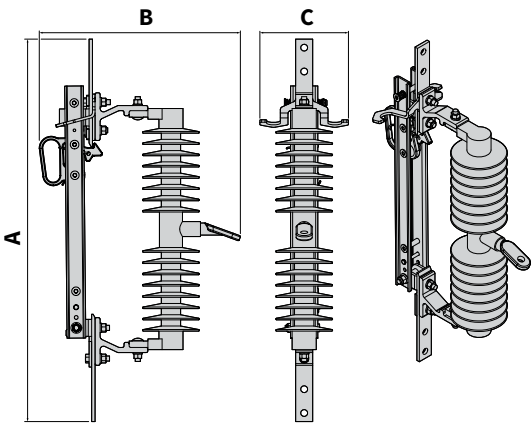
Cat No.	Rated Voltage (kV)	Rated Current (A)	Kitset Components
ILDIS-SWITCH-COMP	15-35	900	HDS900A-IN35S200NML INLINE DISCONNECT, TURNBUCKLE, PODGER, LIVE LINE CLAMPS, 1.5M LONG 50MM <sup>2</sup> CLEAR SHEATH FLEX CU LEADS

SINGLE INSULATOR DISCONNECT

Single Insulator Disconnect Switch up to 35kV, 900A, 170 BIL silicone insulator with NEMA B bracket

FEATURES

- 600 & 900A options available
- 15, 27 & 35kV
- Polymer & Porcelain Insulators
- Silver plated copper blades
- Integral 90° blade stop
- Silver plated brass contact and hinge
- With NEMA B Bracket
- Tin plated copper terminals



Cat No.	Rated Voltage (kV)	Rated Current (A)	Dimensions (mm)		
			A	B	C
HDS-600A-SI-27S-125	11	600	710	354	165

# SURGE ARRESTORS

## SURGE ARRESTOR EYEBOLT CONNECTOR

When an unbroken lead through the surge arrester is required, eyebolt connectors are the answer. The lead can come from the DDO to the surge arrester and on to the transformer without having to be cut, lugged and stacked onto the stud. This connector simply attaches to the surge arrester stud and allows the lead to be clamped on its way through the connector.



AS1180-003



AS1160-001



Cat No.	Cable Size (mm <sup>2</sup> )	Size	Stud Size
AS1160-001	6-70MM <sup>2</sup>	SMALL	TO FIT IMPERIAL THREAD 3/8" STUD
AS1180-003	6-150MM <sup>2</sup>	LARGE	TO FIT IMPERIAL THREAD 3/8" STUD

## CLASS 1 - DISTRIBUTION CLASS, EVA POLYMER, HDA-MA SERIES

Generic Technical Data	Value
HDA-xxMA SERIES	3-24KV UC
RATED DISCHARGE CURRENT (8/20μS)	10KA
LINE DISCHARGE CLASS ACCORDING TO IEC 60099-4	CLASS 1
OPERATING DUTY IMPULSE WITHSTAND CURRENT (4/10μS)	100KA
LONG DURATION CURRENT IMPULSE (2000μS)	400A
10 SECOND TEMPORARY OVERVOLTAGE, (UTOV/UC)	1.42
HIGH CURRENT SHORT CIRCUIT: (PRE-FAILING METHOD (SAFE NON-SHATTERING FAILURE MODE)	40KA
ENERGY - 2 LONG DURATION IMPULSES - 2 HIGH CURRENT IMPULSES	4.2KJ/KV UC 6.8KJ/KV UC
SERVICE CONDITIONS - AMBIENT TEMPERATURE	-60°C TO +60°C
Mechanical Strength	
CANTILEVER	350NM
TENSILE	2000NM
TORQUE	50NM



Nema B bracket, included

Cat No.	Rating (kA)	Voltage (kV)	Stud (mm)	Bracket
EE2344-000	10	8	100	INSULATING & NEMA B
CU9359-000	10	12	100	INSULATING & NEMA B
CH6050-000	10	36	100	INSULATING & NEMA B



CLASS 1 - DISTRIBUTION CLASS, DAH SERIES

Generic Technical Data	Value
DAH SERIES	UP TO 36KV
RATED DISCHARGE CURRENT (8/20µS)	10KA
HEAVY DUTY ARRESTOR	IEEE C62.11, (2005)
OPERATING DUTY IMPULSE WITHSTAND CURRENT (4/10µS)	100KA
LONG DURATION CURRENT IMPULSE (2000µS)	250A
10 SECOND TOV, (KV)	1.4 * MCOV
Mechanical Strength	
CANTILEVER	258 FT.-LBS
TENSILE	450 LBF
TORQUE	36.9 FT.-LBS

Cat No.	Rating (kA)	Voltage (kV)	Stud (mm)	Bracket
CR7677-000	10	12	100	INSULATING & NEMA B
CN0194-000	10	36	45	INSULATING & NEMA B





## CLASS 1 - DISTRIBUTION CLASS, DA1 SERIES

Generic Technical Data	Value
DA1 SERIES	4-45 KV
RATED DISCHARGE CURRENT (8/20μS)	10KA
LINE DISCHARGE CLASS 1 ACCORDING TO	IEC 60099-4 (2006)
OPERATING DUTY IMPULSE WITHSTAND CURRENT (4/10μS)	100KA
LONG DURATION CURRENT IMPULSE (2000μS)	325A
10 SECOND TOV, (UTOV / UC)	1.29 * UC
HIGH CURRENT SHORT CIRCUIT: (PRE-FAILING METHOD)	
(SAFE NON-SHATTERING FAILURE MODE)	21KA
ENERGY	5.6KJ/KV
Mechanical Strength	
CANTILEVER (NM)	350NM
TENSILE (NM)	2000NM
TORQUE (NM)	50NM

Cat No.	Rating (kA)	Voltage (kV)	Stud (mm)
BM3575-000	10	10	45 (100MM IN BOX)
BM3576-000	10	18	45 (100MM IN BOX)
BM3577-000	10	27	45 (100MM IN BOX)



BM3575-000

## CLASS 2 - STATION CLASS, OCP2 SERIES

Generic Technical Data	Value
OCP2 SERIES	3-41KV UC
RATED DISCHARGE CURRENT (8/20μS)	10KA
LINE DISCHARGE CLASS ACCORDING TO IEC 60099-4	CLASS 2
OPERATING DUTY IMPULSE WITHSTAND CURRENT (4/10μS)	100KA
10 SECOND TEMPORARY OVERVOLTAGE, (UTOV/UC)	1.35
LONG DURATION CURRENT IMPULSE (2000μS)	530A
HIGH CURRENT SHORT CIRCUIT: (PRE-FAILING METHOD)	
(SAFE NON-SHATTERING FAILURE MODE)	40KA
ENERGY - 2 LONG DURATION IMPULSES	6.0KJ/KV UC
SERVICE CONDITIONS - AMBIENT TEMPERATURE:	-60°C TO + 60°C
Mechanical Strength	
CANTILEVER	250NM
TENSILE	2000NM
TORQUE	50NM

Cat No.	Rating (kA)	Voltage (kV)	Stud (mm)
A91131-000	10	10	45
CR0615-000	10	12	45
D67995-000	10	12	45
EE2348-000	10	36	45



# MV SWITCHGEAR

## INERTIA LINEBOSS AIR BREAK SWITCHES

The LineBOSS™ Sidebreak switch is the most robust, yet elegant sidebreak switch in the market today. Every LineBOSS™ component brings meaningful operator benefits for years to come. Features such as 1/4 inch steel phase base, stainless steel to brass bearings, silver plated copper reverse loop contacts and busbar blades mean efficient and smooth operation over a very long life; even in hostile environments where dust, humidity, corrosives and other industrial or natural contaminants play havoc with most. You'll be amazed with how much switch you can buy for the money. The LBS distribution switch is RUS accepted.

### STANDARD FEATURES

- Resilient, higher BIL silicone rubber insulators
- Reverse loop silver plated copper jaw contacts
- Maintenance free stainless steel/brass bearings
- Unitised construction: aluminium, steel or fibreglass
- Factory adjusted, ready to mount
- Meets all applicable IEEE, IEC and ANSI standards
- All ferrous components are hot dip galvanised
- Tinned copper terminal pads

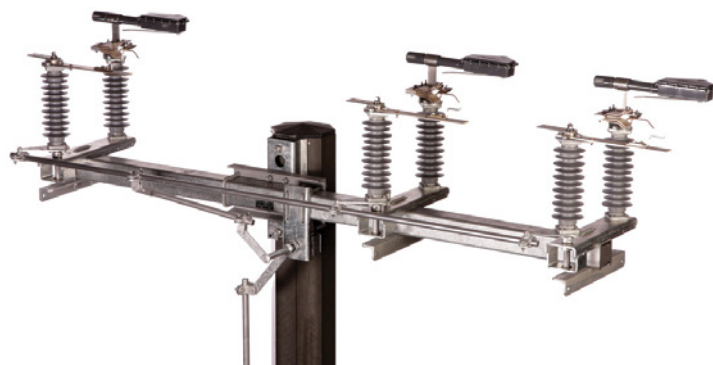
### LOADBREAK DEVICES

- Arc Horns
- Quickbreak Whip Attachments
- Arc Chute Load Break
- AmpRupter Load Break
- AmpVac Load Break
- ACCC Designation DO6, Loadability factor 1.22 at 25°C

### STANDARD CONFIGURATIONS

- Horizontal (upright)
- Horizontal (centre mount)
- Horizontal (underarm)
- Vertical (tiered outboard)
- Vertical (phase over phase)
- Riser
- Delta (pole top)

Fully customisable to your requirements.



### SPECIFICATIONS

Switch Ratings	
VOLTAGE CLASS	15.5 KV, 25.8 KV & 38 KV
USAGE VOLTAGE	11 KV, 22 KV & 33 KV
CONTINUOUS CURRENT CLASS	600, 900, 1200 AMPS
FAULT CLOSE	15 KA RMS-ASYM: 5X MANUAL OPERATION 20 KA RMS-ASYM: 3X MANUAL OPERATION 30 KA RMS-ASYM: 2X MANUAL OPERATION
MOMENTARY CURRENT	600 A 40,000 A RMS 10 CYCLES 25,000 A RMS 3 SECONDS
	900 A 51,000 A RMS 10 CYCLES 32,000 A RMS 3 SECONDS
	1200 A 70,000 A RMS 10 CYCLES 44,000 A RMS 3 SECONDS
ICE BREAKING	3/4" MANUAL OPERATION
MECHANICAL	5000 CYCLES (OPEN/CLOSE)
TESTED IN ACCORDANCE WITH IEEE STD. C37.34-1994, ANSI/IEEE STD. 37.71-1984 & IEC STD. 265-1, 1983	

### CROSSARM RATINGS

Crossarm Material	Dead End Loading (lbs/phase)
GALVANISED STEEL (STANDARD DUTY)	2000
GALVANISED STEEL (HEAVY DUTY)	6000
ALUMINIUM (STANDARD DUTY)	1500
ALUMINIUM (HEAVY DUTY)	3000
FIBREGLASS (STANDARD DUTY)	1000
FIBREGLASS (HEAVY DUTY)	2500
ALL MATERIALS: EQUAL LOADING, EACH SIDE OF SWITCH IS 12000 LBS. RATINGS SHOWN ABOVE ARE FOR 25 KV SWITCH	

Cat No. (Delivery Area)		Voltage Class (kV)	Load Break
North Island	South Island		
L16SLSH1133NI	L16SLSH1133SI	15	AMPRUPTER
L16SXSH1133NI	L16SXSH1133SI		NONE
L26SLSH1133NI	L26SLSH1133SI	25	AMPRUPTER
L26SXSH1133NI	L26SXSH1133SI		NONE
L36SLSH1133NI	L36SLSH1133SI	35	AMPRUPTER
L36SXSH1133NI	L36SXSH1133SI		NONE

**Inertia**  
ENGINEERING



## OVERHEAD SF<sub>6</sub> INSULATED ROTARY PUFFER SWITCH, UP TO 27KV

G&W's overhead Rotary Puffer (RP) switches are ideal for manual load break switching, standard speed (5 seconds per operation) automatic transfer or automated sectionalising on systems rated through 27kV, 630A, 32kA peak and 20kA asymmetrical short circuit. The switches are tested to applicable sections of ANSI and IEC standards. 630A load break with 20kA momentary current.

### COMPARED TO AIR BREAK SWITCHES

G&W overhead load break switches can provide:

- An economical alternative with superior, mechanical & electrical performance
- Totally sealed contact systems eliminating environmental corrosion and icing concerns
- Significant increase in the number of load break operations which is especially important in automation schemes where the number of switching operations typically increases
- Maintenance free
- Ease of automation
- All critical contact components totally protected from environment within a sealed-for-life (per IEC standards), welded and painted stainless steel enclosure
- SF<sub>6</sub> is used because it is a safe, nontoxic, nonflammable, stable dielectric with excellent arc quenching properties

### OPERATION OPTIONS

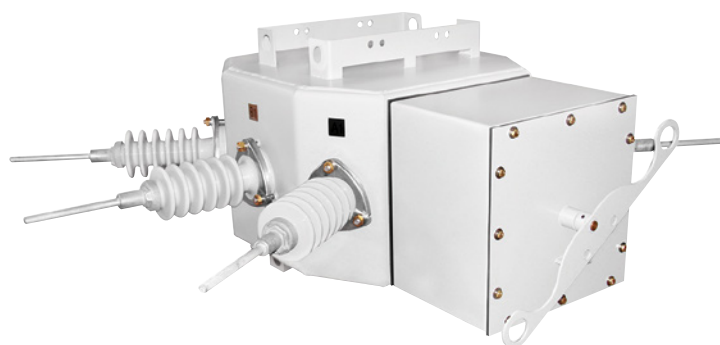
- MANUAL ONLY – Most cost effective option, switch is manually operated by the crew on site
- MOTORISED MANUAL – Install as a manual switch initially, then automate at a later date
- MOTORISED AUTOMATED – By adding a controller, the user can operate the switch remotely without having to dispatch a crew
- AUTOMATED SECTIONALISER – Programmed as a sectionaliser, it operates automatically of any human intervention, working directly with an upstream recloser and operating based on faults in the network it is monitoring to reduce affected customers.

### ADDITIONAL FEATURES

- Both manual and motorised models can be fitted with an additional manual lock-out lever for extra safety.
- Various mounting options are available

Cat No.	Voltage Class (kV)	Style
SR70 0040 00	15.5	MANUAL
ORA21-386-20RP	27	MANUAL
SR70 0060 00-1	15.5	MOTORISED
SR70 0060 00-2	27	MOTORISED

For automation and controls, please contact TransNet



Max Design Voltage (kV)	15.5	27
IMPULSE LEVEL (BIL) KV	110	125
ONE MINUTE WITHSTAND (DRY), AC KV	50	60
10 SECOND WITHSTAND (WET), AC KV	45	50
15 MINUTE WITHSTAND, DC KV	53	78
CONTINUOUS & LOAD BREAK CURRENT, AMPS	630	
MOMENTARY CURRENT KA ASYM	20	
FAULT-CLOSE CURRENT, KA ASYM (3 TIMES)	20	
ONE SECOND CURRENT KA SYM	12	
OPERATIONS LOAD INTERRUPTING ENDURANCE AT 600A	500	
MECHANICAL ENDURANCE OPERATIONS	2000	
MAXIMUM GAS LEAKAGE TEST, CC/SECOND	10 <sup>-7</sup>	



Pole Top Mounted Rotary Puffer Switch



Rotary Puffer Switch Manual Safety Lock Out

## DIAMONDBACK - OVERHEAD SOLID DIELECTRIC LOAD BREAK SWITCH, UP TO 25.8KV

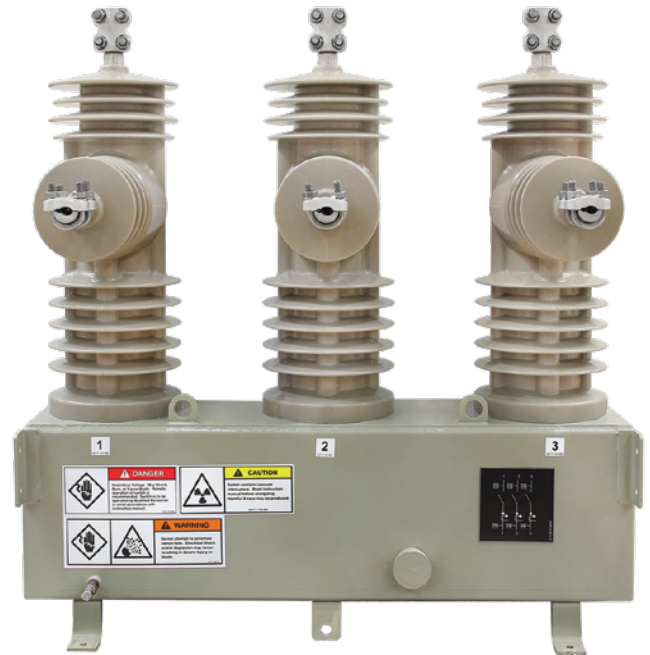
The Diamondback is a three phase load break switch for overhead applications. This switch combines the time-proven reliability of vacuum bottles with the maintenance-free benefits of solid dielectric insulation. Diamondback is designed for three phase automatic or manual switching providing circuit isolation for systems rated up to 25.8kV, 630A continuous current. The compact, light-weight design provides ease of installation. Diamondback has been designed and tested to comply with the IEC 62271-103 standard (formerly IEC 60265-1:1998).

### SOLID DIELECTRIC MODULES

The solid dielectric modules utilize a time-proven solid dielectric epoxy insulation to fully encapsulate each of the three vacuum interrupters. The operating temperature range of the switch is -30°C to +50°C. A 1000:1 ratio current transformer with +/-1% accuracy is encapsulated into each solid dielectric module. Six (6) internal voltage sensors allow for voltage measurement on both the source and load sides of the device. These voltage sensors are also encapsulated inside the solid dielectric modules and have an accuracy of +/-3%, (or 1% after calibration in the control).

### FEATURES & BENEFITS

- Solid dielectric insulation, uses no oil or SF6 greenhouse gas – environmentally friendly, maintenance free system means lower life cycle costs
- Easy to automate with the optional FTU-P200 control – Smart Grid ready and can be used as a sectionaliser, tie switch, automatic transfer or in loop schemes
- Six integrated voltage sensors – Less equipment & weight on pole reduces future maintenance & improves reliability. Enables full line metering capability for Smart Grid applications



- Compact size and lightweight construction – Allows for installation in tight areas and eases handling during installation
- Reversible side mount frame – Frame is reversible and provides installation flexibility in switch orientation. Other mounting options are available

### OTHER CONTROL OPTIONS

- New - Now paired with SEL651RA
- NZ RCO2 and Abbey controls can be paired with the Diamondback switch for fundamental functionality

Electrical Ratings		Cat No. PAE-ECS-M
MAXIMUM VOLTAGE		25.8KV
CONTINUOUS CURRENT		630A
FREQUENCY		50HZ/60HZ
SHORT CIRCUIT CURRENT, 1 SECOND RMS		12.5KA
MAKING CURRENT PEAK		32.5KA / 5 TIMES
CURRENT SWITCHING CAPACITY TESTED PER IEC 62271-103	LOAD CURRENT	630A / 200 TIMES (100%)
		31.5A / 20 TIMES (5%)
	LOOP CURRENT	630A / 20 TIMES
	CABLE CHARGING CURRENT	25A / 10 TIMES (100%)
		7.5A / 10 TIMES (30%)
	LINE CHARGING CURRENT	1.5A / 10 TIMES
	EXITING CURRENT	22A / 10 TIMES
NO VOLTAGE		5000 TIMES
CONTROL INPUT VOLTAGE		1 Ø 220VAC / 120VAC
CONTROL VOLTAGE		24V DC
POWER FREQUENCY WITHSTAND VOLTAGE	DRY	60KV / 1MIN
	WET	50KV / 10SEC
SURGE WITHSTAND VOLTAGE		150KV (1.2 TIMES / 50 MICROSECONDS)



Engineered to order. Built to last.



## VIPER-S - SOLID DIELECTRIC 3 PHASE RECLOSER, UP TO 38KV

Providing electronic three phase overcurrent protection for systems rated through 38kV, 800A continuous current, 12.5kA symmetrical interrupting.

### FEATURES

- Reliable performance, vacuum fault interrupters (for -S, -ST, -SP & LT models)
- Control flexibility including SEL-351 series, SEL-651R, GE controls and more
- Operator safety with mechanical block on trip and lockout handle
- Maintenance free operation
- Overhead, substation and dead-front padmount designs
- "L", "C" and "Z" style options available
- Ease of installation
- Three internal current transformers
- Up to six internal voltage sensors
- Smart Grid solutions
- RUS accepted
- Painted Stainless Steel tank
- Designed, built and tested to IEEE C37.60 and IEC 62271-111 standards latest version

### OPERATION OPTIONS

- DEAD LINE –Permits using batteries located in the control for operation when main control power is lost
- CUSTOM RELAY SOLUTIONS (CRS) – Permits using 48V DC or 125V DC control logic voltage as an alternative to traditional 14-pin SEL, Cooper & GE controls. Recloser power is not affected.
- INTERNAL VOLTAGE SENSING – Permits voltage reading for network reconfiguration applications and provides secondary analogue 120V AC output.
- MANUAL OPERATION – Hookstick operable manual trip handle trips and locks out the recloser

For build options and site-ready designs, please contact TransNet

### OPTIONS AVAILABLE FOR THE VIPER-S/ST RANGE

- Solid Dielectric voltage transformers – Single or Three Phase
- External current transformers
- Seismic rated substation stand available includes 45° mounting
- Stainless Steel mounting frames
- Enclosures for Padmount models
- Auxiliary contacts
- Side mount "Alley" Pole mount

Cat No.	Voltage Class (kV)
VIP378ER-12S	15.5
VIP388ER-12S	27
VIP398ER-12S	38



Engineered to order. Built to last.



Voltage Class (kV)	15	25	35
MAX SYSTEM VOLTAGE (KV)	15.5	27	38
BIL (KV)	110	125	150
CONTINUOUS CURRENT (A)	800		
8 HR. OVERLOAD, AT 20°C	960		
60HZ WITHSTAND, KV RMS DRY, 1 MIN	50	60	70
60HZ WITHSTAND, KV RMS WET, 10 SEC	45	50	60
INTERRUPTING RATING RMS (KA)	12.5		
MAKING CURRENT, RMS, ASYM, KA	20		
PEAK, ASYM (KA)	32		
SHORT CIRCUIT CURRENT, KA SYM, 3 SEC	12.5		
MECHANICAL OPERATIONS	10K		
TEMPERATURE RANGE	-40°C TO 65°C		



Viper-S Pole Mount



## VIPER-SP - SOLID DIELECTRIC SINGLE PHASE (SWER) RECLOSER, UP TO 38KV

Providing electronic overcurrent protection for single phase operation on systems rated through 38kV, 800A continuous current, 12.5kA symmetrical interrupting.

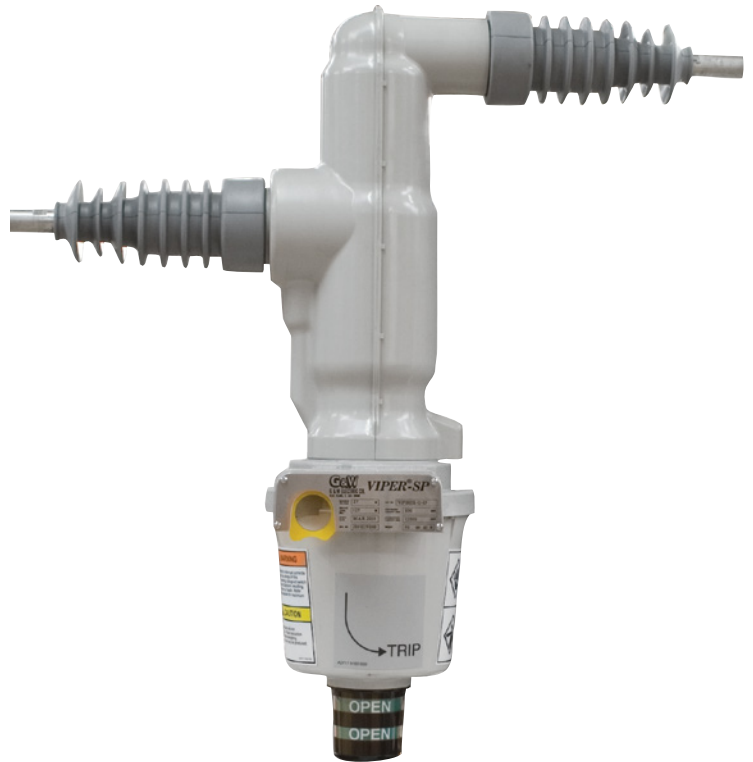
### FEATURES

- Reliable performance
- Works directly with SEL-351RS Kestrel control
- Operator safety including mechanical block on trip and lockout
- Maintenance free operation
- Overhead, substation and dead front padmount designs
- Ease of Installation
- Internal current transformer
- Smart Grid solutions
- RUS accepted

### OPERATION OPTIONS

- DEAD LINE – Unique design of Viper-SP magnetic actuator system provides for local & remote operation of the recloser via batteries
- MANUAL OPERATION – Operation of the hookstick operable manual trip handle trips and locks out the recloser

For build options and site-ready designs, please contact TransNet



Voltage Class (kV)	15	25	35
MAX SYSTEM VOLTAGE (KV)	15.5	27	38
BIL (KV)	110	125	150
CONTINUOUS CURRENT (A)		800	
8 HR. OVERLOAD, AT 20°C		960	
60HZ WITHSTAND, KV RMS DRY, 1 MIN	50	60	70
60HZ WITHSTAND, KV RMS WET, 10 SEC	45	50	60
INTERRUPTING RATING RMS (KA)		12.5	
MAKING CURRENT, RMS, ASYM, KA		20	
PEAK, ASYM (KA)		32	
SHORT CIRCUIT CURRENT, KA SYM, 3 SEC		12.5	
MECHANICAL OPERATIONS		10K	

Cat No.	Voltage Class (kV)
VIP178ER-12-SP	15.5
VIP188ER-12-SP	27
VIP198ER-12-SP	38



Viper-SP Pole Mount



Engineered to order. Built to last.

## VIPER-ST - SOLID DIELECTRIC TRIPLE OPTION RECLOSER, UP TO 38KV

Providing electronic overcurrent protection for single or three phase operation on systems rated through 38kV, 800A continuous current, 12.5kA symmetrical interrupting.

### FEATURES

- Reliable performance
- Works directly with SEL-651R control
- Operator safety including mechanical block on trip and lockout handle
- Maintenance free operation
- Overhead, substation and dead-front padmount designs
- "L", "C" and "Z" style options
- Ease of Installation
- Ease of automation
- Internal voltage sensing and current transformers
- Application flexibility
- Various module configurations for circuit connection flexibility
- Smart Grid solutions
- RUS accepted

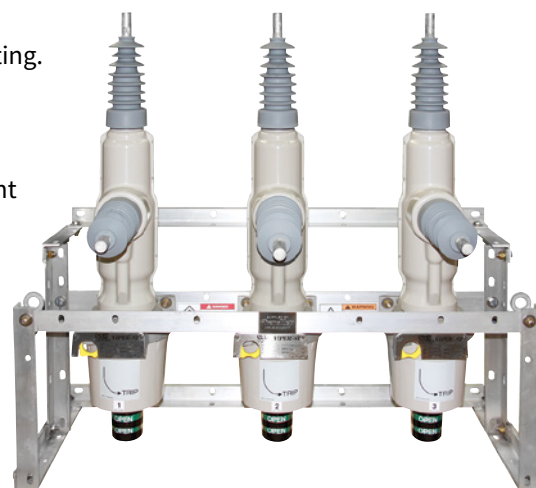
### OPERATION OPTIONS

- **DEAD LINE** – Unique design of Viper-ST magnetic actuator system provides for local & remote operation if AC power is lost
- **OPERATION PRINCIPLE** – The Viper-ST recloser monitors the circuit using internal multi-ratio current transformers and voltage sensors. Sequence operations, tripping and overcurrent sensing is an automatic function. Each phase module incorporates a magnetic actuator and drive assembly. Control can be set for three distinct operating modes for maximum application flexibility
- **MANUAL TRIP** – Operation of the hookstick operable manual trip handle trips and locks out the recloser

For build options and site-ready designs, please contact TransNet

Voltage Class (kV)	15	25	35
MAX SYSTEM VOLTAGE (KV)	15.5	27	38
BIL (KV)	110	125	150
CONTINUOUS CURRENT (A)	800		
8 HR. OVERLOAD, AT 20°C	960		
60HZ WITHSTAND, KV RMS DRY, 1 MIN	50	60	70
60HZ WITHSTAND, KV RMS WET, 10 SEC	45	50	60
INTERRUPTING RATING RMS (KA)	12.5		
MAKING CURRENT, RMS, ASYM, KA	20		
PEAK, ASYM (KA)	32		
SHORT CIRCUIT CURRENT, KA SYM, 3 SEC	12.5		
MECHANICAL OPERATIONS	10K		

Cat No.	Voltage Class (kV)
VIP378ER-12-1-ST	15.5
VIP388ER-12-1-ST	27
VIP398ER-12-1-ST	38



Viper-ST Padmount



Viper-ST Pole Mount



Viper-ST Substation Application

## VIPER-LT - SOLID DIELECTRIC TRIPLE OPTION RECLOSER, UP TO 27KV

Providing electronic overcurrent protection for single or three phase operation on systems rated through 27kV, 630A or 800A continuous current, 12.5kA or 16kA symmetrical interrupting.

### FEATURES

- Interrupting rating of 12.5 kV or 16 kA
- Reliable performance
- Operator safety including mechanical block on trip and lockout handle
- Maintenance free option
- Overhead and substation mount designs
- Easy to install
- Three internal current transformers
- Integral voltage sensing
- Compact design
- Smart Grid solutions
- RUS accepted

### OPERATION OPTIONS

- **DEAD LINE** – Unique design of Viper-LT magnetic actuator system provides for local & remote operation if AC power is lost.
- **OPERATION PRINCIPLE** – The Viper-LT recloser monitors the circuit using internal multi-ratio current transformers and voltage sensors. Sequence operations, tripping and overcurrent sensing is an automatic function. Each phase



module incorporates a magnetic actuator and drive assembly. Control can be set for three distinct operating modes for maximum application flexibility.

- **MANUAL TRIP** – Operation of the hookstick operable manual trip handle trips and locks out the recloser.

For build options and site-ready designs, please contact TransNet.

Max System Voltage (kV)	15.5		27	
INTERRUPTING RATING RMS (KA)	12.5	16	12.5	16
RATED VOLTAGE (KV)	15		25	
BIL (KV)	110		125	
CONTINUOUS CURRENT (A)	630	800	630	800
8 HR. OVERLOAD, AT 20°C	800	960	800	960
MAKING CURRENT, RMS, ASYM, KA	20	25	20	25
PEAK, ASYM (KA)	32	42	32	42
SHORT CIRCUIT CURRENT, KA SYM, 3 SEC	12.5	16	12.5	16
60HZ WITHSTAND, KV RMS DRY, 1 MIN	50		60	
60HZ WITHSTAND, KV RMS WET, 10 SEC	45		50	
MECHANICAL OPERATIONS (OPEN-CLOSE)	10K		10K	
FREQUENCY, HZ	50/60		50/60	

Cat No.	Voltage Class
VIP376ER-12-(1 OR 3)*-LT	15.5KV; 630A; 12.5KA
VIP386ER-12-(1 OR 3)*-LT	27KV; 630A; 12.5KA
VIP378ER-16-(1 OR 3)*-LT	15.5KV; 800A; 12.5KA
VIP388ER-16-(1 OR 3)*-LT	27KV; 800A; 12.5KA



Engineered to order. Built to last.



# EQUIPMENT FOR SECONDARY SUBSTATIONS - ORMAZABAL

## ORMAZABAL TRANSFORMER SUBSTATION RANGE

Founded in 1967, Ormazabal pioneered extensible GIS switchgear technology for the electrical network industry. Ormazabal has enjoyed global expansion and has product installed in more than 110 countries worldwide. From simpler times to today's complex power grids, Ormazabal has always been at the centre of aligning solutions to customer requirements through technological innovation.

The increasing complexity of energy distribution networks across a range of different markets has motivated vendors to transition away from a 'cookie cutter' approach to substation design, to a matrix based one that is application and market specific. Ormazabal's substation solutions are always designed with a customer's unique set of requirements in mind.

Ormazabal design, manufacture and supply prefabricated transformer and switching substations worldwide and with this comes a unique range of features such as visual impact, sustainability, install ease & cost, ability for off-site fabrication & test among others.

### KIOSK - SWITCHGEAR ONLY

A metal-enclosed, outdoor operation, compact, prefabricated surface-mounted switchgear and controlgear substation. This unit is designed to house a wide range of medium voltage configurations.

### MINI SUB

All PFS underground substations consist of industrialised monoblock concrete enclosures for Ormazabal's walk-in type

underground transformer. Up to 40.5kV, the PFS substation can house up to 2 x 1MVA transformers.

Perfect solution for situations where minimal visual, environmental and acoustic impact are required, or where integration with the surrounding area is crucial. In locations where long operation life against harsh environmental conditions and security are essential, then the PFS underground substation is the appropriate solution.

### ORMACONTAINER

The state-of-the-art, prefabricated container alternative that has been specifically developed as an ideal substation alternative for photo voltaic (PV) plants, wind farms and industrial applications in mining & manufacturing. The container contains all the substation related elements in an integrated, customised design layout depending on the customers' unique requirements.

The advantage is that the substation can be manufactured, tested and certified at the warehouse prior to site delivery. This in turn provides a quick on site turnaround for installation and commissioning.

### KIOSK SUBSTATION

Ormazabal has developed a variety of kiosk type substation configurations and sizes suitable for public utilities, mining and more. Supplied direct from the factory as a complete unit, the kiosk comes standard with a stainless steel enclosure in addition to a range of optional extras such as biodegradable organic oil instead of typical mineral based transformer oil.

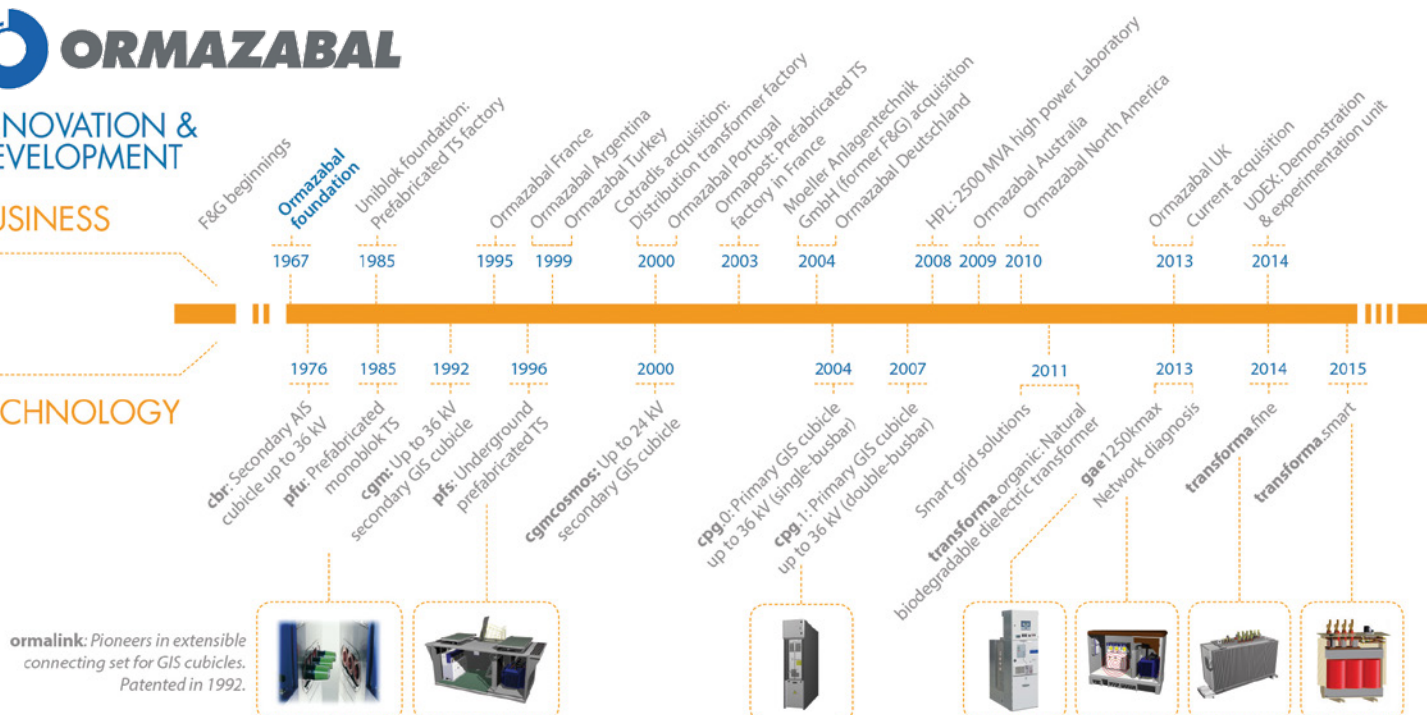
Ormazabal switchgear is manufactured in Spain and Germany while the Ormazabal transformers are manufactured in Spain.



INNOVATION & DEVELOPMENT

BUSINESS

TECHNOLOGY



## ORMAZABAL - SWITCHGEAR KIOSK

Ormazabal's cms.m is a prefabricated surface-mounted switchgear and controlgear substation, metal-enclosed, outdoor operation, compact and built in series, which is supplied from the factory as a unit.

The cms.m substation is designed for installation in electrical networks with rated voltage up to 40.5 kV in alternating current.

The cms.m family is made up of different models designed to house a wide range of medium voltage configurations.

### SAFETY

- High level of safety for people
- Protection against internal arcs: Class IAC-AB tested in accordance with IEC 62271-202 (optional)
- Accessibility of the medium voltage connectors through cover interlocked with the earthing switch
- Voltage presence indicator through ekor.vpis or ekor.ivds unit
- Medium voltage switchgear with earthing switch in all functions

### RELIABILITY

- Fully assembled at factory
- Product tested as a unit
- Corrosion category C5M-H (ISO 12944-1)
- Ventilation grilles with dust-capture filter R 15, class g2 (EN 779)
- Insulation chamber under self-ventilating cover

### EFFICIENCY

- Fast, straightforward replacement of the medium voltage switchgear on site
- Easy to transport and handle

- Sustainability
- Reduced visual impact
- Reduced dimensions and weight

### CONTINUOUS INNOVATION

- Transportable in sea container HC 40' (up to 8 units)
- Controlgear for switchgear automation (optional). Indoor and outdoor installation variants
- Built-in electronic control units for reliable integration with the telemanagement and remote control systems (optional)
- Auxiliary services supply unit up to 500 VA in cgmcosmos system (optional)



### Technical Characteristics

SYSTEM		cgmcosmos		cgm.3	
RATED VOLTAGE	kV	24	27	38	40.5
FREQUENCY	Hz	50/60			
RATED CURRENT	A	400/630			
LIGHTNING IMPULSE WITHSTAND VOLTAGE	kV	125		150	185
SHORT-TIME CURRENT	kA/1 s	16/20/25			

Model	cms.m-3f cms.m-4f	cms.m-220p cms.m-230p cms.m-320p cms.m-330p
INTERNAL ARC CLASSIFICATION (OPTIONAL)	IAC AB-20 kA 1 s	IAC AB-20 kA 0.5 s*
IP GRADE METAL ENCLOSURE	IP 34D	IP 45

\*Only with concrete pit

### TECHNICAL DATA

#### CONSTRUCTION CHARACTERISTICS

- Fully gas-insulated medium voltage switchgear, for outdoor use:
  - cgmcosmos:
    - up to 24 kV IEC
    - up to 27 kV IEEE
  - cgm.3:
    - up to 38 kV IEEE
    - up to 40.5 kV IEC
- Metal enclosure with front access
- Medium voltage interconnections
- Earthing circuit connection





## ORMAZABAL - SWITCHGEAR KIOSK CONT.

Available configurations

cms.m comes in different lengths and heights, fitted with fully gas-insulated switchgear.

### CGMCOSMOS SYSTEM

	cms.m-3f	cms.m-4f	cms.m-220p	cms.m-230p
I-I-I	O	O	O	O
I-v-I	O	O	O	O
I-p-I	O	O	O	O
I-I-v-I	X	O	O	O
I-I-p-I	X	O	O	O
I-I-I-I	X	O	O	O
I-v-v-I	X	O	O	O
I-p-p-I	X	O	O	O
I-I-I-I-I	X	O	O	O
I-I-s-I-I	X	O	O	O
I-I-s-v-I	X	O	O	O
I-v-s-v-I	X	O	X	O
I-I-v-v-v-v	X	X	X	O
I-I-I-s-I-I-I	X	X	X	O

### CGM.3 SYSTEM

	cms.m-3f	cms.m-4f	cms.m-320p	cms.m-330p
I-I-I	O	O	O	O
I-v-I	O	O	O	O
I-p-I	O	O	O	O
I-I-v-I	X	O	O	O
I-I-p-I	X	O	O	O
I-I-I-I	X	O	O	O
I-v-v-I	X	O	O	O
I-p-p-I	X	O	O	O
I-I-I-I-I	X	O	X	O
I-I-s-I-I	X	O	X	O
I-I-s-v-I	X	X	X	O
I-v-s-v-I	X	X	X	O
I-I-I-s-I-I-I	X	X	X	O

### WHERE:

I = Feeder function

p = Fuse protection function

s = Busbar switch function

v = Circuit-breaker protection function

O = Available

X = Unavailable

### EXTERNAL DIMENSIONS AND WEIGHTS

		cms.m-3f	cms.m-4f	cms.m-220p	cms.m-230p	cms.m-320p	cms.m-330p
LENGTH	(MM)	1766	2296	2314	3352	2314	3352
WIDTH	(MM)	1404	1404	1409	1409	1409	1409
HEIGHT	(MM)	2224	2224	1552	1552	1682	1682
MAXIMUM WEIGHT	(KG)	1123	1673	1491	2103	1528	1944



## ORMAZABAL - UNDERGROUND MINI SUB

In 1998 Ormazabal introduced its range of compact prefabricated transformer substations, to be installed at ground level miniBLOK or underground miniSUB, both consisted of MB electrical compact equipment assembly.

Since then the compact prefabricated transformer substations have continuously evolved with enhanced performances, being adapted to the needs of the MV distribution network.

miniSUB is a Compact Prefabricated Transformer Substation, installed underground, with reduced dimensions, standard-built, tested and supplied from the factory as a unit.

It is characterised by incorporating an Ormazabal MB Medium Voltage associated type (A) compact equipment assembly, for use in both public and private distribution networks up to 36 kV.

miniSUB prefabricated transformer substations are used in several Distribution Network Solutions (DNS) for utilities (public distribution, smart grids..) and end users (infrastructures, industry, tertiary).

Its careful exterior design and reduced dimensions minimise its visual impact, making it suitable for when space is limited, such as in industrial and residential areas as well as historical landmarks.

The main advantage of these Transformer Substations is their high safety and protection for both people and property against internal faults, as well as their IAC classification, robustness and reliability.

Currently over 2,000 miniSUB have been installed worldwide.

### SAFETY

- High personnel safety against internal arcs, accidental direct contact, touch and step voltage
- Equipotential operating surface
- No access to live parts
- Dielectric liquid collection pits
- Test performed on the MB as an individual unit and as a whole assembly in the miniSUB

### RELIABILITY

- Fully factory-assembled and equipped (enclosure, switchgear, transformer and internal earthing circuit)
- Product tested as a unit
- Fast changes of electrical equipment
- Suitable for limited space areas
- Simple installation, limited to the introduction of the enclosure in the excavation and the connection of the cables

### EFFICIENCY

- Ventilation: natural air circulation (class 10). Horizontal (H) or vertical (V) types
- Easy to transport due to its reduced dimensions and weight
- MV and LV cables input/output through sealed feedthroughs
- Impermeability and sealing

### SUSTAINABILITY

- Minimum visual, environmental and acoustic impact
- Reduced size and versatility
- Low risk of insulator spillage on the public roads, with no harm to the environment

### CONTINUOUS INNOVATION

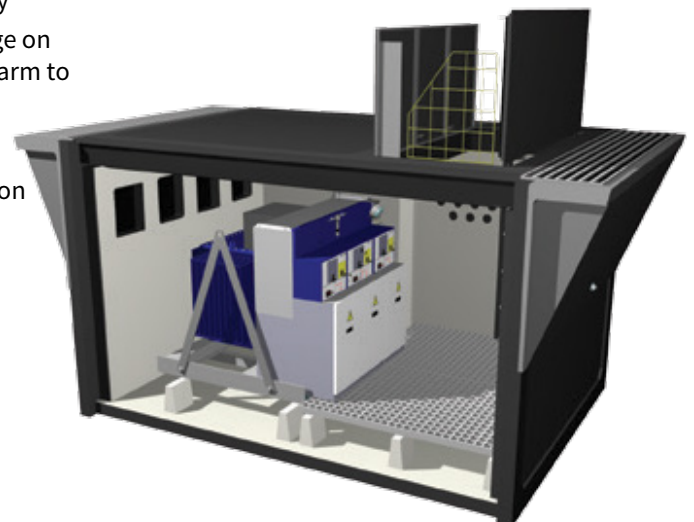
- Great capacity for integration with the environment
- Ideal for use in public distribution networks up to 36 kV



- Smart-Grids ready substation
- Ventilation modelling and testing optimized with Ormazabal transformers

### STANDARDS

- EN 50532 Compact Equipment Assembly (CEADS)
- IEC -EN 62271-202 High Voltage Switchgear: Prefabricated Transformer Substations
- On Request: Specific regulations of the Utility. Applicable local regulations



## ORMAZABAL - UNDERGROUND MINI SUB CONT.

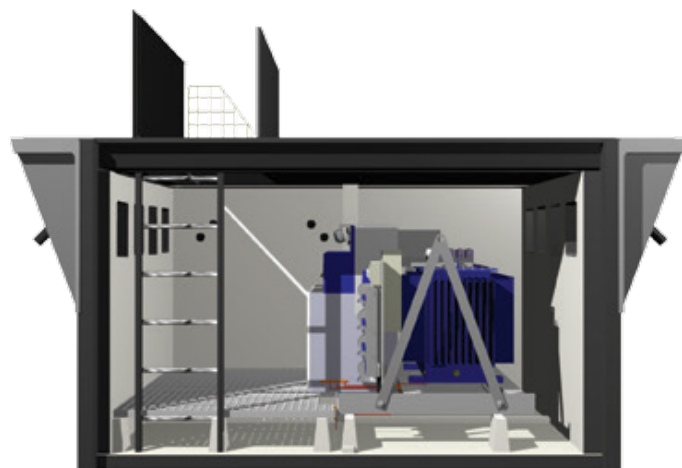
miniBLOK – Monoblock concrete enclosure (base and walls) with removable roof. MB associated compact equipment assembly:

- Fully gas insulated Medium Voltage Switchgear: CGM COSMOS-2LP up to 24 kV or CGM.3-2LP up to 36 kV. Electrical diagram (RMU) with 2 feeder functional units, input and output, and a protection functional unit with a switch-fuse combination.
- Ormazabal protection, control and metering units (remote control, telemetering, integrated control, telemanagement, etc.).
- Medium Voltage Distribution Transformer, 250, 400 or 630 kVA
- LV Switchgear: Low Voltage board with control and protection unit, as well as an auxiliary safety supply.
- Direct MV and LV interconnections.
- Self-supporting frame.
- Earthing circuit connection.
- Lighting and auxiliary services circuit.

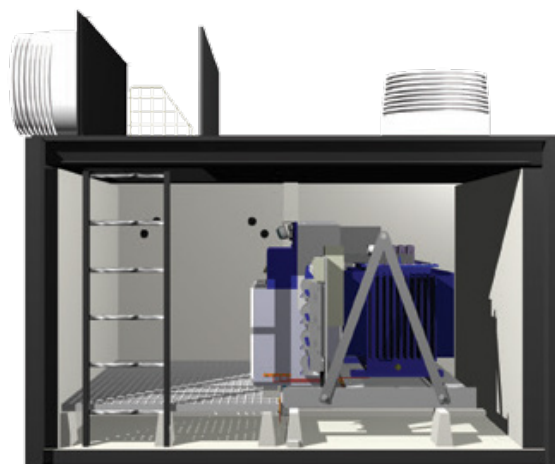
Industrial Frequency	miniSUB	24	36
RATED VOLTAGE	kV	24	36
FREQUENCY	Hz	50	
INTERNAL ARC	(IAC class)	16kA / 0.5 s	
TRANSFORMER			
POWER	KVA	250/400/630	
MV SWITCHGEAR			
RATED CURRENT	A		
In Busbars		400/630	
Outgoing Line		400/630 (L) 200 (P)	
SHORT-TIME CURRENT	kA	16/20	
INSULATION LEVEL			
Industrial Frequency	kV	50 / 60	70 / 80
Lightning Impulse	(kV) <sup>CRESTA</sup>	125 / 145	170 / 195
LOW VOLTAGE BOARD			
RATED VOLTAGE	(V)	440	
RATED CURRENT	(A)	1000	
RATED CURRENT	(A)	400	
NO. OUTPUTS		4	

External Dimensions & Weights			
VENTILATION		Horizontal	Vertical
WIDTH	(MM)	4450	3460
DEPTH	(MM)	2460	2460
HEIGHT	(MM)	2240	2240
<b>VISIBLE HEIGHT</b>			
Body	(MM)	-2350	-2350
Ventilation	(MM)	0	+485
<b>WEIGHT*</b>			
miniSUB 24	(KG)	16700	15200
miniSUB 36	(KG)	16850	15350

\*With 630 kVA transformer and no remote control.



Horizontal Ventilation



Vertical Ventilation





## ORMAZABAL - ORMACONTAINER

Ormacontainer type mobile substations are the newest prefabricated and factory tested metallic substations that are designed and developed mainly to respond temporary or urgent needs for switching or transformer substations.

Besides Ormacontainer type containerised substations also provide ideal solutions for renewable energy applications, such as, photo voltaic (PV) plants, and also for industrial applications, especially for the mining and oil & gas sectors.

### SAFETY

- Same equipotential earthing throughout the structure
- Transformer fence with protection mesh

### RELIABILITY

- Industrialized uniform quality
- Fully factory assembled, process controlled and tested
- Plug & play philosophy for MV

### EFFICIENCY

- Walk in type switchgear operation
- No need of special permits for transport
- Simple and quick installation, optimizing times and costs
- Easy connection of MV cables thanks to access holes in the base

### SUSTAINABILITY

- Longer operational life against harsh environmental conditions

### CONTINUOUS INNOVATION

- Applications for off-shore wind farms
- Applications for PV plants
- Application for diesel generators





## ORMAZABAL - ORMACONTAINER CONT.

### TECHNICAL CHARACTERISTICS

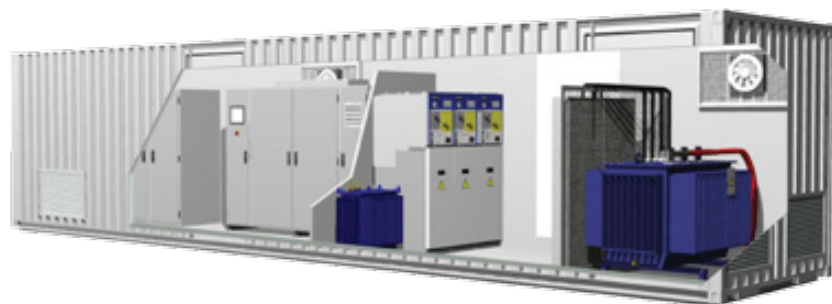
All Ormacontainers consist of a personalised metal container suitable for both land and maritime freight, and contain all the substation related elements, such as:

- Medium voltage (MV) cubicles
- Auxiliary or distribution transformer (MV/LV)
- AC/DC Low voltage (LV) board
- DC Battery chargers
- Inverters (In case PV Plants)
- Diesel generators
- Internal earthing
- Ventilation (extractor or aircon)
- Auxiliary components
- Remote control box
- Telecommunication aerial
- Safety systems (Fire detection, emergency lighting, first aid, etc.)

### OPTIONS

- pv: For photo voltaic plants
- w: For wind farms
- gen: For diesel generators
- m: Mobile on wheels

External Dimensions		20 Feet	30 Feet	40 Feet	Mobile
LENGTH	(MM)	6096	9144	12192	13176
WIDTH	(MM)	2438	2438	2438	2600
TOTAL HEIGHT	(MM)	2895	2896	2896	4200
INTERNAL HEIGHT	(MM)	2700	2700	2700	2700







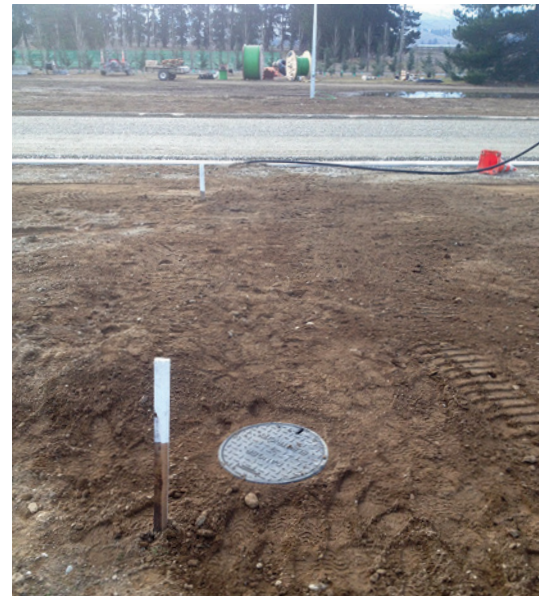


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308	EP7LP3 - Link Pillar

# TUDS - TOTAL UNDERGROUND DISTRIBUTION SYSTEM

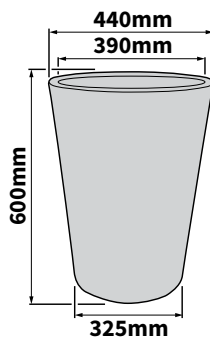
TUDS (Total Underground Distribution System) is a completely submersible system for use on distribution networks. TUDS has many benefits, mainly the increased reliability of the network and the aesthetic benefits for the public. TUDS can be installed live as all fittings are completely touch safe and fully submersible.

The enclosure itself has been tested (AS/NZS3661.1:1993 pedestrian slip, AS3996-1992 downward force) for its ability to stand up to the elements, the pit and lid are manufactured from durable black UV resistant plastic compounds.

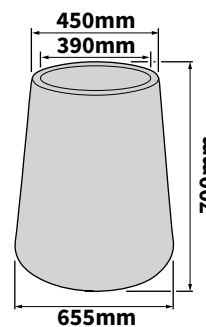


## TUDS PITS & PIT/LID KITS

This pit is strong and versatile, made from durable, black, UV stable plastic compounds. TUDS pits are easily capable of having a car drive over or park on them (when complete with TUDS325SLID pit lid).



TUDS325S



TUDS325LPITNZTA

### PIT ONLY

Cat No.	Style	Stainless Steel Lock	Dimensions (mm)	Weight (kg)
TUDS325S	STANDARD	NO	440 × 600 × 325	6
TUDS325SPITLOCKING	STANDARD	YES	440 × 600 × 325	6
TUDS325LPITNZTA	LARGE, BELL BOTTOM	NO	450 × 700 × 655	10

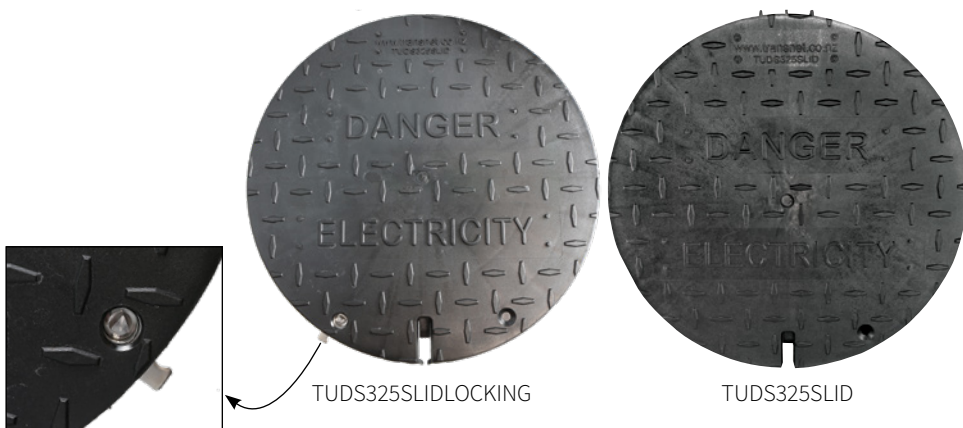
### PIT & LID SET

Cat No.	Style	Stainless Steel Lock	Dimensions (mm)	Weight (kg)
PITLIDKIT	STANDARD	NO	440 × 600 × 325	8
TUDS325SLOCKING	STANDARD	YES	440 × 600 × 325	8
TUDS325LKIT	LARGE, BELL BOTTOM	NO	450 × 700 × 655	12
TUDS325LLOCKING	LARGE, BELL BOTTOM	YES	450 × 700 × 655	12
TUDS325LNZTA	LARGE, BELL BOTTOM	NO	450 × 700 × 655	12

## TUDS PIT LIDS

Made from durable, black, UV stable plastic compounds. Can be parked on and driven over. Locks into place and requires a tool for entry.

TUDS325SLIDLOCKING offers the same standard locking latches of the TUDS325SLID but it also has a stainless steel spring loaded lock which requires a key to unlock it.



Cat No.	Description	Weight (kg)
TUDS325SLID	HEAVY DUTY SERVICE PIT LID ONLY, FOR TUDS325S AND TUDS325L	2
TUDS325SLIDLOCKING	HEAVY DUTY LOCKING PIT LID ONLY, FOR TUDS325SLOCKING	2
TUDS325SLIDNZTA	HEAVY DUTY PIT LID ONLY, LABELLED NZTA	2

## PIT300D KITS - NO BREACH JOINT

These kits are designed for applications where there is no requirement for the main cable to be tapped into and a breach joint is therefore not required. TUDS kits with a resin joint system are also available.

### KITS CONTAIN

- Pit
- Lid
- Neutral Connector (GelPort)
- Fuse Carrier(s)
- Fuse Link(s)
- Neutral Tag
- Heatshrink Breakout Boot
- Cable Tie



Cat No.	Description	Fuse Carrier Cable Range (mm <sup>2</sup> )
PIT300D1PH	SINGLE PHASE PIT ASSEMBLY	6-50
PIT300D2PH	TWO PHASE PIT ASSEMBLY	
PIT300D3PH	THREE PHASE PIT ASSEMBLY	

## TUDS KITS - WITH BREACH JOINT

These kits are designed for applications where the main conductor is underground and a breach joint is required. TUDS kits with a resin joint system offer the complete solution for LV distribution networks.

### KITS CONTAIN

- Pit
- Lid
- Guro Resin Breach Joint (with Ring Connector)
- Neutral Connector (GelPort)
- Fuse Carrier(s)
- Fuse Link(s)
- Neutral Tag
- Heatshrink Breakout Boot and other incidentals
- Cable Tie



Cat No.	No. of Fuses	Cable Size (mm <sup>2</sup> )	
		Main	Service
TUDS1PH70-150	1	70-150	6-70*
TUDS1PH150-185		150-185	
TUDS1PH240		240	
TUDS2PH70-150	2	70-150	6-70*
TUDS2PH150-185		150-185	
TUDS2PH240		240	
TUDS3PH50-70	3	50-70	6-70*
TUDS3PH70-150		70-150	
TUDS3PH150-185		150-185	
TUDS3PH240		240	

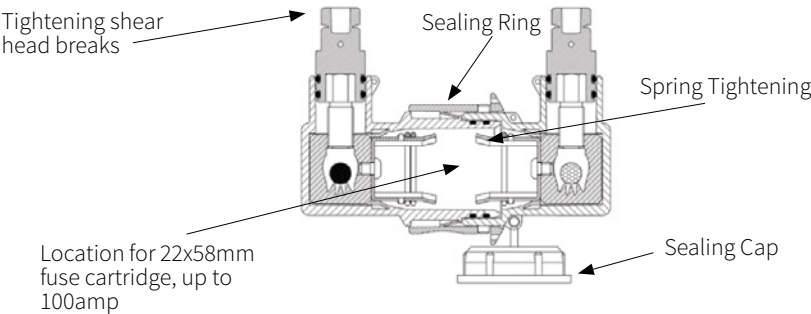
\*Ring Connector accommodates 6-70mm<sup>2</sup> tails, but K199 service fuse only accommodates 6-50mm<sup>2</sup> cable

## FUSE CARRIER

Fully submersible fuse carrier for fuse links up to 100 amps. Used to connect the customer's service to the main supply.

- Installation tool : 13mm spanner/socket

IPC technology means there is no need to remove cable insulation. The shearhead bolts will snap when the connection is made and the correct torque is reached.



Cat No.	Type	Fuse Link	Cable Size
K199	MICHAUD 100AMP SUBMERSIBLE FUSE CARRIER	22 × 58MM ME/KR85 FUSE CARTRIDGE UP TO 100AMP	6-50MM <sup>2</sup>



## REPLACEMENT SHEARBOLT - K199

Yellow replacement shearbolts are used when a cable is removed and replaced in a K199 fuse carrier. Shearbolts must be replaced not reused to ensure the correct torque rating is reached and a good

connection is made.

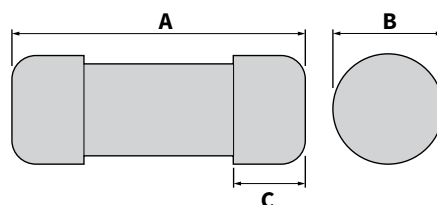
**NOTE:** Once replacement bolt has been used, should bolt need to be removed again the K199 must be replaced.



Cat No.	Description
6-1198553-1	MICHAUD REPLACEMENT YELLOW SHEAR BOLT FOR K199

## HRC FUSE LINK CYLINDRICAL 22X58MM - ME TYPE (KR85)

- Rated Voltage: 500V AC
- Rated breaking capacity: 100kA
- Standard specifications: IEC EN 60269-2-1
- Class: gG/gL



Cat No.	Amps	Pack Size	Dimensions (mm)		
			A	B	C
TNME5	5	5	58	22	9.5
TNME10	10	5	58	22	9.5
TNME15	15	5	58	22	9.5
TNME20	20	5	58	22	9.5
TNME30	30	5	58	22	9.5
TNME40	40	5	58	22	9.5
TNME50	50	5	58	22	9.5
TNME60	60	5	58	22	9.5
TNME80	80	5	58	22	9.5
TNME100	100	5	58	22	9.5



## STAINLESS STEEL TRIANGULAR LOCK & KEY

Stainless steel lock and key for use on TUDS and ECO Pillar enclosures for added security. The lock is spring loaded to ensure it can't be left unlocked.



Cat No.	Description
MK908-4	STAINLESS STEEL SPRING LOADED LOCK FOR TUDS AND ECOPILLARS
EPTS/SLOCKKEY	STAINLESS STEEL TRIANGULAR LOCK KEY FOR ECOPILLAR & TUDS LOCK MK908-4

## LID SCREW

For extra security you can screw the TUDS lid into place.

To be used where indent is molded into the lid.



Cat No.	Description
PITLIDSCREW	STAINLESS STEEL ALLEN SCREW FOR LID

## NEUTRAL TAG

Neutral Tag to be fitted to the neutral connector once all relevant tests have been done. Attach with a cable tie.

Cat No.	Description
FA2S000000000	NEUTRAL TAG, TESTED & APPROVED FOR LIVENING



## TUDS LIFTING TOOL

Lid opening tool for accessing TUDS.

Cat No.	Description
0-0361414-3	PIT LID LIFTER FOR TUDS325 & TUDS325L



## IDENTIFICATION & LABELLING KIT

Critchley K65 markers offer a hard wearing solution to label services in TUDS and ECO Pillars.

### TUDSIDENTKIT1:

- 10 x each character A-Z & 0-9
- 10 x carrier strips
- 100 x cable ties
- 20 segment carry case

### TUDSIDENTKIT2:

- 50 x each character A-Z & 0-9
- 200 x carrier strips
- 100 x cable ties
- 20 segment carry case

Cat No.	Description
TUDSIDENTKIT1	SMALL LABELLING KITSET
TUDSIDENTKIT2	LARGE LABELLING KITSET



\*Spare/replacement parts available - see page 337

# BURIED CABLE ENCLOSURES

## MAINS STREETLIGHT PIT SYSTEM

The Streetlight pit is a submersible cable break out system with fused supply to light poles and auxillary items such as CCTV, WiFi, telecom signal boosters. This pit system is approved by Auckland Transport for all Streetlight poles where the "Gear Door Opening size" is less than 120mm x 200mm, or where there is limited space for cable loops and multiple fused supplies within the streetlight pole.

### FEATURES

- 300x300x300
- UV stable Polypropylene
- Connections via 165A rated copper bus
- 65U fully submersible fuse carriers and Raychem Gel Enclosures (GHFC-205-90)
- Approved for use by AT (Auckland Transport)



Cat No.	Description	Dimensions (mm)
TNATSLPITKIT	SUBMERSIBLE FUSED ELECTRICAL SUPPLY TO LIGHT POLES - AT ASSET NUMBER	300 × 300 × 300
TNSLPITKIT	SUBMERSIBLE FUSED ELECTRICAL SUPPLY TO LIGHT POLES - GENERIC	

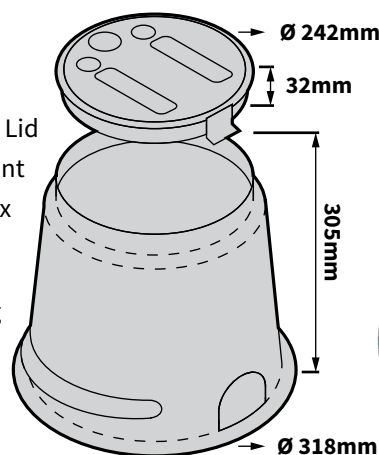
## BURIED CABLE ENCLOSURE PIT

This versatile Buried Cable Enclosure Pit is widely used in electrical, telephone and water industries. Made of high density polyethylene structural foam, this rigid enclosure is lightweight and easy to handle.

The standard unit we stock comes with a "Telecommunications" lid but there are optional "Blank" and "Broadband" lids available, please let us know at time of order. We can also discuss including your company logo (quantity dependent).

### FEATURES

- HDPE Plastic Base & Lid
- Flush insert Lid mount
- Pedestrian grade box (< 1ton loading)
- Branding or descriptive labelling available
- Volume = 75L
- L-Bolt Cover

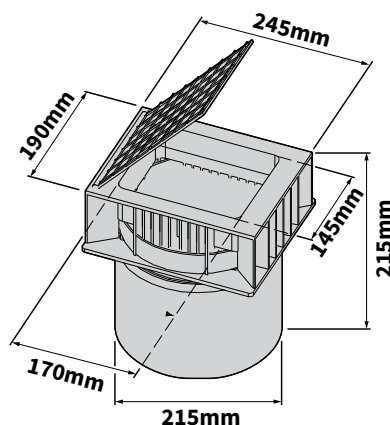


Cat No.	Description	Dimensions (mm)
PE9HDHK	CIRCULAR PLASTIC VAULT	242 Ø TOP/318 Ø BASE × 305H

## ERICO EARTH ROD INSPECTION BOX

The ERITECH PIT03 offers a high level of protection for critical grounding terminations through the use of its lockable lid. Ease of maintenance of the ground termination is gained by way of the large working aperture once the lid is unlocked using the security key.

Due to its lightweight robust construction the ERITECH PIT03 can withstand 5 tonnes making it ideal for installation in heavy traffic areas.



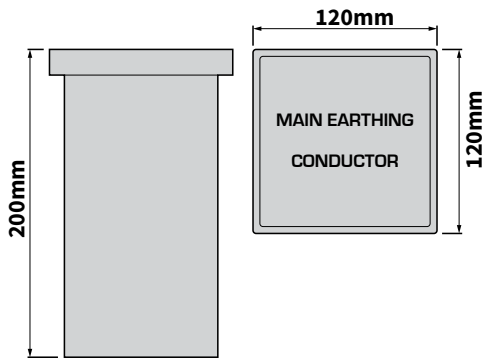
Cat No.	Description	Dimensions (mm)
C2000930	ERICO EARTH ROD INSPECTION BOX	215H × 215D × 190W × 245L

## TRANSNET EARTH ROD INSPECTION BOX

Designed by NZ contractors for NZ contractors! Improve the look and safety of your installation with this unit. Made in NZ, this unit is UV stable and offers a strengthened lid for longevity.

### FEATURES

- Heavy duty hinged lid
- Lid latches closed
- UV stabilised polypropylene
- Easy to identify
- Designed and manufactured in NZ



Cat No.	Description	Dimensions Top (mm)	Height (mm)
TNERIB	EARTH ROD INSPECTION BOX	120 × 120	200

## ECOPILLAR

The ECOPillar range is made from UV stable repurposed High Density Polyethylene plastic which has guaranteed UV stability of 50 years. These pillars are round giving them extra strength and durability. Each pillar comes standard with a stainless steel serial number and a 250amp Tin plated Copper neutral bar with stainless steel studs.

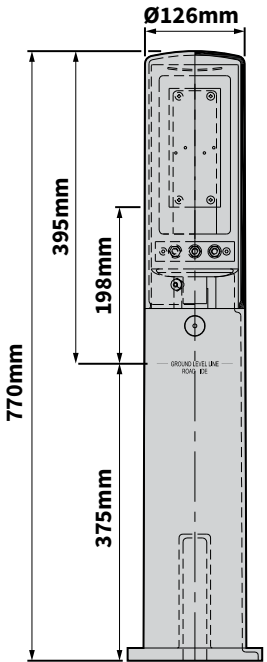
Standard lid screws are 316 stainless steel and are self-retaining. Available as standard in Black or Green, and custom colours available with MOQ's



Following is a range of our standard ECOPillars, should you require customisations, please contact us.

### EPO

The EPO incorporates a slimline low visibility profile, two captured Torx40 screws for fastening and can accommodate either one watertight fuse carrier or two industry standard fuse carriers. Ideal for use in low demand installations like small homes, utility buildings and illuminated bus shelters.



Cat No.	Description
EPO	ECOPILLAR TYPE 0 WITH NEUTRAL BAR



## EP1

Designed to house up to 3 watertight service fuses and four watertight streetlight/pilot fuses, the EP1 was built with a compact footprint to minimise the impact on the landscape.

This pillar features a fastener-free latching system to increase security and reduce the risk of unsecured lids.



### Type 1 Capabilities



GelPort watertight neutral bar for Al/Cu conductors 4-150mm<sup>2</sup> (larger 16-240mm<sup>2</sup> available) ANSI C119.1,2002



Removable mounting rack accommodates 3xK221, 4x65U and 1x4 way GelPort



K221 watertight 100 amp IPC fuse holder accepts Al/Cu conductors of 6-50mm<sup>2</sup>



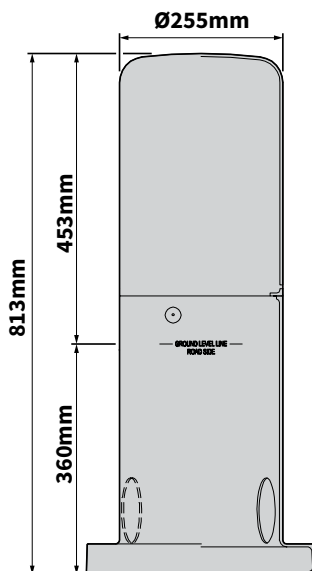
GelCap-SL Pilot Wire Connection Block accepts Al/Cu conductors from 2.5-70mm<sup>2</sup>



65U watertight 30 amp fuse holder accepts Al/Cu conductor 2.5-16mm<sup>2</sup>



Guro MM5 Underground Resin Breach Joint Kits available to suit conductors Al/Cu of 3 or 4 core 50-240mm<sup>2</sup> with tails of 6-70mm<sup>2</sup>



### Cat No.

### Description

EP1

ECOPILLAR TYPE 1 WITH NEUTRAL BAR

**Note:** Requires ECOPILLARLIDTOOL for lid removal.

## EP2S

The Type 2 Short pillar has a lower profile than the standard EP2 and is only able to hold up to 5 standard fuse carriers (BS 88, IEC269) on one panel.

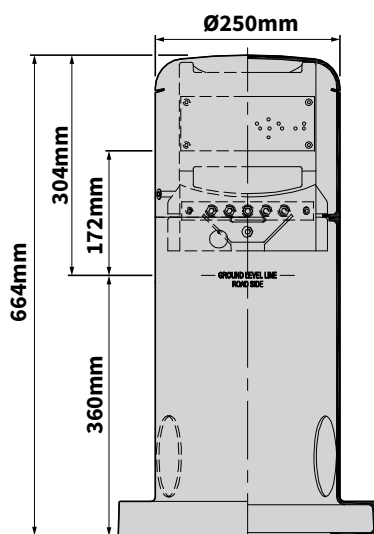
This pillar sits lower to the ground than the EP2 making it even more aesthetically pleasing.



### Type 2 Short Capabilities



Up to 5 each 32/63/100 amp fuses



### Cat No.

### Description

EP2S

ECOPILLAR TYPE 2 SHORT WITH NEUTRAL BAR





EP2

The EP2 has the same compact footprint as the EP1 and can accommodate a range of fittings including up to 10 standard fuse carriers. Ideal as an all-round service pillar.

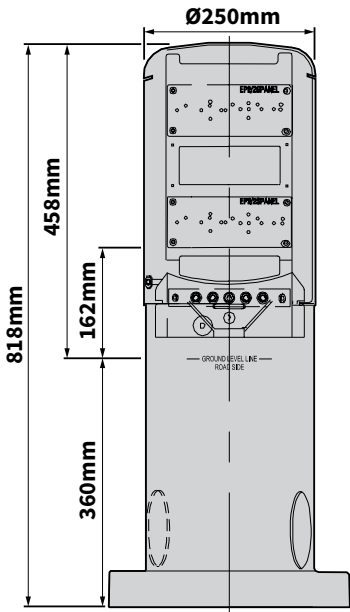
Type 2 Capabilities



10 each 32/63/100 amp fuses



OR 1x160 amp DIN00 disconnect with 2 each 32/63/100 amp fuses



\*Additional combinations possible

Cat No.	Description
EP2	ECOPILLAR TYPE 2 WITH NEUTRAL BAR

EP3S

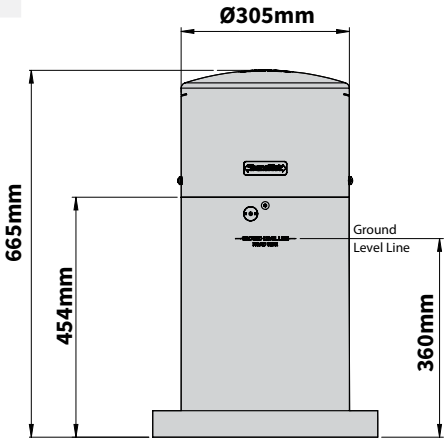
The EP3S has a larger footprint for accommodating different combinations of service fuses, but a shorter profile for applications where only a small number of fittings are required.

The EP3S lid is secured with two captured Torx40 stainless steel screws.

Type 3S Capabilities



Up to 7 of 32/63/100 amp fuses



Cat No.	Description
EP3S	ECOPILLAR TYPE 3 WITH NEUTRAL BAR, SHORT LID/RACK - OVERALL HEIGHT 665MM





## EP3

Designed as a multipurpose pillar the EP3 can accommodate many different combinations of fuses and disconnect switches up to 3 way 250amp. The larger footprint of the EP3 allows it

to accommodate these larger fittings. The EP3 lid is secured with two captured Torx40 stainless steel screws.



### Type 3 Capabilities



1 each 160 amp DIN00 disconnect with 3 each 32/63/100 amp fuses



14 each 32/63/100 amp fuses

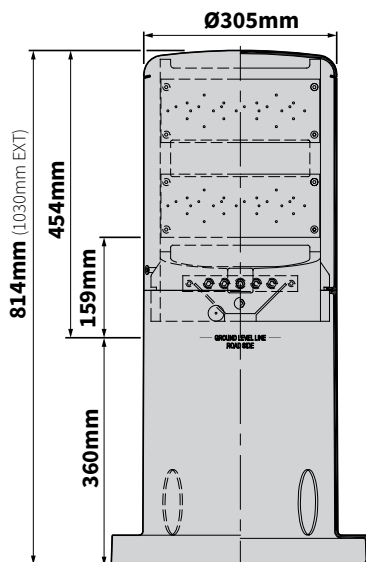


1 each 250 amp DIN1 disconnect with 4 each 32/63/100 fuses



2 each 160 amp DIN00 disconnectors

\*Additional combinations possible



### Cat No.

### Description

EP3	ECOPILLAR TYPE 3 WITH NEUTRAL BAR – OVERALL HEIGHT 814MM
EP3EXT	ECOPILLAR TYPE 3 WITH NEUTRAL BAR, EXTENDED BASE – OVERALL HEIGHT 1030MM

## EP3.5

The EP3.5 was designed to allow more working room in the rear whilst still accommodating up to two 160A disconnectors on the front panels, with the ability to connect to GelPorts. The footprint

of the EP3.5 is larger again, allowing it to accommodate these requirements. The EP3.5 lid is secured with two captured Torx40 stainless steel screws.



### Type 3.5 Capabilities



2 each 160 amp DIN00 disconnect with 32/63/100 amp fuses



14 each 32/63/100 amp fuses

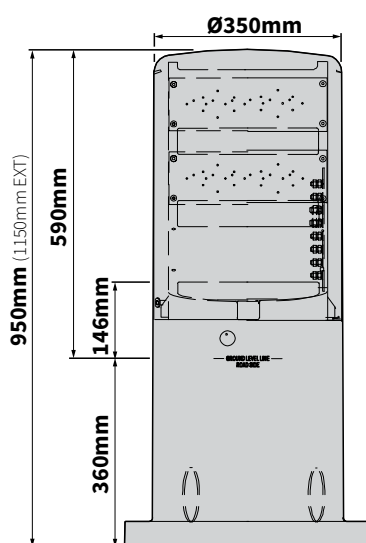


1 each 250 amp DIN1 disconnect with 4 each 32/63/100 fuses



2 each 160 amp DIN00 disconnectors

\*Additional combinations possible



### Cat No.

### Description

EP3.5	ECOPILLAR TYPE 3.5 WITH NEUTRAL BAR – OVERALL HEIGHT 950MM
EP3.5EXT	ECOPILLAR TYPE 3.5 WITH NEUTRAL BAR & EXTENDED BASE – OVERALL HEIGHT 1150MM

## EP4

The EP4 is designed to house the larger 400amp and 630amp Horizontal Disconnect Switches along with many combinations

of smaller disconnects and fuses. EP4 pillar lids are secured with captured Torx40 stainless steel screws.



**Type 4 Capabilities**

- 24 each 32 amp fuses
- 20 each 63/100 amp fuses
- 3 each 160 amp DIN00 disconnect
- 2 each 160 amp DIN00 disconnect with 4 each 63 amp fuses
- 1 each 400 amp DIN2 disconnect
- 1 each 630 amp DIN3 disconnect
- 2 each 250 amp DIN1 disconnect
- 1 each 400 amp DIN2 disconnect & 1 each 160 amp DIN00 disconnect

**Dimensions:**  
 Overall Height: 900mm (1030mm #EP4TALL, 1230mm #EP4EXTALL)  
 Base Height: 365mm  
 Lid Height: 535mm  
 Lid Width: 453mm  
 Lid Depth: 127mm

\*Additional combinations possible



Cat No.	Description
EP4	ECOPILLAR TYPE 4 WITH NEUTRAL BAR - OVERALL HEIGHT 900MM
EP4TALL	ECOPILLAR TYPE 4 WITH TALL LID & REMOVABLE RACK - OVERALL HEIGHT 1030MM
EP4EXTALL	ECOPILLAR TYPE 4 WITH EXTENDED BASE, TALL LID & REMOVABLE RACK - OVERALL HEIGHT 1230MM

## EP6

The most versatile of the ECOPillar range, the EP6 was designed to accommodate the requirements of a network link and junction pillar as well as being capable of housing service fuses, disconnect switches and many combinations of hardware.

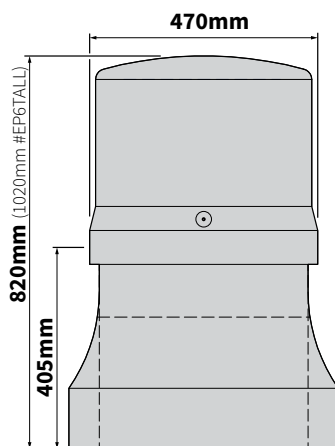
The features setting this pillar apart are the ability to house submersible GelPort connectors in the base, removable rack and a covered 8-stud neutral bar.



**Type 6 Capabilities**

- Mix of Disconnect switch sizes with additional service fuses if required
- 160/250/400/630 amp DIN disconnect with 63 amp fuse links if required
- Up to 10 63/100 amp fuses in EP6
- Up to 20 63/100 amp fuses in EP6TALL
- Accommodates mounting of monitoring or switching devices

\*Additional combinations possible



Cat No.	Description
EP6	ECOPILLAR TYPE 6 WITH NEUTRAL BAR - OVERALL HEIGHT 820MM
EP6TALL	ECOPILLAR TYPE 6 WITH NEUTRAL BAR, DOUBLE RACK, TALL LID - OVERALL HEIGHT 1020MM



## EP7

The EP7 was designed to house vertical disconnect switches for use as a distribution link pillar. With all the space available inside the EP7 along with the sturdy galvanised steel base, this unit is open to any number of uses.

The internal rack is two part, allowing rear access with the rack cover removed. The external enclosure is also two part and can be totally removed for full access.



### Type 7 Capabilities

Metering

Control gear & Instrumentation

Disconnectors

Fuse Carriers



Cat No.	Description
EP7	ECOPILLAR LINK PILLAR - INCLUDING STEEL BASE AND PLASTIC PANEL ONLY
EP7LP3	ECOPILLAR 3 WAY LINK PILLAR, COMPLETE WITH BUSBARS & MICARTA PANEL (SWITCHGEAR NOT INCLUDED)

## PANEL KITS

Made from Fire Retardant plastic, ECOPILLAR panels have been injection molded with holes to accommodate standard fuse

carriers. Panel kits come complete with plastic grabbing screws for fastening to pillar body.



EP0PANEL KIT



EP2/2SPANEL KIT



EP3PANEL KIT



Cat No.	Description
EP0PANELKIT	EP0 GREY PVC PANEL DRILLED WITH SCREWS (2 FUSE POSITIONS)
EP2/2SPANELKIT	EP2/2S GREY PVC PANEL DRILLED WITH SCREWS (5 FUSE POSITIONS)
EP3PANELKIT	EP3 GREY PVC PANEL DRILLED WITH SCREWS (7 FUSE POSITIONS)

## FUSE KITS

The ECOPIllar range is versatile and easy to populate. We have a range of fuse kits available for each of our ECOPIllar models and these fuse kits can be supplied separately or installed onto the panel prior to shipping from our store.

NOTE: For the safety of field staff and as per our standard installation process, fuse links are not included.

Cat No.	Rating (A)	Fuse Brand	Description
EPFUSE32AKIT	32	IPD	FUSE CARRIER AND ASSEMBLY TO PANEL
EPFUSE63AKIT	63	TE	
EPFUSE63AKITIPD	63	IPD	
EPFUSE100AKIT	100	IPD	



## DISCONNECT SWITCH KITS

The ECOPIllar range is versatile and easy to populate. We have a range of horizontal disconnect switch kits available for our larger ECOPIllar models and these kits can be supplied separately or installed onto the panel prior to shipping from our store.

Cat No.	Rating (A)	DIN Fuse Size	Description
EP160AMPDIN000KIT	160	000	APATOR HORIZONTAL DISCONNECT SWITCH & ASSEMBLY TO PANEL
EP160AMPDIN00KIT	160	00	
EP250AMPDIN1KIT	250	1	
EP400AMPDIN2KIT	400	2	
EP630AMPDIN3KIT	630	3	



## LV DISTRIBUTION CONNECTOR BLOCKS

Connector Block range for use in switchboards and pillar boxes. The perfect upgrade for busbars, traditional power distribution blocks and strip connections. The unique socket design provides customers safe and reliable installation.

- Provides hundreds of input/output combinations
- Low cost, reliable contact point design
- Supports 10mm<sup>2</sup>-300mm<sup>2</sup> gauge in, and 1mm<sup>2</sup>-50mm<sup>2</sup> gauge out
- Insert and click to connect cable
- Mount on TH 35 DIN rail or base-plate
- Exceeds UL 94 V-0 flammability criteria
- IEC 60529 IP20 rated safety protection
- IEC standard color code (blue, red, yellow, green, and yellow/green)
- Fit for IEC 60947-7-1.

Cat No.	Voltage (V)	Amp Rating (A)	Input Cable Size (mm)	Output Cable Qty.	Output Cable Size (mm)
TNXX235/10X4	690	125	10-35	4	2.5-10
TNXX235/4X9		125	10-35	9	1-4
TNXX250/10X6		150	16-50	6	2.5-10
TNXX270/10X8		192	25-70	8	2.5-10
TNXX270/16X6		192	25-70	6	4-16
TNXX295/25X4		232	25-95	4	6-25
TNXX2120/16X8		309	35-120	8	4-16
TNXX2185/35X8		353	70-185	8	10-35





## TEMPORARY PADLOCK MOUNT

Designed for temporary use, when the pillar needs to be locked for worker safety or security purposes.

Cat No.	Description
TNEPLIDPLM	ECOPILLAR LID PADLOCK MOUNT SS316



## ECOPILLAR LID REMOVAL TOOLS

Lid removal tools specifically for use with ECOPillar lids. All ECOPillars (unless specified) come with Torx head bolts for added protection from unauthorised entry, these tools will enable removal of the Torx head bolts.



EPTORXSCREWDRIVER



ECOPILLARLIDTOOL

Cat No.	Description
EPTOOL	CABINET / PILLAR 4-WAY MULTI KEY
EPTORXSCREWDRIVER	ECOPILLAR LID T40 TORX SECURITY SCREW TOOL
EPTS/SLOCKKEY	ECOPILLAR & TUDS S/S LOCK KEY TRIANGULAR
ECOPILLARLIDTOOL	ECOPILLAR LID, LEVER REMOVAL TOOL



EPTS/SLOCKKEY

## LV LINK BOXES & LINK PILLARS

### TAPPAT LOW VOLTAGE LINK BOX KITS

Allows the network to parallel or isolate low voltage mains cables using the diving-bell principal, meaning it is housed in a totally submersible underground pit. Perfect for situations where council bylaws stipulate underground installations only.

It is a like for like replacement for existing bitumen filled link boxes at the end of their asset life. Available in 2 way or 4 way configuration with 600amp Camlock links included.

#### FEATURES AND BENEFITS

- Tinned brass connections for corrosion prevention
- Complete LV switching and isolation system
- No exposed live metal work

- Adjustable height for unknown and uneven final ground levels
- Pre-tailed kit available for even more convenience
- Pit and lid meet B125 & EN124 standards
- Cam Lock links tested to 600 amps
- Up to 300mm<sup>2</sup> main cable
- Stabilising base pad included with every kit
- Concrete lid can hold 45N/mm<sup>2</sup> and comes with an identification plate cast into it, complete with circuit I.D. labels
- Complies with all applicable international standards: EN50393:2006, EC60439.5:2006, Ed2.0, C.81/3:1996



Cat No.	Description	Dimensions
TAP10510-NZ	TAPPAT 2 WAY LINK BOX COMPLETE - UNTAILED	457.2 × 457.2 × 564H
TAP10710-NZ	TAPPAT 4 WAY LINK BOX COMPLETE - UNTAILED	762 × 609 × 564H
TAP10710-NZ-TAILED	TAPPAT 4 WAY LINK BOX COMPLETE - TAILED (BY REQUEST ONLY)	



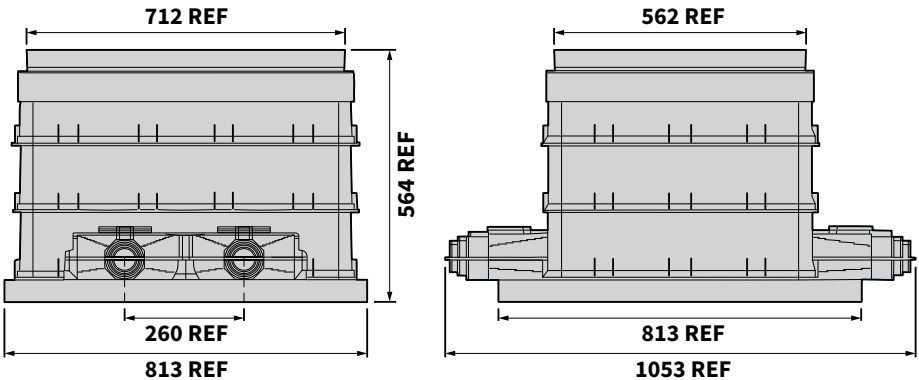
B&H 4 WAY LOW VOLTAGE LINK BOX KITS

FEATURES AND BENEFITS

- Compact modular concept reduces weight and space required for link box positioning
- Retained lightweight ABS molded lid replaces the traditional cast iron diving bell lid
- Integrated locking facility combined with the lid retaining system & toolbox, with fail safe positioning
- Shell designed for crossing 300mm<sup>2</sup> cores with sufficient resin coverage
- Single resin casting eliminates moisture ingress issues associated with multiple cast link boxes
- Reduced number of connections improves electrical performance and product longevity
- Error-proof factory assembly due to torque and system control software and zero-fault technology

STANDARDS

- BS EN 50393:2006
- EA Technology draft specification for 4 way underground link boxes
- BS EN 60947-1:2004
- ER C81/4 1999
- Pit frame & cover meet B125 EN124



Cat No.	Description	Dimensions (mm)
LV-LINKBOX-4W-COMPLT	4-WAY 3 & 4-CORE UNTAILED MK3 LINKBOX	562 × 712 (TOP), 1053 × 813 (BASE)

**Note:** 2 Way link box kit available on special request.



## 160AMP SUBTERRANEAN UTILITY VAULT

Perfect for pedestrian accessways and areas with a high volume of foot traffic with an aesthetically pleasing solution to reduce visual impact on the surrounding landscape. Housed in an IP68 hinged electrical enclosure, the 160 amp disconnect works exactly as it would above ground. The waterproof enclosure has glanded cable entry ports and is housed in a diving bell for added protection from moisture ingress.

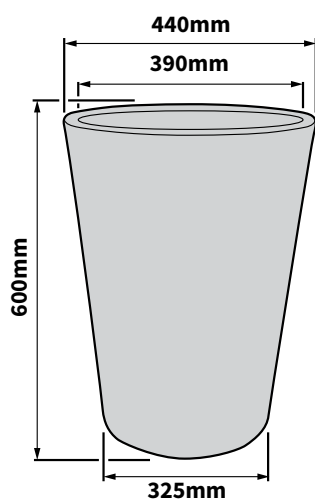
### FEATURES AND BENEFITS

- Up to 6 service fuses can also be accommodated (2x3 ph or 6x1 ph or street light fuses)
- Fully lockable
- Diving Bell lid bolted in place
- Sits flush with the ground
- 160 amp 3Ø fuse disconnect fitted

- Double layer protection from moisture - an IP68 electrical enclosure and an additional Diving Bell enclosure

### ENCLOSURE TESTING & SPECIFICATIONS

- Meets requirements of AS3996-2006 -Class B for load to 80kN
- Meets requirements of AS/NZS 3661.1 for slip resistance



Dive Bell Lid



IP68 Electrical Enclosure

Cat No.	Description
TUDSUV160A	SUBMERSIBLE UNDERGROUND PIT WITH 160AMP APATOR FUSE SWITCH DISCONNECTOR



EP7LP3 - LINK PILLAR

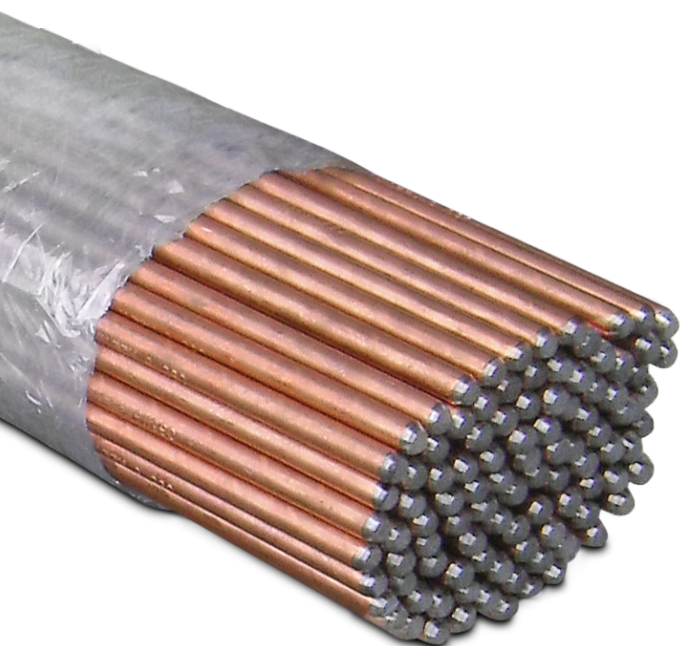
- Designed for connecting low voltage distribution cables to other cables or to the secondary winding of a distribution transformer in a 400V, 50Hz LV circuit
- These pillars can be used as link, junction or service pillars
- Made of UV Stable High Density Polyethylene plastic
- Base structure is galvanised steel
- Copper busbar, 3-phase fitted
- No bare live parts - plastic panel with sealing plugs encapsulates busbar
- Lid secured with torx security screws
- Can be supplied empty or with switchgear configuration of your choice (not limited to those listed):
  - 1x250 Amp DIN + 4x160 Amp DIN
  - 1x630 Amp DIN + 1x630 Amp DIN + 1x250 Amp DIN
  - 1x630 Amp DIN + 4x160 Amp DIN
  - 1x400 Amp DIN + 4x160 Amp DIN
  - 2x250 Amp DIN + 2x160 Amp DIN
  - 3x250, 400 or 630 Amp DIN



Cat No.	Description
EP7LP3	ECOPILLAR 3 WAY LINK PILLAR COMPLETE WITH BUSBAR & PANEL (SWITCHGEAR NOT INCLUDED)

**Notes:** For use with general electrical fittings please refer to EP7 on page 303  
To have switchgear added prior to delivery, please contact us.

PAGE	CATEGORY
<b>310</b>	<b>EARTH RODS &amp; ACCESSORIES</b>
<b>310</b>	Earth Rods
<b>310</b>	Tinned Copper Earth Bars
<b>310</b>	Copper Bonded Steel Wire
<b>311</b>	Horizontal Earth Kit - Domestic Earths
<b>311</b>	Streetlight Earth
<b>311</b>	Earth Rod Couplers
<b>311</b>	Earth Rod Driving Tips
<b>312</b>	Earth Rod Driving Tool
<b>312</b>	TransNet Earth Rod Inspection Box
<b>312</b>	ERICO Earth Rod Inspection Box
<b>313</b>	Bolted Earth Connectors
<b>PAGE</b>	<b>MECHANICAL WEDGE CONNECTORS</b>
<b>313</b>	SHEAR-LOK
<b>314</b>	WRENCH-LOK
<b>314</b>	HAMMERLOCK
<b>PAGE</b>	<b>EXOTHERMIC CONNECTIONS</b>
<b>315</b>	CADWELD PLUS
<b>315</b>	CADWELD PLUS ONE SHOT
<b>315</b>	CADWELD PLUS Weld Metals
<b>316</b>	CADWELD PLUS Molds
<b>317</b>	WRICONS
<b>318</b>	CADWELD PLUS Kits
<b>PAGE</b>	<b>CADWELD PLUS ACCESSORIES</b>
<b>318</b>	Mold Handles
<b>318</b>	Mold Cleaning Brush
<b>319</b>	Control Unit + Lead
<b>319</b>	Replacement Lead
<b>319</b>	Mold Sealing Putty
<b>319</b>	GEM - Ground Enhancement Material
<b>319</b>	Earth Identification Tag
<b>320</b>	<b>CADWELD MOLD RENTAL</b>





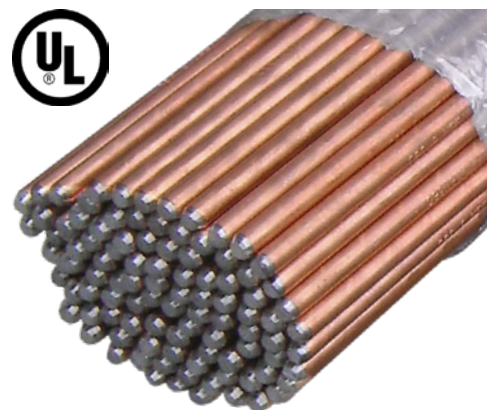
# EARTH RODS & ACCESSORIES

## EARTH RODS

Copper bonded earth rods with at least 254 micron electrolytic coating of Copper are available in packs of 100. The bonding process ensures a long lasting molecular bond between the Copper layer and steel core. With a tough carbon steel core and a strong Copper coating which will not slip or tear when driven, nor crack when bent, these earth rods give a long and reliable service life.

As well as Copper bonded earth rods, we offer Stainless Steel rods for situations where harsh environments demand them. Galvanised Steel earth rods are also available (in accordance with ASTM specification A153-78).

TransNet's range of earth rods has high resistance to corrosion and provides low resistance path to ground. Made to fully comply with AS/NZS 3000.



Cat No.	Material	Dimensions	Notes	Pack Size
E/ROD/ERICO/611360	COPPER BONDED STEEL	1840MM × 13MM	254 MICRONS COPPER	10
E/ROD/ERICO/615860		1840MM × 15MM	254 MICRONS COPPER	10
SSE/ROD13MM	316 STAINLESS STEEL	1840MM × 13MM	-	MADE TO ORDER
E-ROD-GALV-16MM-TAG	GALVANISED STEEL	2000MM × M16	WITH TWO HOLE TAG	5
E-ROD-GALVTAG-HD12A			WITH TAG FOR TNHD12A SPLIT BOLT	5
E-ROD-GALV-PLAIN			-	5

## TINNED COPPER EARTH BARS

- Tinned Copper Earth Bar
- Stainless Steel Studs, washers and nuts
- Range of sizes available
- Perfect partner for TNTCU heavy duty Copper lug range (find on page 11)



Cat No.	Studs	No. of Mounting Holes
4STUD/E	4 × M8	1

## COPPER BONDED STEEL WIRE

Suitable for protecting your assets and combating copper theft.

### FEATURES

- Individual strands feature steel core with copper cladding
- Available in three sizes: 35mm<sup>2</sup>, 50mm<sup>2</sup>, 70mm<sup>2</sup>
- 30% conductivity
- Sold by the 100m, on drums.
- Material: Copper, Steel

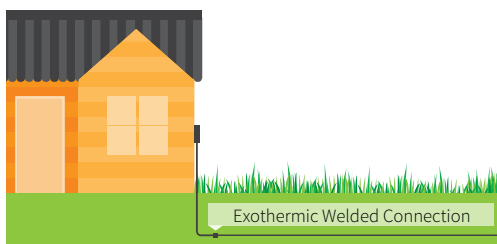
Cat No.	Cable Size (mm <sup>2</sup> )	Drum Size (M) MOQ
30CCS35	35	100
30CCS50	50	
30CCS70	70	



## HORIZONTAL EARTH KIT - DOMESTIC EARTHS

### FEATURES

- Designed & manufactured in NZ to meet requirements of AS/NZS 3000
- Cadweld exothermic connection blocks water and is resistant to corrosion as required in 5.5.5.3
- Additional sizes and lengths available on request
- 10m of 6mm<sup>2</sup> earth wire allows for easy placement in any situation



Cat No.	Description	Insulated Cable	Bare Cable
TNHEK25/6	HORIZONTAL EARTH KIT	10M × 6MM <sup>2</sup>	7.5M × 25MM <sup>2</sup>

## STREETLIGHT EARTH

### FEATURES

- 13mm Copper bonded rod, 1840mm long
- 3m of 10mm<sup>2</sup> Green/Yellow Copper cable attached
- Pre-welded using Cadweld exothermic weld
- Able to be buried
- Position of weld allows driving tip to be used
- Room underground for additional connections



Cat No.	Description	Insulated Cable	Copper Bonded Rod
TNSLGR3	STREETLIGHT COMPLETE EARTH	3M × 10MM <sup>2</sup>	13MM ROD (E/ROD/ERICO/611360)

## EARTH ROD COUPLERS

Couplers are available to suit all Earth Rods in stock. These couplers are used to join multiple earth rods together in

order to reach acceptable resistance levels.



Cat No.	Description
E/RCPLER/ERICO/CC12F	ERICO EARTH ROD COUPLER TO SUIT 13MM ROD
E/RCPLER/ERICO/CC58	ERICO EARTH ROD COUPLER TO SUIT 15MM ROD
SSE/RODCPLER13MM	316 STAINLESS STEEL EARTH ROD COUPLER TO SUIT 13MM ROD

## EARTH ROD DRIVING TIPS

In areas of hard ground a driving tip might be required, driving tips are available for 13mm and 15mm earth

rods and they are designed to help make way for the rod to follow.



Cat No.	Description
E/RODTIP13MM	EARTH ROD DRIVING TIP TO SUIT 13MM ROD

## EARTH ROD DRIVING TOOL

In order to reduce the chance of damage to the end of an earth rod, Earth Rod Driving Tools are available. These units fit snugly over the end of the Earth Rod and give a large surface area to drive the

rod into the ground as well as ensuring there is no deformation of the rod. This is especially important if another rod is to be coupled to it.



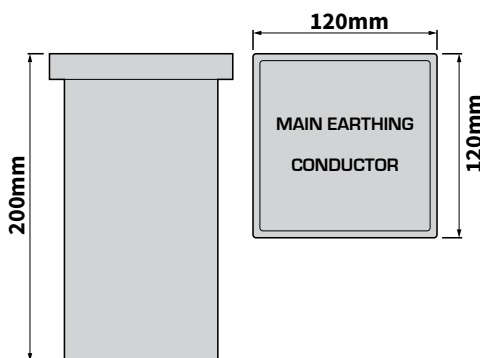
Cat No.	Description
ERD13	13MM EARTH ROD DRIVING TOOL FOR 13MM O.D. ROD
ERD15	15MM EARTH ROD DRIVING TOOL FOR 15MM O.D. ROD

## TRANSNET EARTH ROD INSPECTION BOX

Designed by NZ contractors for NZ contractors! Improve the look and safety of your installation with this unit. Made in NZ, this unit is UV stable and offers a strengthened lid for longevity.

### FEATURES

- Heavy duty hinged lid
- Lid latches closed
- UV stabilised polypropylene
- Easy to identify
- Designed and manufactured in NZ

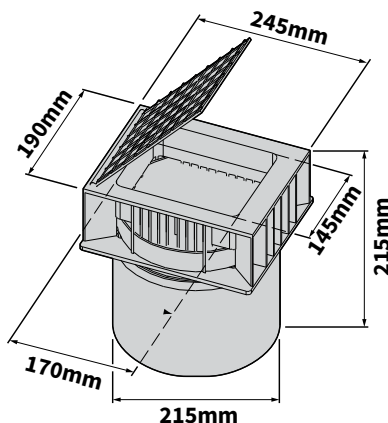


Cat No.	Description	Dimensions Top (mm)	Height (mm)
TNERIB	EARTH ROD INSPECTION BOX	120 × 120	200

## ERICO EARTH ROD INSPECTION BOX

The ERITECH PIT03 offers a high level of protection for critical grounding terminations through the use of its lockable lid. Ease of maintenance of the ground termination is gained by way of the large working aperture once the lid is unlocked using the security key.

Due to its lightweight robust construction the ERITECH PIT03 can withstand 5 tonnes making it ideal for installation in heavy traffic areas.



Cat No.	Description	Dimensions (mm)
C2000930	ERICO EARTH ROD INSPECTION BOX	215H × 215D × 190W × 245L



## BOLTED EARTH CONNECTORS

Simple and robust, these bolted connectors have a groove to ensure correct placement of conductor. Designed for single conductor parallel orientation. All these connectors can be easily removed should the need arise.



Cat No.	Description
H303A#1	DOMESTIC EARTH CLIP, 6MM <sup>2</sup> CABLE SUITABLE FOR 13-15MM ROD



Cat No.	Description
H1826-1	UTILUX CAST BRASS EARTH CLAMP, CONDUCTOR 6-10MM <sup>2</sup> ON ALL CONNECTORS
H1826-2	H1826-1 = 15MM
H1826-3	H1826-2 = 19MM H1826-3 = 19-25MM



Cat No.	Description
E/RC13/15MM	SUITABLE FOR 13-15MM COPPER ROD



Cat No.	Description
E/RUBOLT13/16MM	SUITABLE FOR 13-15MM DIAMETER, 16- 120MM <sup>2</sup> CABLE RANGE, ACCEPTS 1 CABLE



Cat No.	Description
ECPB16	BRASS DOMESTIC EARTH CLIP 6-10MM <sup>2</sup> CABLE SUITABLE FOR 16MM GALVANISED ROD

## MECHANICAL WEDGE CONNECTORS

### SHEAR-LOK

AMP developed the SHEAR-LOK Copper Tap/Grounding Connector for applications in the power utility industry where connectors are required to withstand mid-range magnitudes of fault current (20kV symmetrical RMS).

SHEAR-LOK connectors utilise AMP Wedge Pressure Technology and controlled-torque-drive bolts to provide easily applied and highly reliable ground rod connections. This family of connectors is ideal for HV applications where connections must be made between conductor and rod.

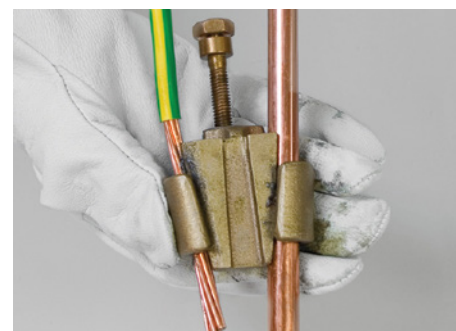
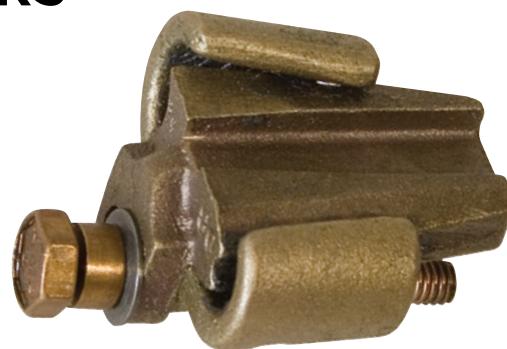
#### KEY FEATURES

- Wedge Pressure Technology
- Shear-head bolt for controlled torque
- Removable without conductor damage
- No special tools required
- Application not inhibited by disfigured ground rod end
- Taps into existing ground conductors

+UL Listed file # E69905



Cat No.	Connections
0-80408-2	25MM <sup>2</sup> – 13MM ROD/35MM <sup>2</sup> – 13MM ROD
0-83000-1	50MM <sup>2</sup> – 13MM ROD/70MM <sup>2</sup> – 13MM ROD





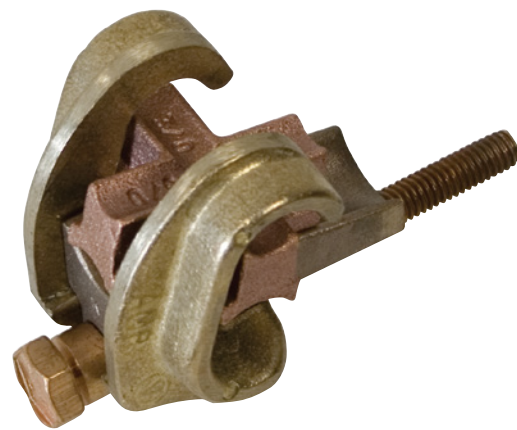
## WRENCH-LOK

The WRENCH-LOK System uses a specially designed shear-head bolt to drive a tapered wedge into the connector body.

All that's needed to apply it is a common ratchet or socket wrench. When the connection is tightened to the proper torque, the bolt head shears off, giving a positive visual indication of a perfect connection. It's that simple and sure.

WRENCH-LOK connections can be installed in any weather conditions and are very safe for the installer. This product line offers options to connect conductor to conductor or conductor to ground rod.

The WRENCH-LOK system meets the requirements of IEEE 837.



+UL Listed file # E69905



Cat No.	Connections
0-83749-1	35MM <sup>2</sup> – 13MM ROD/50MM <sup>2</sup> – 13MM ROD
0-83747-3	35MM <sup>2</sup> – 35MM <sup>2</sup> /50MM <sup>2</sup> – 50MM <sup>2</sup> /50MM <sup>2</sup> – 70MM <sup>2</sup>
0-83749-2	50MM <sup>2</sup> – 13MM ROD/70MM <sup>2</sup> – 13MM ROD
0-83748-2	95MM <sup>2</sup> – 13MM ROD/120MM <sup>2</sup> – 13MM ROD

## HAMMERLOCK

The patented ERITECH® HAMMERLOCK grounding connector connects the grounding conductor to the ground rod, and is designed to withstand ground fault currents and lightning transients. ERITECH HAMMERLOCK's mechanically

rugged design will help ensure that the highest level of performance is maintained for many years after the connection has been buried in the harsh underground environment.

### KEY FEATURES

- Machined from 100% high conductivity copper
- Excellent mechanical strength
- Irreversible connection
- Fast and simple installation requires only a hammer
- No training required
- Provides a visual indication of completed connection
- Allows for "T" or pass-through connections
- UL® Listed



Cat No.	Connections
EHL12FC1V	35MM <sup>2</sup> – 13MM ROD
EHL58C2G	50MM <sup>2</sup> & 70MM <sup>2</sup> – 15MM ROD



## EXOTHERMIC CONNECTIONS

### CADWELD PLUS

CADWELD® PLUS is the latest advancement in the continuing evolution of ERICO's exothermic products. It is a simplified method of performing exothermically welded electrical connections.

- Offers all the benefits of conventional CADWELD and more
- Consists of a tamper proof, disposable, moisture resistant

welding material cup. The welding material, disk and ignition source are incorporated into the self-contained package

- Electronic Control Unit #PLUSCU (sold separately) means no starting material is required and makes ignition very easy
- Six foot control unit lead gives increased flexibility and operational safety in hard to reach areas

### CADWELD PLUS ONE SHOT

The new refractory ceramic body utilised with the CADWELD PLUS ONE SHOT system is more durable than conventional ceramic and resists breaking. The CADWELD PLUS ONE SHOT is ideal for making permanent reliable connections to ground rods for electrical transmission and distribution, telecommunications and cable television applications.

- Easy to use electronic ignition. No starting material
- Durable disposable ceramic body eliminates the graphite

mold and frame

- Produces a permanent connection that will not loosen or corrode
- NEC Compliant and UL Listed
- Electronic Control Unit #PLUSCU (sold separately) means no starting material is required and makes ignition very easy
- Six foot control unit lead gives increased flexibility in hard to reach areas

Cat No.	Connection Size	Connection Style
GT1141LPLUS	16MM <sup>2</sup> /13MM ROD	T
GT1141QPLUS	25MM <sup>2</sup> /13MM ROD	
GT1141VPLUS	35MM <sup>2</sup> /13MM ROD	
GT1142CPLUS	50MM <sup>2</sup> /13MM ROD	
GT1142GPLUS	70MM <sup>2</sup> /13MM ROD	
GT1161LPLUS	16MM <sup>2</sup> /15MM ROD	T
GT1161QPLUS	25MM <sup>2</sup> /15MM ROD	
GT1161VPLUS	35MM <sup>2</sup> /15MM ROD	
GT1162CPLUS	50MM <sup>2</sup> /15MM ROD	
GT1162GPLUS	70MM <sup>2</sup> /15MM ROD	



### CADWELD PLUS WELD METALS

Colour coded, sealed weld metals deliver exactly the right amount of material to make a good connection. No need to pour

or mix, simply place into the mold, connect the lead and make the connection.

Cat No.	Weld Metal Size	Pack Size
32PLUSF20	32	20
45PLUSF20	45	20
65PLUSF20	65	20
90PLUSF20	90	10
115PLUSF20	115	10
150PLUSF20	150	10
200PLUSF20	200	10
250PLUSF20	250	10
300PLUSF20	300	10
400PLUSF20	400	10
500PLUSF20	500	10

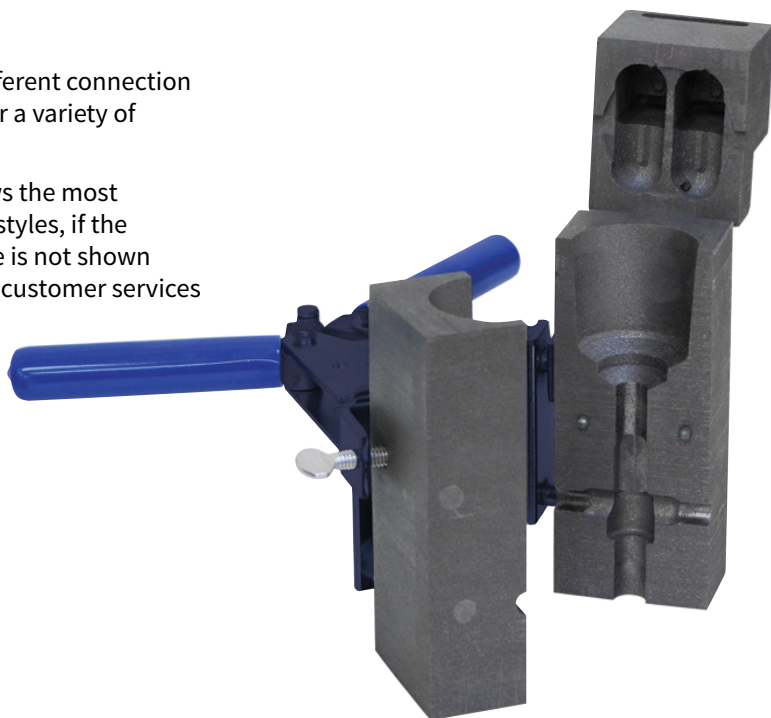


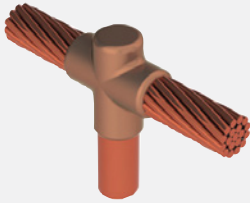
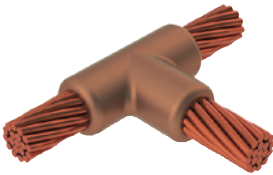
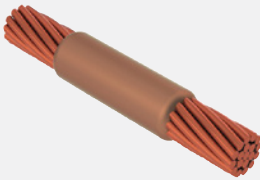
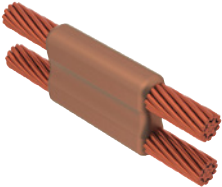
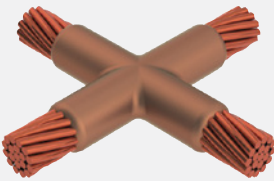
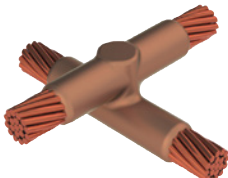
## CADWELD PLUS MOLDS

Because the CADWELD® PLUS process uses a high temperature reaction of powdered Copper oxide and Aluminium the mold needs to withstand these high temperatures. In order to achieve this heat they are made of semi permanent graphite and should last for more than 50 welds if properly cared for and

maintained. Many different connection styles are available for a variety of applications.

The table below shows the most common connection styles, if the connection you desire is not shown below please contact customer services for more information.



Mold Type	
	GT – TEE/HORIZONTAL CABLE, VERTICAL ROD
	TA – TEE/HORIZONTAL
	SS – SPLICE/HORIZONTAL
	PT – PARALLEL THRU/ HORIZONTAL, OVER AND UNDER
	XA – X/HORIZONTAL, SAME PLANE
	XB – X/HORIZONTAL, LAPPED (UNCUT)

Above illustrates the most common connection types, there are many other types available. If there is a connection type you require but don't see above, please contact our customer service team.

## WHEN ORDERING YOUR CADWELD PLUS MOLD

Please have the following information at hand when ordering your CADWELD PLUS Mold:

<b>CONNECTION STYLE</b>	Tee, Splice, Cross etc.
<b>SUBSTRATES TO BE CONNECTED</b>	Cable to Rod, Cable to Cable etc.
<b>MAIN OR RUN CONDUCTOR SIZE</b>	35mm <sup>2</sup> , 95mm <sup>2</sup> etc.
<b>TAP CONDUCTOR OR ROD SIZE</b>	35mm <sup>2</sup> , 13mm Rod etc.



## WRICONS

THE WRICON EARTHING SYSTEM enables the entire earthing system to be located completely within the structure, thus providing a location away from any possibility of accidental damage or unauthorised disconnection.



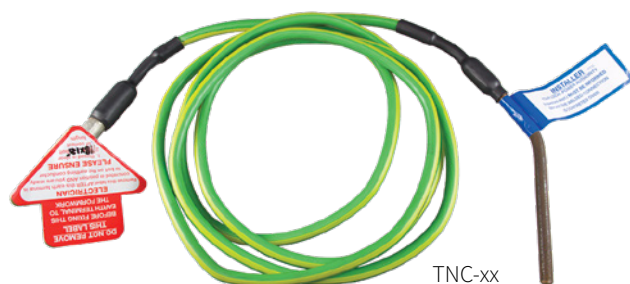
The heart of the WRICON Earthing System is the unique Earthing Terminal Plate which allows earthing to the building frame (foundations or rebar) easily, simply and very professionally by any person who can weld proficiently. Earthing to the building frame (foundations or rebar) is permitted under the E.W.R. of New Zealand and the use of WRICON Earthing System has obvious advantages:-

- Reinforcing steel in concrete foundations provides an indestructible earth electrode.
- Wricon earth lead is safely cast within the concrete and cannot be severed by digging or theft.
- CADWELD welded connections (unlike compression connections) do not deteriorate. Additionally this system prevents galvanic corrosion and high resistance joints, permanently.
- Lower resistance to earth than conventional methods and is much less subject to seasonal changes.

## WHEN ORDERING YOUR WRICON

Please have the following information at hand when ordering your WRICON:

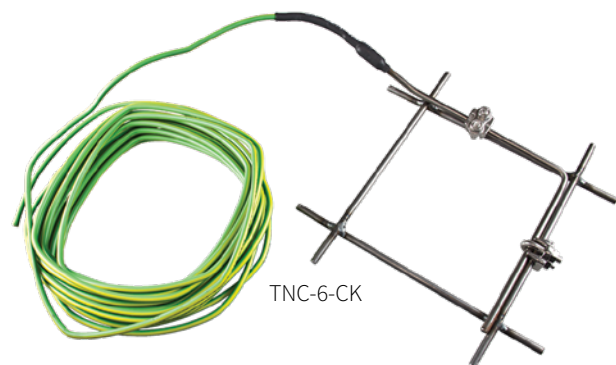
<b>CONNECTION STYLE</b>	What you are connecting to
<b>CONDUCTOR SIZE</b>	35mm <sup>2</sup> , 95mm <sup>2</sup> etc.



TNC-xx



TNC-xx-BT



TNC-6-CK

FOR CONNECTIONS TO CONCRETE REINFORCING MESH AS SHOWN ABOVE

Cat No.	Description	Conductor Size (mm <sup>2</sup> )	Length (m)
TNC-6-CK	DOMESTIC WRICON INCLUDING CLAMP KIT	6	10
TNC-6-BT	DOMESTIC WRICON BARE TAIL WITHOUT PLATE		
TNC-16	WRICON EARTHING SYSTEM WITH PLATE	16	3
TNC-16-BT	WRICON EARTHING SYSTEM BARE TAIL WITHOUT PLATE		
TNC-35	WRICON EARTHING SYSTEM WITH PLATE	35	3
TNC-35-BT	WRICON EARTHING SYSTEM BARE TAIL WITHOUT PLATE		
TNC-50	WRICON EARTHING SYSTEM WITH PLATE	50	3
TNC-50-BT	WRICON EARTHING SYSTEM BARE TAIL WITHOUT PLATE		
TNC-70	WRICON EARTHING SYSTEM WITH PLATE	70	3
TNC-70-BT	WRICON EARTHING SYSTEM BARE TAIL WITHOUT PLATE		
TNC-95	WRICON EARTHING SYSTEM WITH PLATE	95	3
TNC-95-BT	WRICON EARTHING SYSTEM BARE TAIL WITHOUT PLATE		
TNC-120	WRICON EARTHING SYSTEM WITH PLATE	120	3
TNC-120-BT	WRICON EARTHING SYSTEM BARE TAIL WITHOUT PLATE		

**Note:** Customised Wricon Lengths are available on request

## CADWELD PLUS KITS

There are three kits available: a starter kit for people who want to purchase everything they need to make off CADWELD connections (CADWELDPLUSKIT); a rental kit without a mold, giving you the option to purchase your very own mold and just rent the rest of the gear (CADWELDRENTAL); or the full rental kit, including the mold specific to the requirements of the job (MOLDRENTALKIT). This last kit is perfect if you only have a small number of connections to make.

### ALL KITS LISTED BELOW INCLUDE

- Mold Cleaning Brush
- Mold Sealing Putty
- CADWELD® PLUS Control Unit
- Mold Handles – L160
- Earth Rod Driving Tool

There is enough room to store a number of weld metals and some protective gloves and glasses in the tool box.

Note: Rental kits are rented by the day only.

For Rental Kit with Mold order form, please see the end of this section.

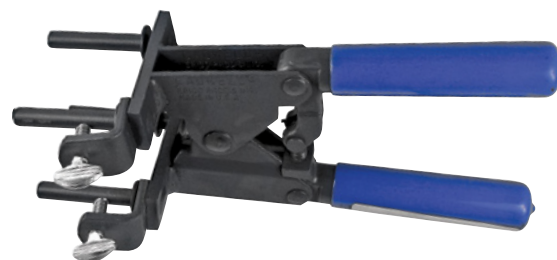


Cat No.	Description	Kit Contents
CADWELDPLUSKIT	STARTER KIT	CLEANING BRUSH, HANDLES, EARTH ROD DRIVING TOOL, CONTROL UNIT, TOOL BOX
CADWELDRENTAL	RENTAL KIT	CLEANING BRUSH, HANDLES, EARTH ROD DRIVING TOOL, CONTROL UNIT, TOOL BOX
MOLDRENTALKIT	MOLD RENTAL	MOLD, 10 WELD METALS (ADDITIONAL CHARGE), CLEANING BRUSH, HANDLES, EARTH ROD DRIVING TOOL, CONTROL UNIT, TOOL BOX

## CADWELD PLUS ACCESSORIES

### MOLD HANDLES

For most lug, cable or rectangular bus connections, handle clamps are used. These handle clamps are available in two sizes and between them fit many different sizes and types of molds. To secure them in place simply tighten the positioning screws.



Cat No.	Description	Mold Type
L160	CADWELD PLUS MOLD HANDLES	C, R
L159	CADWELD PLUS MOLD HANDLES	D, F

### MOLD CLEANING BRUSH

This soft bristle brush is used to clean the graphite mold without causing damage or undue wear to it.



Cat No.	Description
T310	MOLD CLEANING BRUSH





## CONTROL UNIT + LEAD

The CADWELD® PLUS Control Unit initiates the reaction of the metal crucible. The unit includes a 6 foot long, high temperature, control unit lead. The lead attaches to the ignition strip using a custom made, purpose-designed termination clip.

After the termination clip is installed on the ignition strip, the installer pushes and holds the ignition button to start a charging and discharging sequence. Within a few seconds the control unit sends a predetermined voltage to the ignition strip and the reaction is initiated.

Cat No.	Description
PLUSCU	CADWELD PLUS CONTROL UNIT + LEAD



## REPLACEMENT LEAD

Six foot long, high temperature control unit lead, comes complete with quick connect terminals for easy replacement if existing lead is damaged.

Cat No.	Description
PLUSCULDQC	CADWELD PLUS REPLACEMENT LEAD, QUICK CONNECT



## MOLD SEALING PUTTY

Used to prevent molten weld metal from leaking out of the mold. When the cable opening becomes worn from heavy use, sealing putty can be used to extend the mold life. 7 strand cable also requires sealing putty as it is prone to leakage around strands.

Cat No.	Description
T403	1LB MOLD SEALING PUTTY



## GEM - GROUND ENHANCEMENT MATERIAL

GEM is a low-resistance, non-corrosive, carbon dust-based material that improves grounding effectiveness, especially in areas of poor conductivity or where ground rods can't be driven. GEM hardens when set, to become a conductive concrete that is permanent, maintenance-free and will never leach or wash away.

GEM does not adversely affect soil and will not leach ions or contaminate ground water.

Cat No.	Description
GEM25A	GROUND ENHANCING MATERIAL, 25LB BAG



## EARTH IDENTIFICATION TAG

Plastic earth tag, attaches to the main earth for easy identification. Tag is easy to install and UV stabilised for a longer life.

Cat No.	Description
TNEARTHTAG	GREEN PLASTIC EARTH LABEL





# CADWELD MOLD RENTAL

1. Tick a box to identify the mold size you require
2. Enter number of connections to be made (10 weld metals will be charged for & supplied with each rental)
3. Complete the customer details
4. Complete the end user details
5. Fax or email to TransNet

## 1. CONNECTION SECTION

**NOTE: All rental molds are for GT type connection style, Kit contains all parts required to make 10 connections**

Hire Molds for 13mm Ground Rods

☐ 35mm<sup>2</sup>

☐ 50mm<sup>2</sup>

☐ 70mm<sup>2</sup>

☐ 95mm<sup>2</sup>

☐ 120mm<sup>2</sup>

Hire Molds for 15mm Ground Rods

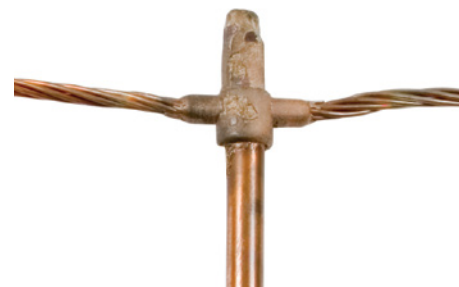
☐ 35mm<sup>2</sup>

☐ 50mm<sup>2</sup>

☐ 70mm<sup>2</sup>

☐ 95mm<sup>2</sup>

☐ 120mm<sup>2</sup>



Rental Molds offer GT Style Connection Only (cable to ground rod)

## 2. NUMBER OF CONNECTIONS

**NOTE: Minimum of 10 connections catered for in each rental**

Quantity:

## 3. CUSTOMER/WHOLESALE DETAIL

Company:

Contact Person:

Contact No.

Order No:

Date:

## 4. END USER/CONTRACTOR DETAIL

Company:

Contact Person:

Contact No.

Date Required:

Delivery Address (Customer Can Collect):

Estimated Rental Days (No half days):

## 5. FAX OR EMAIL THIS FORM

For assistance call TransNet on 0800 442 182 or +649 274 3340

### TransNet Purchasing Use Only

Purchase Order No.

Requested By:

Date:

### Contract Connections Ltd Use Only

Ship Date:

Actual Return Date:

Total Number of Days' Hire:

Return Condition of Goods:

Entered By:

**0800 442 183**  
**+649 274 5940**  
**sales@transnet.co.nz**

### RETURN MOLD KIT TO:

**CONTRACT CONNECTIONS**  
**19A ZELANIAN DRIVE**  
**EAST TAMAKI**

Additional costs will be incurred if goods are damaged



PAGE	CATEGORY
322	TAPE
323	CABLE PULLING LUBRICANTS
324	CLEANING LUBRICANTS
PAGE	LUBRICANT SPRAY
325	CRC 5.56 - General Purpose Lubrication Spray
325	CRC 808 - Silicone Spray
325	Rem Oil - AMPACT Tool Cleaning
326	CRC LECTRA CLEAN - Cleaner & Degreaser
326	CRC ZINC IT - Galvanic Rust Protection For Steel
326	CRC BRIGHT ZINC IT - Galvanic Rust Protection Bright Finish
326	CRC Long Life Anti Rust
PAGE	CABLE PROTECTION
327	Cable Cover
328	Warning Strip
328	Pole Cover
329	Twist On Stay Guard
PAGE	CABLE CLAMPS
329	Cable Clamps - Universal
330	Single Conductor Clamps
331	Trefoil Conductor Clamps
331	Unifix
331	Cable Clamp Neoprene Insert
332	Raychem Cable Clamps - Single, Double, & Trefoil
PAGE	CABLE BUNDLING
335	Cable Ties - UTI Ties
336	Stainless Steel Cable Ties
336	Stainless Steel Band Strap & Buckles
PAGE	IDENTIFICATION & LABELLING
337	Critchley K65 Markers
337	Identification & Labelling Kit
338	Everlast Pole Markers - 1"
339	Everlast Phase Markers
339	Do Not Climb Tags
339	Danger Live Wire Warning Signs
340	Warning Markers
340	ZERUST CORROSION INHIBITORS
PAGE	PASSIVE FIRE PROTECTION PRODUCTS
341	KBS Fire Protective Sealants & Penetration Seals
342	Firetherm Intumastic HP

# TAPE

## SELF-AMALGAMATING BUTYL RUBBER TAPE - SELF FUSING

Premium self fusing butyl rubber tape, widely used for the electrical insulation, protection, waterproofing and termination of 6-22kV cables.

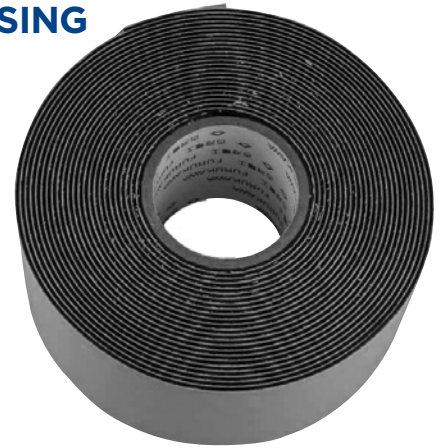
No inter liner, no peeling off time. Exceptional weatherability and ozone resistance. Excellent resistance to moisture, water and chemicals. Good self fusing properties — completely self amalgamates in two hours.

To use this tape correctly, elongate approximately 80% (almost twice its original length). Keep the tape under tension and wrap, overlapping successive

layers approximately 50% until the desired build up of insulation is achieved. Finish by folding the tape end inside for about 2cm, to avoid danger of external pressure making it difficult to unwind. The surface on which this tape is to be used must be clean, dry and free from grease and dust.

### TECHNICAL DATA

- Application temperature – From -10°C to 40°C
- Breakdown Voltage – 44kV/mm
- Operating temperature – Constant Max 65°C, up to 100°C for short periods



### STANDARDS

- ASTM D 1000
- ASTM D 1373
- ASTM D 1973
- ASTM D 150
- ASTM D 470

Cat No.	Colour	Roll Width (mm)	Roll Length (m)
SAT25	BLACK	25	10
SAT50	BLACK	50	10

## DENSO TAPE

Denso Utility Tape is a plasticised polyvinyl chloride sheeting coated on one side with a rubber resin, pressure sensitive adhesive.

Available in two sizes, these generous sized rolls are suitable for a multitude of applications.

Cat No.	Roll Width (mm)	Roll Length (m)
DENSO	50	10
DENSO75	75	10



## INSULATION TAPE

This flame retardant PVC Electrical Tape consists of a plasticised Polyvinyl Chloride film backing, coated on one side with aggressive Rubber-Resin adhesive with good ageing characteristics giving it excellent elasticity and adhesion properties.

Highly conformable and unaffected by

moisture and most chemicals, this tape showed no flagging or deterioration even under temperatures as high as 80°C. Can be used for basic insulation, harnessing and general wire wrapping.

### TECHNICAL DATA

- Nominal Dimensions – 0.18mm x 18mm x 20m

- Tape backing – PVC
- Adhesive – Rubber-Resin Adhesive
- Thickness – 0.18mm
- Adhesion – >0.45kg/25mm
- Tensile strength – >7kg/25mm
- Elongation – >100%
- Breakdown Voltage – >7kV

Cat No.	Colour
ITBK/10	BLACK
ITBL/10	BLUE
ITWH/10	WHITE
ITRD/10	RED
ITY/10	YELLOW
ITG/10	GREEN
ITRP	RAINBOW
ITGY/10	GREEN/YELLOW





# CABLE PULLING LUBRICANTS

## TECHLUBE CABLE LUBRICANT

This is a pourable, low viscosity water based polymer lubricant designed for friction reduction in cable pulling installations of both fibre optic and light Copper cable, underground systems. This lubricant is slow drying, with a stringy consistency which coats the cable and duct evenly and remains on the surfaces throughout the installation. It is biodegradable, worker friendly and environmentally responsible.

Cat No.	Description
TLF020	20L TECHLUBE FIBRE OPTIC CABLE LUBRICANT



## TECHLUBE HEAVY DUTY CABLE LUBRICANT

Heavy duty, high performance water-based lubricant for heavy cables and difficult pulls. It provides superior friction reduction between cable and all forms of conduit, including concrete duct. Techlube HD dries slowly and leaves a very small amount of residue. Where large quantities of lubricant are needed, Techlube HD is pumpable. It is biodegradable, worker friendly and environmentally responsible. It has high and low temperature stability, compatibility with cable jacket materials, non-flammable, pleasant odour.

Cat No.	Description
TLHD20	20L TECHLUBE HEAVY DUTY CABLE PULLING LUBE



## TECHLUBE HEAVY DUTY PRE-LUBE CABLE LUBRICANT

Pre-lubricating 2L bag of Heavy duty TECHLUBE.

### APPLICATION

The opened Prelube Bag will deposit lubricant inside the conduit as it is being pulled through by a winch rope. The cable should also be lubricated with TECHLUBE® HD directly as it enters the conduit.

Cat No.	Description
TLHDLB	2L TECHLUBE HEAVY DUTY PRELUBE BAG



## TECHLUBE PHD CABLE LUBRICANT

Pourable, high performance water-based cable lubricant for lighter cable installations. It provides superior friction reduction between cable and all forms of conduit and dries slowly to form a thin friction reducing film which retains slip. Where large quantities of lubricant are needed Techlube PHD is pumpable. It is biodegradable, worker friendly and environmentally responsible.

Cat No.	Description
TLPDH20	20L TECHLUBE PHD CABLE PULLING LUBE



# CLEANING LUBRICANTS

## CLEANING SOLVENT

Solvent for surface preparation of bonding area. It cleans tools and equipment including motors, conductors, switchgear and generators and is fully compatible with all components. PF solvent is user friendly, environmentally responsible, 100% stable and non-ozone depleting.

Cat No.	Description
PF1LTR	PF CLEANING SOLVENT 1LTR BOTTLE



## CLEANING SOLVENT WIPES

Solvent wipes for surface preparation of bonding area. It cleans tools and equipment including motors, conductors, switchgear and generators leaving no residue or fibres and is fully compatible with all components. PF solvent is user friendly, environmentally responsible, 100% stable and non-ozone depleting.

Cat No.	Description
PF250	PF CLEANING SOLVENT WIPES (250PK)



## FIBRE OPTIC CLEANING SOLVENT WIPES

d'Gel is a high performance cleaner of cables, tools and equipment. It was specifically developed for the safe and easy removal of petroleum, polyethylene and silicone based gels from filled Copper and fibre optic communication cables.

d'Gel wipes remove oils, soils, gels and cable blocking compounds without removing ID inks or leaving residue and fibres. It is alcohol and halogen free, low odour, non toxic, equally effective with copper and fibre cables, 100% stable, environmentally responsible, non-ozone depleting and user friendly.

Cat No.	Description
DGELBW150	SOLVENT BUCKET (150) WIPES – FIBRE







# LUBRICANT SPRAY

## CRC 5.56 - GENERAL PURPOSE LUBRICATION SPRAY

CRC 5.56 forms a thin film that lubricates moving parts for smooth action and silences annoying squeaks and squeals. Superior penetrating power breaks through rust and corrosion, loosens rusted parts, displaces water from wet equipment and cleans away scale and dirt. It protects metals from corrosion caused by humidity, salt air and other corrosive atmospheres.

Cat No.	Description	Size (ml)
5005	GENERAL PURPOSE LUBRICATION SPRAY - THE TOOLKIT IN A CAN	400



## CRC 808 - SILICONE SPRAY

CRC 808 Silicone is a multi-purpose silicone spray for general lubrication. It leaves a thin, clear, odourless film that lubricates, waterproofs and revives without damaging treated surfaces or leaving marks or stains. It provides ongoing protection over a wide range of temperatures and pressures.

Cat No.	Description	Size (ml)
3055	CLEAR MULTIPURPOSE SILICONE SPRAY	500



## REM OIL - AMPACT TOOL CLEANING

When it comes to cleaning and maintaining your AMPACT tools, it's no different to cleaning and maintaining guns, this tool must be regularly cleaned and lubricated with an appropriate product, that product being Rem Oil. It cleans, lubricates and corrosion-proofs your AMPACT tool without any degradation to the materials.

Cat No.	Description	Weight (g)
RA-240279	REMINGTON OIL SPRAY FOR AMPACT TOOL CLEANING	283





## CRC LECTRA CLEAN - CLEANER & DEGREASER

CRC Lectra Clean is an ideal cleaner to remove wire pulling compounds, anti-oxidation compounds and semi-conductive particles before splicing and termination of high voltage cables. Test on small area before using. May be harmful to some plastics.

Non-Flammable, no flash point, can be used on energised equipment, rapid & complete evaporation

Cat No.	Description	Size (ml)
2018	CRC LECTRA CLEAN ELECTRIC MOTOR AND EQUIPMENT CLEANER AND DEGREASER	400



## CRC ZINC IT - GALVANIC RUST PROTECTION FOR STEEL

CRC Zinc It is a weld through single component zinc-rich compound that offers the same advantages as hot-dip galvanising by forming a highly-protective coating with 95% highest purity zinc on bare steel or iron surfaces. It is ideal for repairing damaged galvanised surfaces or as a convenient and easy-to-apply alternative if hot-dip galvanising is not available.

Cat No.	Description	Size (g)
2085	GALVANIC RUST PROTECTION FOR STEEL	350



## CRC BRIGHT ZINC IT - GALVANIC RUST PROTECTION BRIGHT FINISH

CRC Bright Zinc's unique formulation combines superior rust inhibiting properties of zinc with a tough but flexible resin coating for heavy-duty protection and a bright finish of new galvanising.

Cat No.	Description	Size (ml)
2087	GALVANIC RUST PROTECTION WITH BRIGHT FINISH OF NEW GALVANISING	400



## CRC LONG LIFE ANTI RUST

CRC Long Life Anti Rust is the complete package. Providing superior lubrication and long-term rust prevention to all metals subjected to rust and salt corrosion. It is an excellent rust inhibitor and lubricant for extending the life of metal to metal sliding/rotating surfaces. CRC Long Life Anti Rust penetrates and coats the metal surfaces, displacing moisture and providing rust protection, preventing future moisture contamination.

CRC Long Life is a clear, free running fluid that is safe to use in most situations, is easy to apply and remove if required.

Cat No.	Description	Weight (g)
3097	SUPERIOR LUBRICATION - LONG TERM RUST PREVENTION	300



## CABLE PROTECTION

### CABLE COVER

TransNet Cable cover is manufactured in New Zealand from recycled High Density Polyethylene (HDPE). There are various sizes and strengths available off the shelf with some special manufacture sizes also available. Cable Cover is designed to protect the cables/pipes it is covering, we have two ranges available, one that follows the penetration test requirements of the Australia/New Zealand Standard AS/NZ4702-2000 (Cat No. begins with CCASNZ) and the 3mm & 5mm thick range that does not comply.

There is a list of requirements to adhere to for compliance with this standard but the one that stands out is the penetration protection. All AS/NZ4702-2000 cable cover must pass a penetration test where a specifically designed dart of known weight is dropped from a predetermined height through 125 joules of energy. The cable cover passes the test only when the dart penetrates it by less than 50mm. Confusion is created with the reference to thickness of material, Cable cover to AS/NZ4702-2000 standard does not adhere to a thickness it is determined by strength resulting from the penetration test.

#### 3MM AND 5MM THICKNESS RANGE – NOT COMPLIANT WITH AS/NZ4702-2000 STANDARD

Cat No.	Type	Width (mm)	Thickness (mm)	Length (M)
CC100X3X25	ROLL	100	3	25
CC100X5X25		100	5	25
CC150X3X25		150	3	25
CC150X5X2	STRIP	150	5	2+
CC150X5X25	ROLL	150	5	25
CC200X3X25		200	3	25
CC200X5X25		200	5	25
CC300X5X25		300	5	25

\*Additional sizes available on request

+ Pallet lots only

#### KEY FEATURES

- CCASNZ (follows requirements of AS/NZ4702-2000 standard)  
3mm thick (not compliant)  
5mm thick (not compliant)
- Various widths available, standard widths are 100mm, 150mm, 200mm and 300mm
- Gas and Electricity specific product available
- Rolls are 25m long (custom roll lengths may differ)
- Available ex stock
- Every batch of CCASNZ4702 cable cover is tested throughout the manufacturing process to ensure it consistently complies with the penetration test requirements
- Retains mechanical strength characteristics even in extreme temperatures



#### MEETS PENETRATION TEST REQUIREMENTS OF AS/NZ4702-2000 STANDARD

Cat No.	Type	Width (mm)	Standard	Length (M)
CCASNZ4702-150X1	STRIP	150	AS/NZ4702-2000	1+
CCASNZ4702-150X25	ROLL	150	AS/NZ4702-2000	25
CCASNZ4702-170X2	STRIP	170	AS/NZ4702-2000	2+
CCASNZ4702-170X25	ROLL	170	AS/NZ4702-2000	25
CCASNZ4702-200X25	ROLL	200	AS/NZ4702-2000	25
CCASNZ4702-250X2	STRIP	250	AS/NZ4702-2000	2+
CCASNZ4702-250X25	ROLL	250	AS/NZ4702-2000	25
CCASNZ4702-300-2	STRIP	300	AS/NZ4702-2000	2+
CCASNZ4702-300X25	ROLL	300	AS/NZ4702-2000	25
CCASNZ150X5X750MM	STRIP – GREEN TELECOM CABLE COVER	150	AS/NZ4702-2000	.75
GPCASNZ4702-150X1	STRIP – YELLOW GAS PIPE COVER	150	AS/NZ4702-2000	1+

\*Additional sizes available on request

+ Pallet lots only



WARNING STRIP

Warning strip is laid in the ground above the cable after the trench has been partially backfilled. This secondary protection for underground utility cables and pipes is the main use

for warning strip. Another common use is for cordoning off hazardous areas to keep the public safe. Durable yet light weight means this warning strip can stand up to the elements.

KEY FEATURES

- Orange with black text signifies "ELECTRICAL CABLE BELOW"
- White with red text signifies a warning of hazardous area "DANGER KEEP OUT"
- Designed and manufactured to AS/NZS 2648.1:1995 *Underground marking tape – Non-detectable* standard
- Made from recycled Polyethylene
- Operating temperature -20°C to 120°C



Cat No.	Type	Colours	Roll Length (m)	Width (mm)
BTOE100MT	ELECTRICAL WARNING STRIP	ORANGE / BLACK TEXT	100	100
BTOE300MT			300	
BTOE500MT			500	
BTDT100M	DANGER KEEP OUT WARNING STRIP	WHITE / RED TEXT	100	

POLE COVER

Manufactured from High Density Polyethylene and UV stable, these pole covers are designed to protect cables running up the side of a pole. They are fixed in place with Stainless Steel strapping and offer mechanical protection to the conductors underneath.

- Pole Cover 150mm x 150mm Top Hat, 2700mm long
- Pole Wrap 600mm Diameter, 2700mm long



PC2700X150X150



PC2700X600DIA



Cat No.	Description
PC2700X150X150	MARINO PLASTIC POLE COVER 2700 × 150 × 150MM
PC2700X600DIA	WHITE PLASTIC POLE WRAP 2700 × 600MM DIA





## TWIST ON STAY GUARD

Installed on pole stay wires in order to make them more visible. The twist on stay guard has a spiral slit along its entire length making it fast and simple to install.



Retainer Clip



Cat No.	Description	Dimensions (mm)
SGWH32X2700MM	STAY/GUY WIRE GUARD, SPIRAL SPLIT, UV STABLE, WHITE PVC PIPE	32MM O.D. × 2700MM
SGWH32X2700MMRS	STAY/GUY WIRE GUARD, SPIRAL SPLIT, UV STABLE, WHITE PVC PIPE, WITH RETAINER CLIP	32MM O.D. × 2700MM

## CABLE CLAMPS

### CABLE CLAMPS - UNIVERSAL

For securing electrical cable from a diameter of 20mm–110mm (UKR range only) to a power pole or beam. The design of the cable holder allows for a variety of

cable sizes due to the variable adjustment and locking points. The clamp has applications in power authorities, mining, railways, building and construction.

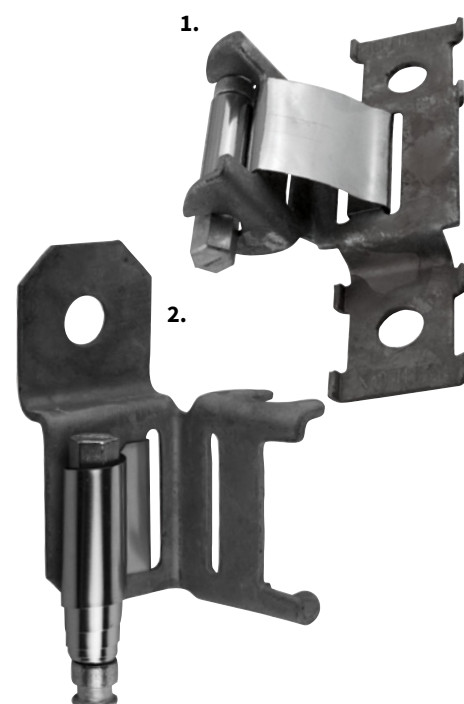
#### FEATURES

- Optional fixing methods, either using a bolt or band clamp strapping

#### MATERIAL

- The clamp body is made from mild steel, which has been blanked and formed, then hot-dip galvanised
- The strap is made from 304 grade stainless steel
- The pin is die cast zinc
- Horizontal and vertical fixing options available

Cat No.	Style	Cable Dia (mm)	Description
CBH30-110/1	1	30–110	HORIZONTAL DOUBLE FIXING BOLT
CBH30-100V/1		30–100	VERTICAL DOUBLE FIXING BOLT
UKR90	2	20–90	SINGLE FIXING BOLT





## SINGLE CONDUCTOR CLAMPS WITHOUT CENTRE MOUNTING HOLE

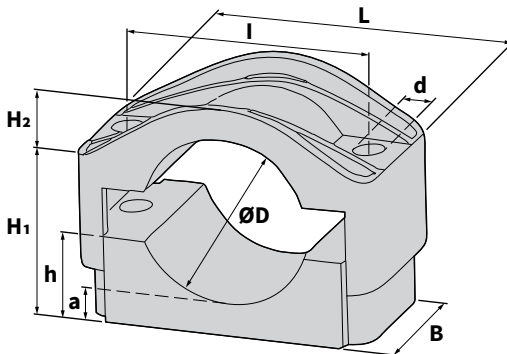
### APPLICATIONS

For the mounting of one single or multi-conductor cable. For low, medium and

high voltage cables as well as conduits and hoses.

### CHARACTERISTICS

- Made of glass fibre reinforced polyamide (PA)
- Resistant to oils, UV, ozone, salts, moisture, acids and even radioactive emissions.
- Self-extinguishing V-0 (UL94), halogen-free, low smoke
- Temperature range from -40°C to 120°C
- Black coloured



Cat No.	Mechanical Strength	mm O.D.	L	B	I	D	H <sub>1</sub>	H <sub>2</sub>	H	A
SE15-26	20,000NM	15-26	77	45	50	10	26-42	4	17	8
SE26-38	30,000NM	26-38	92	60	60	12	33-49	7	18	7
SE36-52	20,000NM	36-52	105	60	75	12	39-55	15	23	8
SE50-75	20,000NM	50-75	126	60	95	12	46-71	22	30	9
SE75-100	68,800NM	75-100	200	80	150	12	70-95	32	45	10
SE100-135	67,400NM	100-135	225	82	175	15	85-120	43	58	10
SE135-170	66,250NM	135-170	260	90	210	15	133-169	62	90	28

**Note:** All measurements in mm.

## SINGLE CONDUCTOR CLAMPS WITH CENTRE MOUNTING HOLE

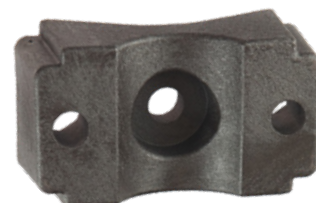
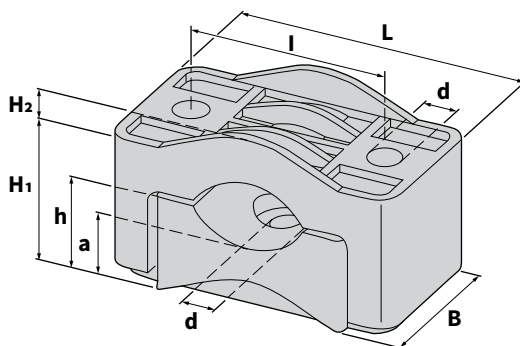
### APPLICATIONS

For the mounting of one single or multi-conductor cable. For low, medium and high voltage cables as well as conduits and hoses.

This clamp has a central mounting hole, the hole is counter sunk to ensure the head of the bolt does not impose on cable position.

### CHARACTERISTICS

- Made of glass fibre reinforced polyamide (PA)
- Resistant to oils, UV, ozone, salts, moisture, acids and even radioactive emissions
- Self-extinguishing V-0 (UL94), halogen-free, low smoke
- Temperature range from -40°C to 120°C
- Black coloured



CENTRE MOUNTING HOLE

Cat No.	Mechanical Strength	mm O.D.	L	B	I	D	H <sub>1</sub>	H <sub>2</sub>	H	A
SEG26-50	20,000NM	26-50	111	60	76	12.5	55.5	11.5	36	24
SEG50-80	20,000NM	50-80	136	60	100	12.5	108	15	47	22.7

**Note:** All measurements in mm.

## TREFOIL CONDUCTOR CLAMPS WITH CENTRE MOUNTING HOLE

### APPLICATIONS

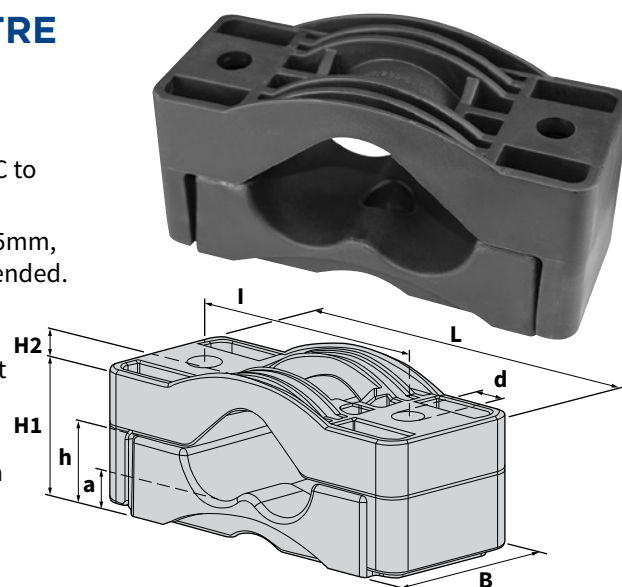
For the mounting of three single or multi-conductor cables in a triangular configuration. For low, medium and high voltage cables as well as conduits and hoses.

### CHARACTERISTICS

- Made of glass fibre reinforced polyamide (PA)
- Resistant to oils, UV, ozone, salts, moisture, acids and even radioactive emissions
- Self-extinguishing V-0 (UL94),

halogen-free, low smoke

- Temperature range from -40°C to 120°C
- The mounting holes are Ø15.5mm, allowing the thread to be extended. The existing configuration can be expanded at any time easily, simply and at little cost
- The centre of the lower shell has an extra mounting hole for optional mounting using a single bolt
- Black coloured
- Stackable



Cat No.	Mechanical Strength	mm O.D.	L	B	I	D	H <sub>1</sub>	H <sub>2</sub>	H	A
TRIPLE27-38	35,900NM	3 × 27-38	180	75	125	15.5	63	12	35	16.5
TRIPLE38-51	39,800NM	3 × 38-51	195	80	145	15.5	84	16	45	20
TRIPLE51-69	69,900NM	3 × 51-69	220	85	170	15.5	109	21	56	26
TRIPLE69-90	56,700NM	3 × 69-90	252	90	215	15.5	134	29	72	30
TRIPLE90-118	54,300NM	3 × 90-118	321	100	270	15.5	180	27	89	33
TRIPLE118-150	54,300NM	3 × 118-150	400	110	340	15.5	211	37	110	75

**Note:** All measurements in mm.

## UNIFIX

### APPLICATIONS

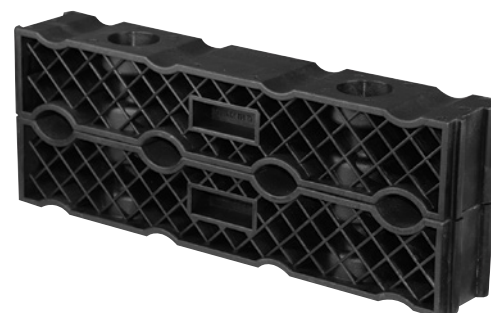
For mounting four single or multi-conductor cables or any multiple for low, medium and high voltage cables with diameters of 12-48mm as well as conduits and hoses.

### CHARACTERISTICS

- Made of glass fibre reinforced polyamide (PA)
- Resistant to oils, UV, ozone, salts, moisture, acids and even radioactive emissions
- The mounting holes are Ø13mm,

allowing the thread to be extended

- The existing configuration can be expanded at any time easily, simply and at little cost
- Self-extinguishing V-0 (UL94), halogen-free, low smoke
- Temperature range from -40°C to 120°C
- Mechanical strength: 29,500Nm
- Stackable
- Dovetail connections for end-to-end attachment
- Black coloured
- \*Sold separately



1 layer of cables	(2 pieces) up to 4 cables
2 layers of cables	(3 pieces) up to 8 cables
3 layers of cables	(4 pieces) up to 12 cables
4 layers of cables	(5 pieces) up to 16 cables
5 layers of cables	(6 pieces) up to 20 cables

Cat No.	Mechanical Strength	Description
UNIFIX-IM	29,500NM	CABLE CLAMP LV 4 × 12-32MM O.D.
UNIFIX-32-48	29,500NM	CABLE CLAMP LV 4 × 32-48MM O.D.

## CABLE CLAMP NEOPRENE INSERT

Neoprene insert used as a packer in the Dutch Clamp range to ensure a snug fit,

most commonly used in situations where cable clamps are installed vertically.

\*Sold in packs of 2 pieces

Cat No.	Description
E1-002	NEOPRENE INSERT PAD 100X100X5MM





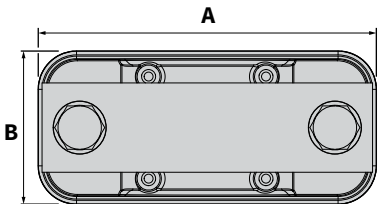
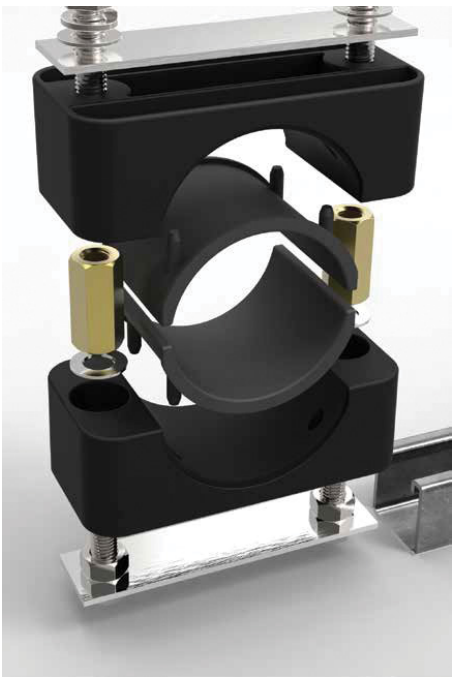
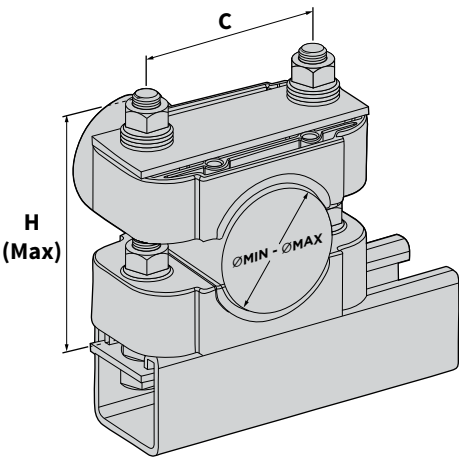
RAYCHEM - SINGLE CABLE CLAMPS WITH STRUT NUTS

Raychem cable clamps have a patented design which optimises clamping force at both the attachment point, and the cable by securing each clamp half separately. Cables can be aligned and located in the bottom half of the clamp prior to final tightening.

FEATURES

- Integral stainless steel clamping plates to ensure consistent clamping pressure on both sides
- Range taking elastomeric inserts accept cable diameters from 26-106mm
- Elastomeric inserts can accommodate round, oval or "tri-round" cable profiles
- Fits standard 40x40mm strut, as well as narrow 25x40mm strut, please advise at time of order if narrow strut is used
- Bottom half of clamps can be mounted, prior to cable fitment
- Impact resistant, Halogen free, UV Stabilised, self extinguishing materials
- Part numbers and cable ranges are molded into the top of the clamp for easy product identification
- Smooth aesthetics which improve overall strength while in operation

- Optimised for harsh environments with all stainless steel hardware
- Can be used as a single cable clamp or stacked
- Captive elastomeric inserts for increased cable protection and containment
- Can be mounted using centre bolt or 2 bolts at extremities
- Available in strut nut configuration
- Designed and independently tested to meet all requirements of IEC61914



Cat No.	Cable Range (mm O.D.)		Width A (mm)	Depth B (mm)	Bolt Hole Centres C (mm)	Installed Height H Max (mm)	Bolt Size	Includes
	Min	Max						
CC26-38-SN-M10	26	38	90	60	60	100	M10	STAINLESS STEEL NUTS, BOLTS & STRUT NUTS
CC38-50-SN-M12	38	50	104	60	75	130	M12	
CC50-60-SN-M12	50	60	133	60	100	155	M12	
CC60-70-SN-M12	60	70	146	70	114	250	M12	
CC68-81-SN-M12	68	81	146	70	114	250	M12	
CC80-92-SN-M12	80	92	176	75	142	295	M12	
CC92-106-SN-M12	92	106	176	75	142	295	M12	

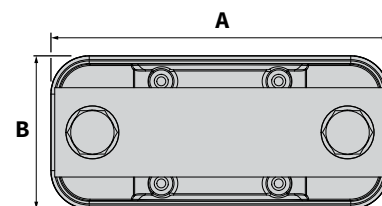
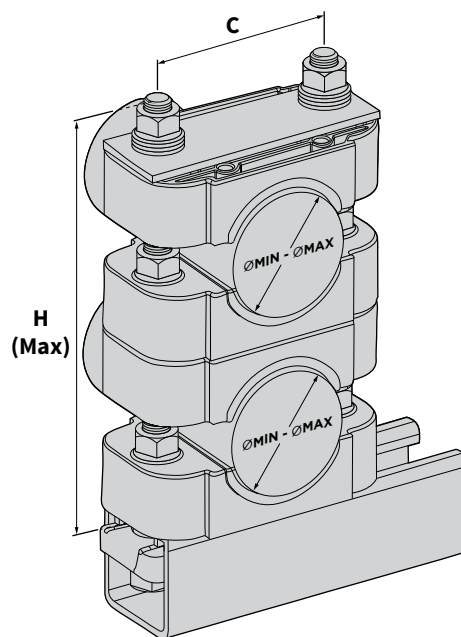
## RAYCHEM - DOUBLE CABLE CLAMPS WITH STRUT NUTS

Raychem cable clamps have a patented design which optimises clamping force at both the attachment point, and the cable by securing each clamp half separately. Cables can be aligned and located in the bottom half of the clamp prior to final tightening.

### FEATURES

- Integral stainless steel clamping plates to ensure consistent clamping pressure on both sides
- Range taking elastomeric inserts accept cable diameters from 38-60mm
- Range accepts wide variety of cable diameters
- Elastomeric inserts can accommodate round, oval or "tri-round" cable profiles
- Bottom half of clamps can be mounted, prior to cable fitment
- Fits standard 40x40mm strut, as well as narrow 25x40mm strut, please advise at time of order if narrow strut is used
- Impact resistant, Halogen free, UV Stabilised, self extinguishing materials
- Part numbers and cable ranges are molded into the top of the clamp for easy product identification
- Smooth aesthetics which improve overall strength while in operation

- Optimised for harsh environments with all stainless steel hardware
- Can be used as a single cable clamp or stacked
- Can be mounted using centre bolt or 2 bolts at extremities
- Available in strut nut configuration
- Designed and independently tested to meet all requirements of IEC61914



Cat No.	Cable Range (mm O.D.)		Width A (mm)	Depth B (mm)	Bolt Hole Centres C (mm)	Installed Height H Max (mm)	Bolt Size	Includes
	Min	Max						
CC38-50-SN-M12DOUB	38	50	104	60	75	170	M12	STAINLESS STEEL NUTS, BOLTS & STRUT NUTS
CC50-60-SN-M12DOUB	50	60	133	60	100	215	M12	
CC60-70-SN-M12DOUB	60	70	146	70	114	250	M12	



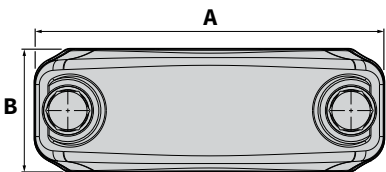
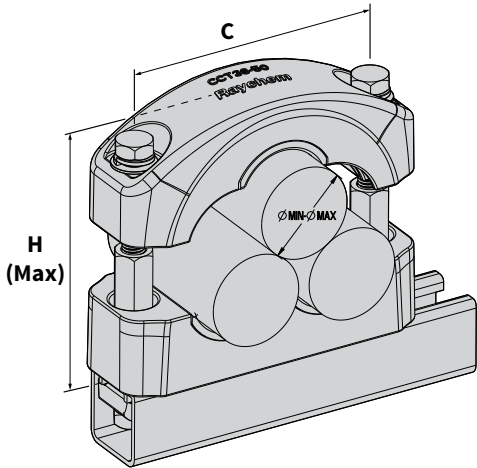
RAYCHEM - TREFOIL CABLE CLAMPS WITH STRUT NUTS

FEATURES

- Range accepts cable diameters from 26-38mm, 38-50mm and 50-60mm
- Can be mounted using centre bolt or 2 bolts at extremities
- Can be used as a single clamp or stacked
- Available in strut nut configuration
- Superior clamping performance
- Captive elastomeric inserts for increased cable protection and containment
- Fits standard 40x40mm strut, as well as narrow 25x40mm strut, please advise at time of order if narrow strut is used
- Optimised for harsh environments with stainless steel hardware and self-extinguishing polymer materials
- Smooth aesthetics which improve

overall strength while in operation

- Part numbers and cable ranges are molded to the top of the clamp for easy product identification
- Designed and independently tested to meet all requirements of IEC61914



Cat No.	Cable Range (mm O.D.)		Width A (mm)	Depth B (mm)	Bolt Hole Centres C (mm)	Installed Height H Max (mm)	Bolt Size	Includes
	Min	Max						
CCT26-38-SN-M12	26	38	135	60	100	116	M12	STAINLESS STEEL NUTS, BOLTS & STRUT NUTS
CCT38-50-SN-M12	38	50	170	60	138	145	M12	
CCT50-60-SN-M12	50	60	200	60	160	164	M12	





# CABLE BUNDLING

## CABLE TIES - UTI TIES

- Durable
- Available in natural finish or weather resistant black
- Smooth edges to avoid cuts
- Tapered tip for ease of use
- Self locking system resists slippage
- Halogen Free



Natural	Weather Resistant	Length (mm)	Width (mm)	Max Bundle Dia. (mm)	Tensile Strength (kg)	Pack Size* Suffix
HST80M/	HST80M-BK/	80	2.5	18	8	100/1000
HST100M/	HST100M-BK/	102		25	8	100/1000
HST140M/	HST140M-BK/	140		35	8	100/1000
HST160M/	HST160M-BK/	160		44	8	100/1000
HST200M/	HST200M-BK/	200		55	8	100/1000
HST140L/	HST140L-BK/	140	3.2	35	18	100/1000
HST200L/	HST200L-BK/	200		55	18	100/1000
HST300L/	HST300L-BK/	300	3.6	85	18	100/1000
HST160ST/	HST160ST-BK/	160		44	22	100/1000
HST200ST/	HST200ST-BK/	200	4.8	55	22	100/1000
HST300ST/	HST300ST-BK/	300		85	22	100/1000
HST370ST/	HST370ST-BK/	370		102	22	50/100
-	HST430ST-BK/	430	7.6	125	22	50/100
HST200HD/	HST200HD-BK/	200		55	55	100
HST300HD/	HST300HD-BK/	300		102	55	100
HST370HD/	HST370HD-BK/	370		102	55	50/100
HST380HD/	HST380HD-BK/	380		102	55	50
-	HST940HD-BK/	940		270	80	100
-	HST1030EHD-BK/	1030		317	114	100
-	HST1168HD-BK/	1168		360	80	100
HST430HD/	HST430HD-BK/	430	8	125	80	50/100
HST450HD/	HST450HD-BK/	450		133	80	100
-	HST530HD-BK/	530	9	166	80	100
-	HST760HD-BK/	760		236	80	50
-	HST580EHD-BK/	580	13	175	114	100

\*When ordering add suffix 50 = Pack Size 50, 100 = Pack Size 100, 1000 = Pack Size 1000

## STAINLESS STEEL CABLE TIES

Stainless Steel Cable Ties are a quick and effective way to secure cables. They are much quicker than traditional strapping systems and have a unique ball bearing locking mechanism that allows the tie to be easily installed and fixed. These cable ties have an off-set tip to ease insertion of the tie end. The cable ties are made from 316 non-magnetic stainless steel. Typical uses are flame-proof installations, chemical environments and situations of long-term external exposure.

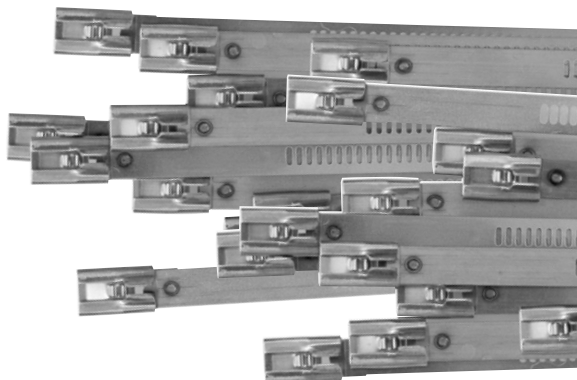
### TECHNICAL DATA

Material	Stainless Steel 316 grade
Operating Temp	-80°C to >500°C
Loop Tensile Strength	Standard Range 45kg Heavy Duty Range 110kg

### 316 STAINLESS STEEL CABLE TIES

- 0.3mm thick

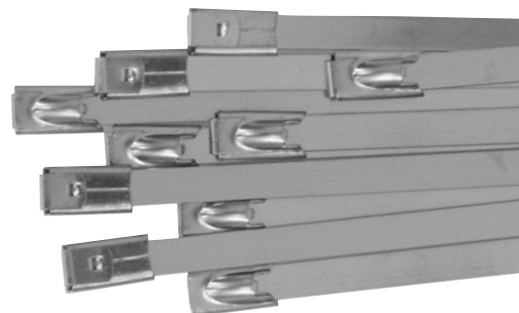
Cat No.	Length (mm)	Width (mm)
STL-335S/10	335	7



### 316 STAINLESS STEEL CABLE TIES - BALL LOCK

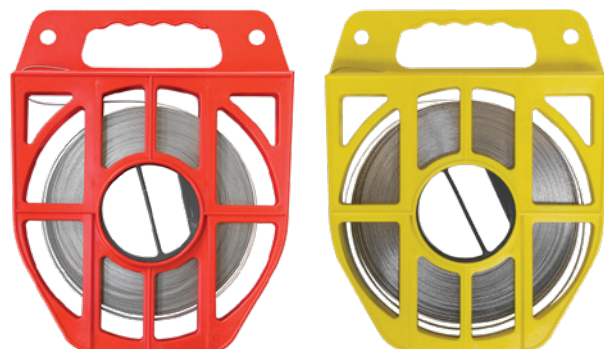
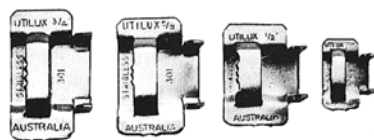
- 0.3mm thick

Cat No.	Length (mm)	Width (mm)
STB-152S/10	152	4.5
STB-200S/10	200	
STB-360S/10	360	



## STAINLESS STEEL BAND STRAP & BUCKLES

- Versatile
- Durable
- Easy to handle
- Low cost
- Stainless steel minimising corrosion
- Width: 9.5, 12.7, 16, 19mm
- Supplied in dispensers of 30m



Cat No.	Reel Length (m)	Band Strap Width (mm)	Buckles	Pack Qty	Tooling
H3013M-30/1	30	9.5	H3001/100	100	#46
H3016M-30/1		12.7	H3004/100		
H3019M-30/1		16	H3007/100		
H3022M-30/1		19	H3010/100		

## IDENTIFICATION & LABELLING

### CRITCHLEY K65 MARKERS

K-Type markers and carrier strips are ideal for identifying large cables, conduit and pipes, either before or after termination. The K-type cable markers are typically grouped together by sliding either a 7, 12, or 18 way marker carrier strip through the centre of the cable markers.

The marker carrier strip has slotted ends allowing fastening with cable ties or cable strapping to any size cable, conduit, or pipe.



6-1198164-8



4-1198145-9



2-1198218-1



Cat No.	Description
0-1198219-4	250PCE CRITCHLEY K-65 18 WAY STRIP
4-1198183-9	500PCE CRITCHLEY K-65 12 WAY STRIP
9-1198155-1	CRITCHLEY K-65 CARRIER STRIP 7 DIGIT
9-1198175-7	CRITCHLEY K-65 MARKER B/Y BLANK
5-1198195-0	CRITCHLEY K-65 MARKER B/Y -
6-1198206-5	CRITCHLEY K-65 MARKER B/Y /
9-1198201-5	CRITCHLEY K-65 MARKER B/Y +
8-1198200-0	CRITCHLEY K-65 MARKER B/Y 0 (ZERO)
5-1198138-9	CRITCHLEY K-65 MARKER B/Y 1
8-1198139-9	CRITCHLEY K-65 MARKER B/Y 2
8-1198172-8	CRITCHLEY K-65 MARKER B/Y 3
2-1198143-6	CRITCHLEY K-65 MARKER B/Y 4
2-1198209-7	CRITCHLEY K-65 MARKER B/Y 5
3-1198173-0	CRITCHLEY K-65 MARKER B/Y 6
1-1198144-5	CRITCHLEY K-65 MARKER B/Y 7
2-1198218-1	CRITCHLEY K-65 MARKER B/Y 8
0-1198198-6	CRITCHLEY K-65 MARKER B/Y 9
1-1198173-5	CRITCHLEY K-65 MARKER B/Y A
3-1198151-6	CRITCHLEY K-65 MARKER B/Y B
4-1198148-6	CRITCHLEY K-65 MARKER B/Y C
4-1198145-9	CRITCHLEY K-65 MARKER B/Y D
6-1198164-8	CRITCHLEY K-65 MARKER B/Y E

Cat No.	Description
6-1198198-3	CRITCHLEY K-65 MARKER B/Y F
5-1198200-0	CRITCHLEY K-65 MARKER B/Y G
7-1198153-3	CRITCHLEY K-65 MARKER B/Y H
3-1198157-2	CRITCHLEY K-65 MARKER B/Y I
8-1198143-6	CRITCHLEY K-65 MARKER B/Y J
1-1198192-6	CRITCHLEY K-65 MARKER B/Y K
7-1198206-0	CRITCHLEY K-65 MARKER B/Y L
9-1198163-9	CRITCHLEY K-65 MARKER B/Y M
6-1198189-6	CRITCHLEY K-65 MARKER B/Y N
3-1198192-9	CRITCHLEY K-65 MARKER B/Y O
9-1198203-9	CRITCHLEY K-65 MARKER B/Y P
4-1198184-7	CRITCHLEY K-65 MARKER B/Y Q
6-1198196-3	CRITCHLEY K-65 MARKER B/Y R
3-1198167-1	CRITCHLEY K-65 MARKER B/Y S
4-1198166-8	CRITCHLEY K-65 MARKER B/Y T
0-1198185-3	CRITCHLEY K-65 MARKER B/Y U
6-1198194-6	CRITCHLEY K-65 MARKER B/Y V
3-1198139-0	CRITCHLEY K-65 MARKER B/Y W
2-1198159-4	CRITCHLEY K-65 MARKER B/Y X
8-1198139-2	CRITCHLEY K-65 MARKER B/Y Y
6-1198147-6	CRITCHLEY K-65 MARKER B/Y Z

### IDENTIFICATION & LABELLING KIT

Critchley K65 markers offer a hard wearing solution to label services in TUDS and ECOPillars.

#### KIT CONTENTS:

- 10 x each character A-Z & 0-9
- 100 x cable ties
- 10 x carrier strips
- 20 segment carry case

Cat No.	Description
TUDSIDENTKIT1	LABELLING KITSET - CARRIER STRIPS, CABLE TIES, A-Z, 0-9

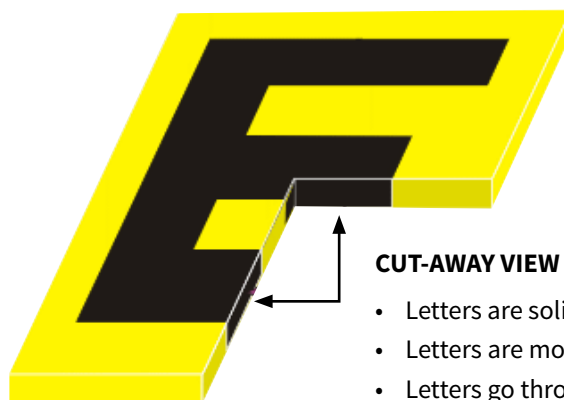


## EVERLAST POLE MARKERS - 1"

EVERLAST Indestructible signs and markers are the only answer if you want signs and markers to be legible for years to come.

- Long Term Legibility – reduced costs of replacing and installing new signs
- Tested by UL – test results showed there will be no change in legibility after 40 years
- Injection Molded – won't break down and emit toxins, can be re-surfaced if vandalised
- Will Never Delaminate – means no chance clouding or breaking apart

Cat No.		Description
Horizontal	Vertical	
ELHKY000	ELVKYO	1" BLACK ON YELLOW '0'
ELHKY001	ELVKY001	1" BLACK ON YELLOW '1'
ELHKY002	ELVKY002	1" BLACK ON YELLOW '2'
ELHKY003	ELVKY003	1" BLACK ON YELLOW '3'
ELHKY004	ELVKY004	1" BLACK ON YELLOW '4'
ELHKY005	ELVKY005	1" BLACK ON YELLOW '5'
ELHKY006	ELVKY006	1" BLACK ON YELLOW '6' OR '9'
ELHKY007	ELVKY007	1" BLACK ON YELLOW '7'
ELHKY008	ELVKY008	1" BLACK ON YELLOW '8'
ELHKYA	ELVKYA	1" BLACK ON YELLOW 'A'
ELHKYB	ELVKYB	1" BLACK ON YELLOW 'B'
ELHKYC	ELVKYC	1" BLACK ON YELLOW 'C'
ELHKYD	ELVKYD	1" BLACK ON YELLOW 'D'
ELHKYE	ELVKYE	1" BLACK ON YELLOW 'E'
ELHKYF	ELVKYF	1" BLACK ON YELLOW 'F'
ELHKYG	ELVKYG	1" BLACK ON YELLOW 'G'
ELHKYH	ELVKYH	1" BLACK ON YELLOW 'H'
ELHKYI	ELVKYI	1" BLACK ON YELLOW 'I'
ELHKYJ	ELVKYJ	1" BLACK ON YELLOW 'J'
ELHKYK	ELVKYK	1" BLACK ON YELLOW 'K'
ELHKYL	ELVKYL	1" BLACK ON YELLOW 'L'
ELHKYM	ELVKYM	1" BLACK ON YELLOW 'M'
ELHKYN	ELVKYN	1" BLACK ON YELLOW 'N'
ELHKYO	ELVKYO	1" BLACK ON YELLOW 'O'
ELHKYP	ELVKYP	1" BLACK ON YELLOW 'P'
ELHKYQ	ELVKYQ	1" BLACK ON YELLOW 'Q'
ELHKYR	ELVKYR	1" BLACK ON YELLOW 'R'
ELHKYS	ELVKYS	1" BLACK ON YELLOW 'S'
ELHKYT	ELVKYT	1" BLACK ON YELLOW 'T'
ELHKYU	ELVKYU	1" BLACK ON YELLOW 'U'
ELHKYV	ELVKYV	1" BLACK ON YELLOW 'V'
ELHKYW	ELVKYW	1" BLACK ON YELLOW 'W'
ELHKYX	ELVKYX	1" BLACK ON YELLOW 'X'
ELHKYY	ELVKYY	1" BLACK ON YELLOW 'Y'
ELHKYZ	ELVKYZ	1" BLACK ON YELLOW 'Z'
ELHKY266	ELVKY266	1" BLACK ON YELLOW 'LINK'
ELHKY064	-	1" BLACK ON YELLOW 'FUSE'
-	ELVKY048	1" BLACK ON YELLOW 'I'
-	ELVKY265	1" BLACK ON YELLOW 'SITE'



### CUT-AWAY VIEW

- Letters are solidly embedded
  - Letters are molded-in
  - Letters go through the sign
- More durable than over 40 coats of paint!



Cat No.	Description
AH104	AL 1" TAG HOLDER, 4 DIGITS
AH105	AL 1" TAG HOLDER, 5 DIGITS
AH106	AL 1" TAG HOLDER, 6 DIGITS
AH109	AL 1" TAG HOLDER, 9 DIGITS

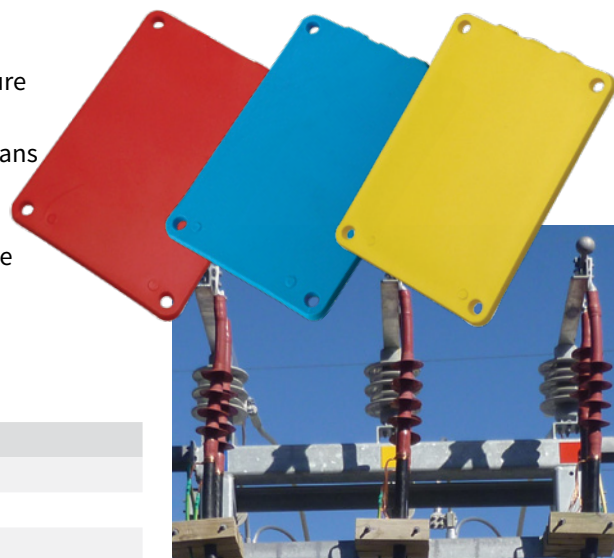
Other sizes and configurations are available on request, please contact customer service for more information. Please note MOQs may be imposed on special order products.



## EVERLAST PHASE MARKERS

EVERLAST Indestructible signs and markers are the only answer if you want signs and markers to be legible for years to come.

- Long Term Legibility – reduced costs of replacing and installing new signs
- Tested by UL - test results showed there will be no change in legibility after 40 years
- UV stabilised plastic to ensure colour fastness
- Will Never Delaminate – means no chance clouding or breaking apart
- Holes in each corner for ease of installation



Cat No.	Description
EL3R011	2.5 × 3.5" PHASE MARKER – RED
EL3U011	2.5 × 3.5" PHASE MARKER – BLUE
EL3Y011	2.5 × 3.5" PHASE MARKER – YELLOW

## DO NOT CLIMB TAGS

Caution tags for identifying poles or structures that are unsafe to climb. With three colours available, different degrees of danger can be easily identified.

- 3 colours available
- Clear text printed on one side of tag
- Fixing hole in every tag

Cat No.	Description
06B-CAUTION	CAUTION TAG BLUE
06R-CAUTION	CAUTION TAG RED
06Y-CAUTION	CAUTION TAG YELLOW
DANGERCLIMB	DANGER TAG YELLOW



## DANGER LIVE WIRE WARNING SIGNS

Danger sign for identifying live underground or overhead wires. The white background with red text is a familiar design feature for such signs. Made from sturdy plastic with affixing slots large enough to accommodate band strap these signs can be installed in a number of ways.

Cat No.	Description
DANGERTAG	DOUBLE SIDED SIGN WITH DIFFERING ORIENTATIONS (SOLD IN PACKS OF 100, 25 SHEETS OF 4 SIGNS)





## WARNING MARKERS

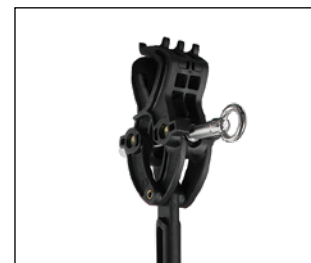
The Balmoral Warning Marker is a purpose designed Hi Visibility Line Warning Marker ideal for low hanging wires, construction zones, low flying agricultural aircraft and many other applications. The 3D Design with reflectors enables vision from all angles as the marker flag rotates with a breeze.

- Latest technology articulated 3D design
- Premium High-Vis Reflectors
- Bayonet or Eye Ring fitting available
- Customised flags or marker options available
- Universal clamp fits all lines from 2-50mm dia
- Aerodynamic design, rotates for high impact visibility - tested in wind tunnel up to 30m/s with no whistling noise or vibration detected
- UV stabilised and tough non-conductive Nylon 6 plastic
- Anti-creep Clamp design - lined with rubber to protect conductor from damage
- Installed with standard Live Line Tools

Cat No.	Style of Warning Device	Hot Stick Attachment	Colour
WM-CS-B-1A-RW	3D VANE	BAYONET	RED/WHITE
WM-CS-E-1A-RW		EYE RING	
WM-CS-B-1B-O	VINYL FLAG	BAYONET	ORANGE
WM-CS-E-1B-O		EYE RING	



BAYONET



EYE RING

## ZERUST CORROSION INHIBITORS

### ZERUST VAPOUR CAPSULES

Zerust® vapour capsules provide easy to use targeted corrosion protection for use inside any type of enclosure including gun safes, toolboxes, outboard engines, dashboards, etc. Easy to install in seconds with continuous corrosion protection for the life of the capsule (usually one or two years).

#### PERFECT FOR

- Fishing Tackle Boxes
- Tool Boxes
- Electrical Enclosures
- Gun Safes



Cat No.	Protection Volume	Barrier Radius	Protection Period
VC1-1	0.12M <sup>3</sup>	0.30M	1 YEAR
VC2-1	0.95M <sup>3</sup>	0.60M	1 YEAR
VC2-2	0.95M <sup>3</sup>	0.60M	2 YEARS



## ZERUST PLASTABS

Suitable for protecting small spaces from corrosion for up to two years. Ideal for tackle boxes, tool boxes, marine electronics such as fish finders, sonar, etc. Can also be used for outdoor electronics such as TVs.

Cat No.	Protection Volume	Barrier Radius	Protection Period
PLASTAB19X19	0.006M <sup>3</sup>	0.12M	2 YEARS
PLASTAB25X75	0.028M <sup>3</sup>	0.18M	2 YEARS



## ZERUST DRAWER LINER

Zerust® drawer liners provide long term protection (up to 5 years) from corrosion whilst providing a non-slip, durable surface. Protects aluminium, brass, bronze, tin, chrome, copper, iron, nickel, steel and silver. The liner has a high grip surface, is non absorbent, mold resistant and easily trims for custom fitting.

Cat No.	Description
ZERUSTDRAW	NON-SLIP LINER – 570MM × 3000MM
ZERUSTDRAWSMALL	NON-SLIP LINER – 300MM × 1800MM



# PASSIVE FIRE PROTECTION PRODUCTS

## KBS FIRE PROTECTIVE SEALANTS & PENETRATION SEALS

### KBS FOAMCOAT HS Intumescent Sealant

For use in dry indoor rooms, high viscous, halogen free intumescent sealant. Develops micro-porous foam with 40 times its original thickness. Can be used for fire-proof penetration seals of single cable and cable bundles.

### KBS SEALANT Ablative Sealant

High viscous halogen free sealant, suited to filling narrow, rigid joints and cable penetrations. Excellent stability to chemical exposure.

### KBS PANEL SEAL

Single and double panel seals for fire resistant cable penetrations. Used to close through-penetration fire stops in walls and floors, Smoke/gas tight and fire resistant.

### KBS MORTAR (Ignitect Z)

Fire protective mortar for fire resistant cable penetrations. Cementitious light weight mortar for use in walls and floors, mixed with water it can be made and applied by hand or machines. 1kg of powder renders 1.5L of volume after installation of penetration seal. Low strength and density of cured mortar allows for very easy & even dust free retrofitting of cables.

### KBS SEALBAGS

Expanding pillows for through penetration fire stops, particularly suited when there is a frequent requirement for retrofitting or changing cables. 3 stage reaction in event of fire. Totally water and weather resistant, even after constant immersion. No extra sealing material is required when using KBS Sealbags.

Cat No.	Fire Resistance
TNCC35KG	KBS FIRE PROTECTION CABLE COATING, 35KG SPRAY PACK
TNCC7KG	KBS FIRE PROTECTION CABLE COATING, 7KG BRUSH PACK





## FIRETHERM INTUMASTIC HP

A heat-reactive, intumescent acrylic fire barrier mastic for internal use around services. FTMASTICHP is an aqueous acrylic fire barrier mastic for internal use, containing inert fillers and graphite. Maximum diameter 90 mm combustible pipe seals or 60 mm annular space around cables, etc.

### FEATURES

- Fully tested to four hours fire protection
- Low smoke and non-hazardous
- Tested within single skin partitions
- For use in both walls and floor
- Tested at Exove BM Trada to BS EN 1366 Pt 3. 240 minutes fire integrity and insulation

### APPLICATIONS

An intumescent pressure exerting mastic used to fire seal combustible pipework up to 90 mm diameter and for sealing around cable trays, cables and within cast in plastic or steel conduits or around Insulation whilst providing up to two hours fire protection.

### INSTALLATION

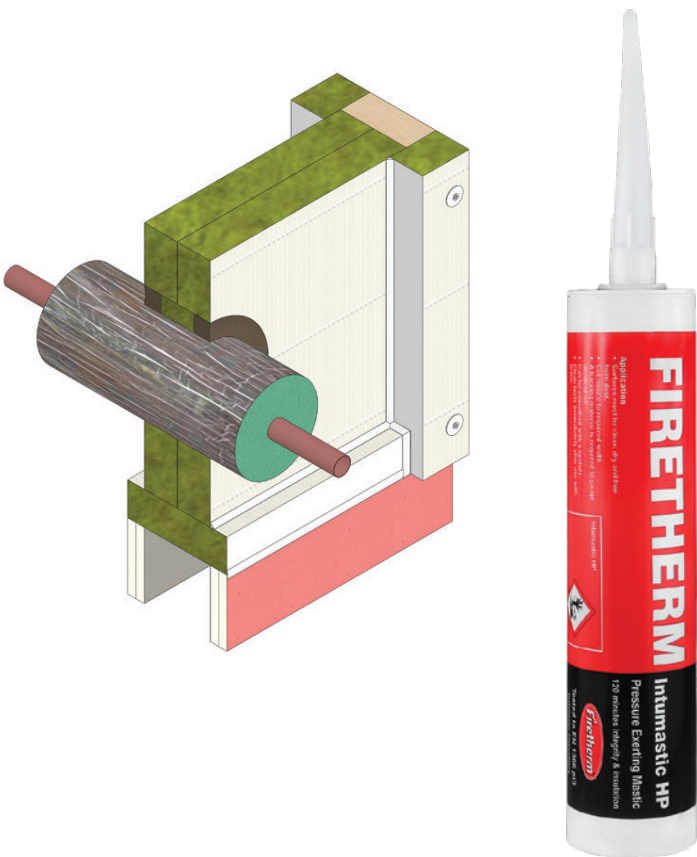
Install Intumastic HP in full accordance to installation details provided by Firetherm.

Product will expand 52 times by volume. Reaction commences at 130°C.

### DIMENSIONS & COLOUR

- Tube size: 310ml
- Colour: Grey

\*Tack free time 60 to 120 minutes depending on temperature/humidity.



Cat No.	Fire Resistance	Colour	Curing Time	Kit Contents
FTMASTICHP	240 MINUTES FIRE INTEGRITY & INSULATION	GREY	60-120 MINUTES DEPENDING ON TEMPERATURE/HUMIDITY	310ML TUBE



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347	MD116 Premium Non-Contact Voltage Detector
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354	A1143 Euro Z290A Loop Impedance Tester
355	MI3100S EurotestEASI Multifunction Installation Tester
356	MI3155 Eurotest XD Multifunction Installation Tester
357	<b>PORTABLE APPLIANCE TESTERS</b>
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359	MI3202 GigaOhm 5kV Insulation Tester
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## CLAMP METERS

### MD9272 LEAKAGE CLAMP TRMS METER WITH POWER FUNCTIONS

#### KEY FEATURES

- Jaw size 28 mm
- Shielded Jaw for noisy environments
- Intelligent loss analysis detect loss & allow determining possible reasons for current loss.
- Measures current or voltage harmonic components & percentage value of a harmonic up to the 19th
- Dual display allows readings to be

displayed along with Total Harmonic Distortion (THD) or Power Factor (PF)

- Peak value of waveform or crest factor can be displayed.
- MAX/MIN/HOLD mode display

#### MEASURING FUNCTIONS

- TRMS AC, DC voltage measurement
- TRMS AC current measurement
- Frequency measurement
- Power parameters measurement



Cat No.	Description
MD9272	LEAKAGE CLAMP TRMS METER WITH POWER FUNCTIONS, CAT IV 300V/CAT III 600V

### MD9226 TRMS CURRENT CLAMP METER

#### KEY FEATURES

- Auto-ranging
- LCD display with backlight, 3-5/6 digit, 6000 count
- Automatic, non-contact detection of electromagnetic fields to locate and trace live conductors
- Data hold function
- MIN/MAX/AVG function
- Peak value
- Relative zero
- 35 mm jaw opening

- CAT IV / 300 V, CAT III / 600 V overvoltage categories

#### MEASURING FUNCTIONS

- DC and TRMS AC voltage up to 600 V
- DC and TRMS AC current measurement up to 600 A
- Resistance measurement
- Acoustic continuity test
- Diode test
- Frequency measurement
- Capacitance measurement



Cat No.	Description
MD9226	METREL AC/DC CLAMP, TRMS UP TO 600A, CAT IV 300V

### MD9250 INDUSTRIAL TRMS AC/DC CLAMP METER

#### KEY FEATURES

- Auto-ranging
- Large 55mm jaw opening
- LCD display with backlight
- True RMS
- High current 2000A DC & AC
- Lo-Z AutoCheck® mode provides low (ramp-up) input impedance
- AC/DC voltage or resistance auto-detection

- Transient protection in case of lightning strike or switching surge up to 12 kV.
- Relative zero mode
- PC Link to download test results
- Fast 5ms Crest-MAX mode to capture in-rush currents.
- Temperature up to 1000 °C and 1832 °F.
- Data hold function
- CAT IV / 1000 V overvoltage protection



Cat No.	Description
MD9250	METREL INDUSTRIAL TRMS AC/DC CLAMP METER, CAT IV 1000V





## MULTIMETERS

### MD9070 INSULATION/CONTINUITY DIGITAL MULTIMETER

#### KEY FEATURES

- TRMS for accurate readings of sinusoidal and non-sinusoidal signals
- PI/DAR feature
- VFD feature makes the instrument capable of measuring the true values in accordance with frequency
- Auto-ranging
- Relative zero for comparing the difference between signals or removing background noise
- MAX/MIN/AVG function
- Data Hold feature freezes the display for later view
- Backlight for working in dark conditions

#### MEASURING FUNCTIONS

- TRMS measurement
- Insulation resistance measurement, up to 1kV
- Earth continuity measurement with 200mA
- Resistance measurement
- Diode test
- Mains supply frequency measurement

#### APPLICATIONS

- Insulation and earth continuity tester for preventive maintenance
- High level industrial testing
- High level electronic fault finding
- Field servicing
- Heavy duty electrical testing



#### Cat No.

#### Description

MD9070 INSULATION/CONTINUITY DIGITAL MULTIMETER CAT IV 600V/CAT III 1000V

### MD9060 DIGITAL MULTIMETER

#### KEY FEATURES

- One of the most accurate multimeters with a large bandwidth and very high resolution
- Equipped with a built-in VFD feature, making it capable of measuring the true values in accordance with frequency
- Large 2-line 500,000 counts LCD display
- Fast data acquisition and transfer (via optical interface)
- TRMS current and voltage measurement
- Conductance measurement
- Wide range of extra features, including data hold, memory, min / max, average, differential, peak, peak / peak with extra fast 1ms response time, auto power

off, frequency filter, reset and relative function

#### MEASURING FUNCTIONS

- TRMS AC, DC voltage measurement
- TRMS AC, DC current measurement
- Capacitance measurement
- Resistance measurement
- Diode test
- Mains supply frequency measurement
- Frequency of digital signals measurement
- Continuity test (acoustic signaling)
- Conductance measurement
- Temperature measurement



#### Cat No.

#### Description

MD9060 DIGITAL MULTIMETER, CAT IV 1000V

# CONTACT VOLTAGE DETECTORS

## 2xxHVD CAPACITIVE HIGH VOLTAGE DETECTOR

### FEATURES

- Meets IEC 61243-1, IEC 60068-2-2, IEC 60068-2-6, IEC 60068-2-32, IEC 60529
- Automatic and manual activation
- Indoor/outdoor use, in all weather
- Rugged, reinforced nylon molded casing
- Shock, drop and vibration resistant
- Low battery detection
- Supplied with a cleaning kit
- Visual indication shows armed unit
- Visual and audible indication when voltage is detected
- Approximate weight: 550g (with battery)

- Compatible with all hot sticks
- Auto off (if no voltage detected)
- Comes in handy storage/carry case
- Built-in proving and self-test circuit
- High bright color-coded LEDs
- Uses standard 9V battery (included)
- Interchangeable contact electrode
- 11kV System voltage
- Customised threshold on demand
- IP65, waterproof design

**NOTE:** The internal proofing circuit does not test the contact electrode and the protection devices.



Cat No.	System Voltage (kV)	Threshold Set Within Range (kV)	Threshold (kV)
213HVD	11	1.65–4.4	3.02
214HVD	33	4.95–13.2	9.07
215HVD	66	11–13	12
216HVD	132	13.2–59.4	13.2
217HVD	11/33	3.3–4.95	4.12
218HVD	44/132	13.2–19.8	13.2
219HVD	66/132	13.2–29.7	13.2
222HVD	11/44	4.4–4.95	4.75
223HVD	33/132	13.2–14.85	13.2
224HVD	44	6.6–17.6	12
225HVD*	USER DEFINED	USER DEFINED	USER'S SPEC.
226HVD	12/36KV	3.6–5.4	5.4

\*User defined parameters may not comply with IEC/EN 61243-1

**Note:** Not all models are available ex stock, please contact us for details.

## NON-CONTACT VOLTAGE DETECTORS

### TNLVD-17 NON-CONTACT ADJUSTABLE VOLT STICK

Designed for non-contact voltage detection. Sensitivity adjustable with a handy thumb wheel. For use on power wiring, lighting, thermostats and other low voltage circuits. A bright LED & audible alarm sound when voltage is present & an LED shows battery level.

#### MEASURING FEATURES

- EN61010-1 CAT IV 1000V
- Voltage detection 50V–1000V AC
- Frequency 50–500Hz
- Indication LED and Tone
- Humidity, <80% R.H, Altitude 2000m Max



Cat No.	Description
TNLVD-17	ADJUSTABLE NON-CONTACT VOLT STICK, CAT IV 1000V

### TNLVD-15 NON-CONTACT VOLT STICK

Designed for non-contact voltage detection, can be used to find a break in a wire. Bright LED and audible alarm sound when voltage is present. Handy flash light function & On/Off switch for long battery life.

- Voltage detection 50V–1000V AC
- Frequency 50–500Hz
- Indication LED and Tone
- Operating Conditions temperature 0°C, Humidity Less than 80% R.H, Altitude 2000m Max



#### MEASURING FEATURES

- EN 61010-1 CAT III 600V, EN 61323-1

Cat No.	Description
TNLVD-15	NON-CONTACT VOLT STICK, CAT III 600V

### MD106 NON-CONTACT VOLTAGE DETECTOR

The MD106 is a basic non-contact voltage tester with optical and acoustical indicators. It can detect live-voltage wires in splices, cable plugs, cable drums, sockets, switches and junction boxes. In contrast to inductive measurements, no flow of current is required.

#### MEASURING FEATURES

- Optical and acoustical indication
- 90 V ... 1000 V AC measurement range
- Optical and acoustical indication
- CAT IV / 1000 V overvoltage protection



Cat No.	Description
MD106	METREL NON CONTACT VOLTAGE DETECTOR

### MD116 PREMIUM NON-CONTACT VOLTAGE DETECTOR

The MD116 is a non-contact voltage tester with optical, acoustical and vibrating indicators. It can detect live-voltage wires in splices, cable plugs, cable drums, sockets, switches and junction boxes. Automatic self-test after power up. Can switch between low and high sensitivity (12 / 90 V AC) and has an integrated LED flashlight for working in dark conditions.

In contrast to inductive measurements, no flow of current is required.

#### MEASURING FEATURES

- High performance LED flashlight
- Optical, acoustical & vibrating alert
- 12 V ... 1000 V AC measurement range
- CAT IV / 1000 V overvoltage protection



Cat No.	Description
MD116	METREL NON CONTACT VOLTAGE DETECTOR

## TN288SVD PERSONAL SAFETY VOLTAGE DETECTOR

The TN288SVD consists of an internal pickup AC sensor plate, a test (oscillator) and diagnostic circuit, an adjustable threshold comparator, a sound annunciator (buzzer), a visual indicator (ultra-bright LED) and a 9V battery, all enclosed in a robust "beeper" style case.

The enclosure features a built-in clip enabling the unit to be attached to the user's outer garments or belt.

- Dimensions: 114(L) × 67(W) × 27(D)mm
- Weight: Approx. 152g (battery included)
- Power supply: 9V(6F22) × 1

### FEATURES

- AC Voltage detection: 240V ~ 50kV
- Weatherproof
- Easy-to-wear on body or belt
- Ultra-bright LED indication
- High pitch sound indication
- Self-test & diagnostic circuitry
- Friendly priority alert reporting
- High impact type casing
- Meets EN 61326-1



Cat No.	Description
TN288SVD	PERSONAL SAFETY VOLTAGE DETECTOR

## TN277NZHP NON-CONTACT VOLTAGE DETECTOR

The TN277NZHP is ideal for checking the presence of AC high voltages and AC low voltages in cables, wall outlets, fuses etc. It is suitable for industrial, utility and mine safety applications.

### KEY FEATURES

- 2 ranges for selection: LOW 50V~1.5kV;

HIGH 1.5kV~132kV

- Power consumption
  - Off : Less than 5uA
  - Low voltage detection mode: < 40mA
  - High voltage detection mode: < 40mA
- Circuit test function
- Optional accessory: VTT range Telescopic hot stick or VMR range standard Hot stick



Cat No.	Description
TN277NZHP	NON-CONTACT 50V~132KV TESTER LED & SOUND INDICATOR

## TN273NZHP NON-CONTACT VOLTAGE DETECTOR

### KEY FEATURES

- 2 ranges for selection: LOW 50V~1.5kV; HIGH 1.5kV~132kV
- Power consumption
  - Off : 0uA
  - Low voltage detection mode: < 20mA
  - High voltage detection mode: < 20mA
- Nice mechanical slide switch for function selection: HIGH / OFF / LOW

- Bright LED and audible alarm sound when voltage is present
- Lightweight, robust and compact
- Efficient and easy to use
- Hot stick necessary when testing high voltages between 1.5kV~132kV
- Optional accessory: VTT range Telescopic hot stick or VMR range standard Hot stick



Cat No.	Description
TN273NZHP	NON-CONTACT 50V~132KV TESTER LED & SOUND INDICATOR



## TIC 300 AMPROBE NON-CONTACT VOLTAGE TESTER

Rugged and reliable for utility, industrial, heavy manufacturing and mine safety applications, the Amprobe TIC 300 PRO with VolTect™ detects voltages in low, medium and high voltage applications with bright visual and loud audible alerts.

### KEY FEATURES

- Utility tool for checking transmission lines, power distribution equipment, down power lines, fuses, and load break connectors
- Lower voltage setting for checking voltage presence in breaker panels, breakers, power outlets and wiring
- Verifies presence of Voltage from 30 VAC to 122,000 VAC (122kV)
- Non-contact AC voltage detection
- Visual and audible voltage indication
- Self-test verifies that tester works properly
- Ergonomic design with a convenient handle
- Drop-proof to 6-FT
- Use with Hot Stick for voltages higher than 1500 VAC
- Comes with instruction manual and handy carry case

Cat No.	Description
TIC-300PRO	AMPROBE HV VOLTAGE DETECTOR 30V-122KV



## TN275NZHP HV NON-CONTACT VOLTAGE DETECTOR

The TN275NZHP is a high voltage proximity detector. It has nine voltage detection settings from 240V AC to 275kV AC. The unit has an internal pickup sensor plate, a sensitivity selector, a visual and an audible annunciator. With the TN275NZHP, physical contact with electrical conductors is not necessary when testing for live lines. This tester works by proximity.

### KEY FEATURES

- Sealed by 'O' Rings
- 9 voltage settings: 240V, 3.3kV, 6.6kV, 11kV, 22kV, 33kV, 66kV, 110kV & 220kV
- High bright LEDs visual indication
- Sound indication
- Easy to prove method
- Self test selection
- Use 3 x 1.5V "C" batteries
- High impact nylon casing
- Non-contact work by proximity
- Universal hotstick fitting
- Light weight, robust and compact
- Detect low voltage on any systems
- Easy access to batteries
- Meets EN61000-3-2, EN61000-3-3, EN61326-1, EN55011, EN61000-4-2, EN61000-4-3, EN61000-4-4, EN61000-4-5, EN61000-4-6, EN61000-4-11

Cat No.	Description
TN275NZHP	HIGH VOLTAGE DETECTOR 240V-220KV
TN275NZHPHANDLE	REPLACEMENT HANDLE FOR TN275NZHP



TN275NZHPHANDLE

TN275NZHP

## PROVING DEVICE FOR VOLTAGE TESTERS

Used to test that your Voltage Detection Device (VDD) is working as it is intended and give the peace of mind that workers safety is taken care of. This proving device uses basic 12 V DC input and converts it to 230 V AC. When you adjust your VDD to detect this voltage it allows you to make a positive test and prove your VDD is actually working. A simple, cost effective and easy to use device.

### KEY FEATURES

- Plugs into your vehicles lighter socket & outputs 230V
- Has USB ports & can be used for charging devices aswell
- Includes lighter socket/ Alligator clip adaptor for attachment direct to battery



Cat No.	Description
TNPD	VDD PROVING DEVICE



## CONTINUITY TESTERS

### M630G MULTIFUNCTION CONTINUITY TESTER

#### KEY FEATURES

- 1m lead between test probes
- Voltage & Continuity tester with Phase, Polarity & Phase Sequence Testing
- Fully automated measuring sequence – auto on when voltage detected, auto off after 30sec of inactivity
- Measured value storage – displayed value can be locked on screen
- Self test and battery monitoring – checks all display elements & signal is generated if battery needs to be replaced

- Rugged housing – impact resistant, dust proof, IP65
- High safety levels – series resistors integrated into both test probes

#### MEASUREMENT FUNCTIONS

- Voltage 24-1000V AC/1500V DC
- Resistance & Continuity
- Phase
- Polarity
- Phase Sequence



Cat No.	Description
M630G	VOLTAGE & CONTINUITY TESTER WITH PHASE, POLARITY & PHASE SEQUENCING, 1M LEAD, CAT IV/600V

### M611E DUSPOL CONTINUITY TESTER

#### KEY FEATURES

- Direct display without activating a push button – high-resistance test
- Load connection via push button – low-resistance test
- Continuity test via buzzer and LED and/or LCD
- Vibration alert in tester handle
- Illumination of measuring point

- Rugged housing with rubberized grip
- Impact resistant, dust-tight and splashing water protected housing (IP65)
- Safety always and everywhere

#### MEASUREMENT FEATURES

- Single pole phase test
- Continuity test
- Voltage indicator
- Polarity test



Cat No.	Description
M611E	DUSPOL®, 2 POLE VOLTAGE TESTER, CAT IV 600V/CAT III 1000V

## EARTH TESTING

### MI3123 SMARTEC EARTH / CLAMP

MI 3123 for testing earthing resistance, main earthing of objects, resistance of individual earthing rods in large systems, lightning systems, determination of soil resistivity, designing of earthing systems.

#### MEASURING FUNCTIONS

- Supports all types of earthing resistance measurements:
  - Standard earth resistance with spikes
  - Selective earth resistance test with one current clamp (optional)
  - Selective (contactless) earth resistance with two current clamps (optional)
  - Specific earth resistance measurement
- Leakage current tests with current clamps (optional)
- Load current tests with current clamps (optional)
- High accuracy, very high immunity against external noise
- Preprogrammed limits
- PASS/FAIL evaluation of result
- Bright GREEN/RED result indicators
- Suited for testing on CAT IV installations
- Magnetic holder (hands-free operation)
- Built in battery charger
- Two level memory structure for saving test results and parameters
- Basic downloading with EuroLink PRO PC SW package, compatible with EuroLink PRO Plus PCSW package
- USB and RS232 ports



Cat No.	Description
MI3123	SMARTEC EARTH / CLAMP

### MI3290 EARTH ANALYSER

#### KEY FEATURES

- Can perform all types of earth measurements with a single instrument
- Wide measurement frequency band (DC, 40 Hz - 5 kHz)
- Earth measurements on pylons with protective earth cable connected
- Measurement on mono & 4-leg towers
- A variety of measuring clamps: from iron clamps to flex clamps with 10m length
- HF-Earth resistance measurement (acc. to IEEE Std 81)
- Sweep mode Z(f) on screen
- 3.4" colour LCD touch screen display
- Floating Mains (90-260 V AC) or battery
- IP65 case closed, IP54 case open
- Multiple self-check methods
- DC resistance measurements (2 & 4 wire)
- Impulse impedance measurement for

simulating lightning strike

#### MEASURING FUNCTIONS

- Earth Resistance 2,3,4 -wire
- Selective Earth Resist. (1 x clamp)
- Earth Resistance (2 x iron clamps)
- Specific Earth Resist. (Wenner and Schlumberger method)
- Earth Potential
- HF-Earth Resistance (25 kHz, acc. to IEEE\_Std 81)
- Earth Resistance of mono pylons with 10m flex clamp, multi leg pylons with up to four 5m flex clamps
- Current measurement (Iron, flex clamps)
- Low Ohm measurement 200 mA (EN 51667-4)
- Impulse Earth measurement 10/350  $\mu$ s
- PC SW for measurement pre & post processing
- Table/graphical view, storing & printing



Cat No.	Description
MI3290	MI3290 EARTH ANALYSER

## MARTL78 50M GREEN R2 CONTINUITY WIRE

This handy carry case reel contains a high quality continuity cable for earth testing. The cable can be easily retracted by winding it up much like a hose reel.

### KEY FEATURES

- 50m Green continuity cable
- Handy Reel
- Retractable tidy cable
- Easy to use
- Quick connectors

Cat No.	Description
MARTL78	50MTR GREEN R2 CONTINUITY WIRE ON A REEL



## IET15M INDEPENDENT EARTH TESTER REEL & SPIKE

Designed to attach to any voltage tester this reel and spike boasts 15m of lead and a sturdy spike to easily pierce even the hardest ground.

Simple to use, the Independent Earth Tester Reel and Spike has a connection point on the end of the lead to simply poke the tester probe into. The beauty of this set up is if your tester or lead fail you

can easily replace them without having to replace the entire unit.

### KEY FEATURES

- 15m lead
- Sturdy spike
- Connector on lead for voltage tester probe
- Tester sold separately

Cat No.	Description
IET15M	15M LEAD, REEL & SPIKE FOR INDEPENDENT EARTH TESTING



## S-2026 EARTH LEAD TEST SET

### KEY FEATURES

- 3 Wire Earth Test Set with 20m leads
- Comes in handy soft carry bag
- For use with all Metrel Earth Testers

Cat No.	Description
S-2026	EARTH TEST LEAD SET, 20M LEADS





## S-2027 EARTH LEAD TEST SET

### KEY FEATURES

- 3 Wire Earth Test Set with 50m leads
- Comes in handy soft carry bag
- For use with all Metrel Earth Testers

Cat No.	Description
S-2027	EARTH TEST LEAD SET, 50M LEADS



## MULTIFUNCTION TESTERS

### MI3122 SMARTEC Z LINE-LOOP/RCD

For verification, maintenance & periodic testing of electrical installations; evaluation of protective measures in LV-installations, troubleshooting on live installations.

### MEASURING FUNCTIONS

- Loop impedance / prospective fault current
- Line impedance / prospective short-circuit current
- Built-in fuse characteristics for quick evaluation of measuring results
- RCD tests (trip out time, contact voltage, ramp test, Autotest)
- Testing on 1- and 3-phase systems
- Phase sequence test
- Metal test button detects touch voltage
- High accuracy non tripping loop test for RCD protected circuits
- Pre-programmed limits
- PASS/FAIL evaluation of result
- Bright GREEN/RED indicators provides visual evaluation of results
- Suited for testing on CAT IV installations
- Magnetic holder (hands-free operation)
- Built-in battery charger
- Two level memory structure for saving of test results and parameters
- Basic downloading with EuroLink PRO PC SW package, compatible with EuroLink PRO Plus PCSW package
- USB and RS232 ports
- Robust and ergonomic design

Cat No.	Description
MI3122	SMARTEC Z LINE-LOOP / RCD





## MZC-20E SHORT CIRCUIT LOOP IMPEDANCE METER, IP67

Designed for fitters and measurement technicians performing services in residential buildings, office blocks, manufacturing plants and any facilities possessing a low voltage electrical system.

### MEASURING FUNCTIONS

- Short circuit resistance
- Short circuit current
- Short circuit loop Impedance
- Voltage Measurement

### FEATURES

- power supply LR6 alkaline batteries or NiMH rechargeable AA batteries (4 pcs.)
- dimensions 220x98x58 mm
- instrument weight incl. batteries 509g
- storage temperature -20...+70°C,

- working temperature -10...+50°C
- humidity 20...80%
- reference temperature  $+23 \pm 2$  °C
- reference humidity 40...60%
- altitude < 2000m
- Auto-OFF time max. 900 sec.
- number of Z measurement (for rechargeable batteries) >5000 (2 measurement/minute)
- display LCD segment
- quality standard developed, designed and manufactured acc. to ISO 9001
- the instrument is compliant with the requirements of IEC 61557
- the instrument complies with PN-EN 61326-1:2006 and EN 61326-2-2:2006



Cat No.	Description
MZC-20E	SONEL SHORT CIRCUIT LOOP IMPEDANCE METER, IP67

## A1143 EURO Z290A LOOP IMPEDANCE TESTER

Professional portable high current impedance tester. It performs high precision line and high precision fault loop impedance measurements in environments up to CAT IV / 310 V.

### KEY FEATURES

- Independence: instrument is designed to work independently or in conjunction with: MI 2086 Eurotest 61557, MI 3101 EurotestAT, MI 3105 EurotestXA and MI 3321 MultiServicerXA
- Range widening: adapts the instruments to read from 0.1 mΩ up to 19.99 Ω
- Multi-system testing: works on both

- single phase and 3-phase systems (110 V to 440 V)
- IPSC and IPFC calculation: IPSC and IPFC readings calculated up to 400 kA
- Comfortable carrying: all the accessories are put in the strong, rugged, durable case of the instrument
- LCD: Built-in LCD for standalone measurements

### MEASURING FUNCTIONS

- High precision line impedance
- High precision fault loop impedance
- Contact voltage



Cat No.	Description
A1143	EURO Z290A LOOP IMPEDANCE TESTER





## MI3100S EUROTESTEASI MULTIFUNCTION INSTALLATION TESTER

### KEY FEATURES

- Built-in help screens for referencing onsite
- Built-in fuse tables for automatic evaluation of the line/loop impedance result
- Monitoring of all 3 voltages in real-time
- Automatic polarity reversal on continuity test
- Loop impedance test without tripping RCD
- Built-in charger and rechargeable batteries as standard accessory
- Automated RCD testing procedure

### MEASURING FUNCTIONS

- Insulation resistance with DC voltage from 50 V to 1000 V
- Continuity of PE conductors with 200 mA test current with polarity change
- Continuity of PE conductors with 7 mA test current without RCD tripping
- Line impedance
- Loop impedance
- Loop impedance with Trip Lock RCD
- TRMS voltage and frequency
- Phase sequence
- RCD testing (general & selective, AC, A, F)
- Earth resistance (3-wire method)



Cat No.	Description
MI3100S	EUROTESTEASI MULTIFUNCTION TESTER
MI3100SE	EUROTESTEASI MULTIFUNCTION TESTER WITH MEMORY & PC SOFTWARE
MI3102BT	EUROTESTXE MULTIFUNCTION TESTER WITH MEMORY, PC SOFTWARE & BLUETOOTH

## MI3155 EUROTTEST XD MULTIFUNCTION INSTALLATION TESTER

### MEASURING FUNCTIONS

- 4-wire Live Transformer Impedance
- 2 & 3-wire line impedance (L-L, L-N) ;
- 1 / 3phase TRMS voltage and frequency;
- Line, loop and RCD at 16 ... 400 Hz;
- Phase sequence;
- Power & THD (up to the 12th harmonic)
- RCD testing
- Earth resistance (3-wire & 2-clamps)
- First fault leakage current (ISFL);
- Testing of Insulation Monitoring Devices
- Machine mode support
- Hi-precision Short Circuit Current evaluation with Calculated Hot factor;
- 3-wire test of PE (RPE function)
- Autotest insulation function between L-N, N-PE and L-PE (R ISO ALL function);
- 4 wire continuity test;
- Insulation resistance with DC voltage 50 V to 2500 V and PI, DAR calculation;
- Varistor test;
- Continuity of PE conductors with 200 mA DC test current with polarity change;
- Continuity of PE conductors with 7 mA test current without RCD tripping;
- 2 & 3 wire loop impedance (L-PE) with Trip Lock RCD function;
- Touch voltage / Contact voltage with external P/S probe.
- Optional Extras;
  - Illumination
  - High resolution Loop impedance (mΩ)
  - EVSE (Electrical Vehicle Supply Equipment) support
  - Determining location of cables
  - QR and/or barcode scanner support
  - Specific earth resistance with Ro-adaptor
  - TRMS leakage load currents



MI3155

### KEY FEATURES

- Programmable AUTO SEQUENCES\*
- Predefined profile dependent AUTO SEQUENCES.
- Predefined Automatic tests: Auto TT (U, Zln, Zs, Uc); Auto TN/ RCD (U, Zln, Zs, Rpe); Auto TN (U, Zln, Zlpe, Rpe); Auto IT (U, Zln, Isc, Isfl, IMD).
- Functional inspections
- Visual inspections
- Custom inspections (visual and functional)
- EVSE AUTO SEQUENCES & function inspections
- Machine functional & visual inspections
- Built-in help screens & fuse tables
- Auto polarity reversal on continuity test
- Automated RCD & Impedance testing
- Measurement filtering
- Built-in charger & rechargeable batteries
- BT communication with PC & Android devices via built-in BT
- PC SW Metrel ES Manager (structure & report creation, data up/download)\*
- Optional aMESM Android app (structure & report creation, data up/download)\*\*



MI3152ST



MI3152EU

\* Available with MESM PRO licence

\*\* Available with EU Set

Cat No.	Description
MI3155ST	EUROTTEST XD MULTIFUNCTION INSTALLATION TESTER STANDARD SET WITH BASIC SOFTWARE
MI3155EU	EUROTTEST XD MULTIFUNCTION INSTALLATION TESTER, EURO SET WITH CURRENT CLAMPS & PRO SOFTWARE

## PORTABLE APPLIANCE TESTERS

### TRANSDelta KITS

With both battery and mains power, this multifunctional instrument is intended to perform measurements for testing the electrical safety of portable electrical equipment. This model has the added bonus of being Bluetooth enabled.

#### KEY FEATURES

- Graphic LCD with resolution of 128 x 64 dots, with backlight
- Support for optional aPAT android application
- Bluetooth communication via aPAT android application with printer, barcode scanner and PC
- Easy read graphic display
- Large green and red lights for additional PASS / FAIL indication
- Large data flash memory for storing test results & parameters (approx. 1500)
- Built-in real time clock
- QR coding for quick test code selection & device identification under test
- Programmable PASS/FAIL limits
- Fully compatible with Metrel PATLink PRO PC software package included
- Optional PC SW PATLink PRO Plus software
- Portable and lightweight design
- Can operate from mains power or rechargeable batteries

#### MEASURING FUNCTIONS

- Functional and visual inspection
- Earth bond resistance
- Insulation resistance; Insulation resistance of isolated accessible conductive parts
- Substitute leakage current; Substitute leakage current of isolated accessible conductive parts
- Differential leakage current test
- Touch leakage test
- PRCD test
- Power test
- IEC cord polarity test
- TRMS voltage meter



TRANSDelta4-ZBATT



TRANSDelta4-ZTAB



TRANSDelta4-Z

Cat No.	Description
MI3309BT	MI3309BT DELTA GT TESTER ONLY
TRANSDelta4-Z	MI3309BT DELTA GT TESTER WITH PRINTER AND PC SOFTWARE
TRANSDelta4-ZTAB	MI3309BT DELTA GT WITH ZEBRA PRINTER, PC SOFTWARE, BLUETOOTH DONGLE & ANDROID TABLET
TRANSDelta4-ZBATT	MI3309BT DELTA GT WITH ZEBRA PRINTER, ZEBRA BATTERY PACK WITH CHARGER, PC SOFTWARE, BLUETOOTH DONGLE & ANDROID TABLET IN HARD CASE





## POWER QUALITY ANALYSERS

### MI2892 POWER MASTER POWER QUALITY ANALYSER

#### KEY FEATURES

- 4 voltage & 4 current channels
- Automatic Smart Clamp detection and Smart Clamp range selection
- Compliance with power quality standard IEC 61000-4-30 Class A
- Complete power quality analysis according to EN 50160
- 8GB memory supplied (can add SD card)
- Colour-coded input terminals terminal labels to suit your application region
- Intuitive main menu and large icons makes it very easy to navigate & configure
- Powerful PC SW PowerView3 enables downloading, view, analysis of recorded data and professional report creation
- Flexible clamps included in standard set

#### MEASURING FUNCTIONS

- Voltage: TRMS, peak, crest factor

- Current: TRMS, peak, crest factor
- Power (active, reactive, apparent)
- Measurements fully IEEE 1459 compliant (active, nonactive, fundamental, harmonic, load unbalance)
- Unbalance, flicker measurement
- **Harmonic & interharmonic analysis up to 50th harmonics, THD measurement**
- Energy (active, reactive, generated, consumed)
- Capture/recording of power supply events
- Inrush currents monitoring & recording
- **Waveform/inrush displaying, snapshot & recording**
- **Transients recording**
- Power quality analysis as per EN 50160
- Recording up to 7 adjustable alarms
- Temperature measurement
- Power factor  $\cos \phi$



Cat No.	Description
MI2892	3 PHASE POWER QUALITY ANALYSER

### MI2885 POWER MASTER POWER QUALITY ANALYSER

#### KEY FEATURES

- 4-voltage & 4-current channels
- Automatic Smart Clamp detection and Smart Clamp range selection
- Compliance with power quality standard IEC 61000-4-30 Class S
- Complete power quality analysis according to EN 50160
- Supplied with 8GB memory (SD card up to 32GB)
- Colour-coded input terminals & terminal labels to suit your application region
- Intuitive main menu & large icons makes it very easy to navigate and configure
- Powerful PC SW PowerView3 enables downloading, view, analysis of recorded data and professional report creation
- Flexible clamps included in the Euro set
- Remote communication via Ethernet (GPS clock synchronization - optional)

#### MEASURING FUNCTIONS

- TRMS Voltage & Current, peak, crest factor (4-channel)
- Power (active, reactive, apparent)
- Measurements fully compliant with IEEE 1459 (active, non active, fundamental, harmonic, load unbalance)
- Unbalance, flicker measurement
- **Harmonic & interharmonic analysis up to 50th harmonics, THD measurement**
- Energy (active, reactive, generated, consumed)
- Capture/recording of power supply events
- Inrush currents monitoring & recording
- **Waveform/inrush displaying, snapshot & recording**
- Power quality analysis as per EN 50160
- Recording up to 7 adjustable alarms
- Temperature measurement
- Power factor  $\cos \phi$



Cat No.	Description
MI2885	MASTER Q4 POWER QUALITY ANALYSER

## HV INSULATION TESTERS

### MI3202 GIGAOHM 5KV INSULATION TESTER

MI3202 offers a quick and accurate reading of insulation resistance. The large segment LCD screen with backlight offers easy reading of results. The analogue/digital display with analogue graph has a range of up to 1 TΩ for insulation resistance and 600 V for voltage measurements.

#### MEASURING FUNCTIONS

- Quick setting - Quick & Easy test voltage selection

- Faster testing - 5 mA current source for quick charging of capacitive loads
- Safe - High CAT IV, 600 V voltage protection
- Easy to read - Large, bright LCD display with backlight
- Effective testing - High quality instrument, shielded test leads & accessories (included in the standard set)



Cat No.	Description
MI3202	GIGAOHM 5KV INSULATION TESTER, CAT IV 600V

### MIC-10 & MIC-30 SONEL INSULATION RESISTANCE TESTERS, IP67

#### KEY FEATURES

- Insulation resistance measurement:  
MIC-10 – up to 10 GΩ  
MIC-30 – up to 100 GΩ
- Test voltage selection: 50, 100, 250, 500, and 1000 V; MIC-30 enables 10 V adjustment increase
- Measurements using the 2 and 3 wire method
- The MIC-30 enables tests using an adapter put in a power socket (automatic measurement of all measurement combinations) and identification of leakage current
- Automatic discharge of the capacity of a tested object upon completion of the insulation resistance tests
- Direct measurement or one or two absorption coefficients (MIC-30)
- Storage of pre-set values of voltage and time T1, T2, and T3 (MIC-30)
- Measurement of direct and alternating

current voltage

- Measurement of capacity of the tested object
- Acoustic determination of five-second intervals during insulation resistance tests
- Continuity of protective connections & equipotential bonding with a  $\geq 200$  mA (in compliance with the PN-EN 61557-4 standard)
- Measurement of resistance with low current with acoustic & optical signalling
- Resistance to interferences
- IP67 protection rating of the housing according to the PN-EN 60529
- CAT IV / 600V according to PN-EN 61010-1 standard (III 1000 V)
- Operating temperatures -10°C to +50°C
- Extensive memory (10 banks, 99 cells each)
- Automatic switch-off when not in use



MIC-10



MIC-30

Cat No.	Description
MIC-10	INSULATION RESISTANCE METER, IP67, CAT IV 600V/CAT III 1000V
MIC-30	INSULATION RESISTANCE METER, IP67, WITH LEAKAGE CURRENT, CAT IV 600V/CAT III 1000V



## MI3210 TERAOHM XA 10KV INSULATION TESTER

### KEY FEATURES

- Insulation resistance up to 20 TΩ
- Adjustable test voltage (50 V...10 kV) 50 V and 100 V step
- Programmable timer
- Capacitance measurement
- Charging rate for capacitive load < 3 s / μF at 10 kV
- Automatic discharge of test object after completion of measurement
- Guard terminal
- High voltage breakdown detection
- Custom defined tests
- Auto adjustment function
- Results in numerical & graphical form
- PC software HVLink PRO – downloading & analysing of results & report printing

- Isolated RS232 & USB communication ports, BT interface
- High EM interferences protection: Input AC current noise rejection (1 mA∞600 V) and additional averaging of the result (5, 10, 30, 60)
- Mains & rechargeable battery power supply

### MEASURING FUNCTIONS

- Insulation Measurement
- Diagnostic Test (PI, DAR, DD)
- Step Voltage Test
- Withstanding Voltage Test (DC) up to 10kV
- Voltage & frequency measurement up to 550 V TRMS



Cat No.	Description
MI3210	TERAOHM XA 10KV INSULATION TESTER, CAT IV 600V

## MICROOHM TESTERS

### MI3252 MICROOHM 100A

MI 3252 MicroOhm 100A is a portable low resistance ohmmeter used to measure low contact resistances of breakers and switches, busbars using test current from 100 mA to 100 A.

### FEATURES

- Safe: sustain external voltages in case of wrong connection, protection level (CAT IV, 50 V); automatically detects continuity in current circuit
- Single and continuous measuring mode
- Portable: rugged carrying case with a handle and lightweight design
- High protection degree: IP64
- Accurate: 1 nΩ best resolution with 0.25% accuracy

- Custom limits: the limits can be set for PASS or FAIL evaluation of test result
- Measurements with 100 A for up to 10 mins on internal battery only
- Memory: built-in memory enables storage of up to 1000 test results
- Downloadable: downloads test results via RS232 or USB cable directly with software

### MEASURING FUNCTIONS

- Resistance measurement: wide measuring range (1 nΩ ... 20 Ω) adjustable test current (100 mA ... 100 A)
- Voltage drop measurement
- Bar graph: on screen resistance bar graph



Cat No.	Description
MI3252	MICRO OHM 100A TESTER
MI3250	MICRO OHM 10A TESTER
MI3242	MICRO OHM 2A TESTER



## PHASE TESTERS

### TN895PR NON CONTACT PHASE ROTATION METER

Safety is always a priority in electrical work environments. With its non-contact clips, the TN895PR has been designed to ensure greater safety for its users. Eliminating any electrical or short circuit accidents caused by accidental contact between two metal points.

#### KEY FEATURES

- Non-contact detector clips
- Dual functions: Open phase and phase sequence detection
- Designed for checking a wider range of 3-phase power source from 75V to 1000V AC
- LED display lights with buzzer indicator
- Brightness button feature for better visibility
- Magnetic mounting feature
- CATIV 600V



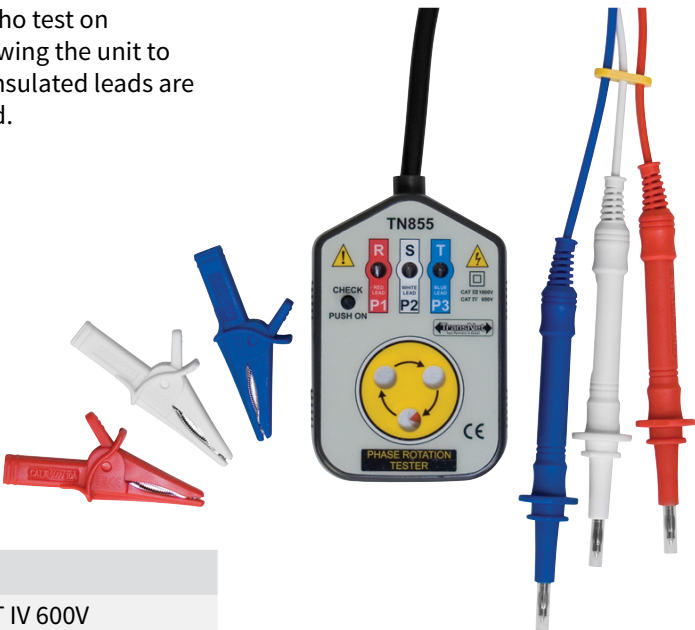
Cat No.	Description
TN895PR	NON-CONTACT PHASE ROTATION METER

### TN855 PHASE ROTATION METER

Comes with fused leads to offer overload protection to line workers who test on overhead LV lines. The leads are supplied at lengths conducive to allowing the unit to be connected across overhead LV lines to make the test. The double insulated leads are connected to shrouded probe with removable crocodile clips included.

#### KEY FEATURES

- CAT IV 600V
- Lightweight
- Push button activation
- Heavy duty fused leads with HRC fuses
- Input Voltage 200-600V AC
- Frequency 50-60Hz
- 3x5amp HRC fuses



Cat No.	Description
TN855	PHASE ROTATION METER – FUSED LEADS, CAT IV 600V

# CABLE LOCATORS

## MARFD650 DIGITAL FUSE FINDER KIT

### KEY FEATURES

- Identifies poorly labelled fuses and breakers without the need to power down each circuit to identify the one you need to work on
- Enhanced capabilities so it can also be used on light fittings or other points in a circuit in addition to 13A sockets
- The receiver has both fast manual mode and auto threshold mode set by a single sweep over the board
- Receiver will work with multiple transmitters and can also be used as a non-contact voltage indicator
- Kit includes a twin lead set with crocodile clips (TL83), IEC mains lead (EX332) and a soft carry case
- Receiver = CAT IV/600V, Transmitter = CAT III/300V
- Temperature Range: -10°C to 40°C at max 60% RH
- Earth Leakage: Nil
- Mains Supply: 230V, 30 - 70Hz
- Power Consumption: 1W approx.
- Overvoltage: CAT III 300V
- Protection Class: IP20
- Dimensions 65 x 65 x 46mm, Weight 60g



Cat No.	Description
MARFD650	DIGITAL FUSE FINDER KIT





## MONITORING SYSTEMS

### GRID20/20 - OPTANODE DISTRIBUTION TRANSFORMER MONITORING SYSTEM

# CLEAR VISION INTO YOUR GRID

**PLUG & PLAY INSTALLATION**

**NO NEED FOR**

- Special Tools
- On-site Configuration
- Highly Qualified Personnel
- Transformer De-energizing

Data Analytics   Communications   Intelligent Devices

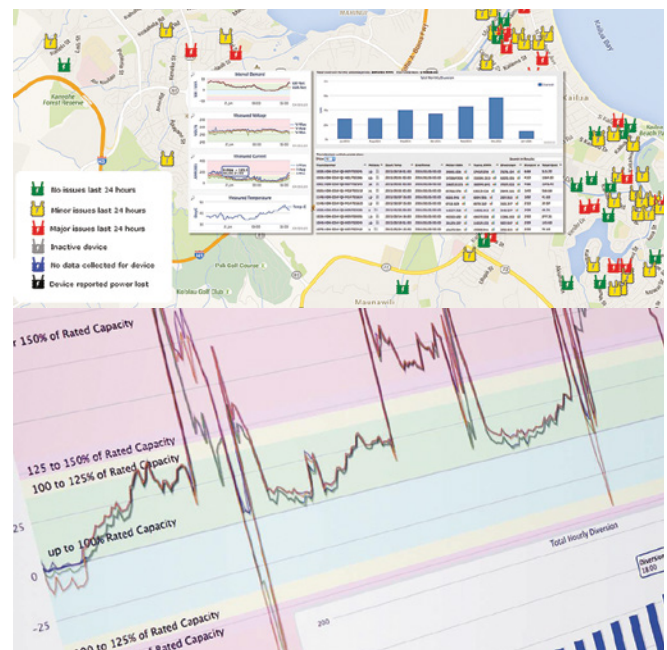
Powerful intra-grid intelligence in the palm of your hand

- Distribution Transformer Health Monitoring
- Quick and easy, plug & play deployment
- Designed for Pole-mount and Pad-mount Transformers
- Reverse energy (Distributed Generation)
- SCADA integration DNP3/Webservices API
- LV Distribution analysis
- Outage Notification (Last-Gasp)
- Energy Balancing and theft detection
- Easiest and most complete solution for asset feedback on LV network

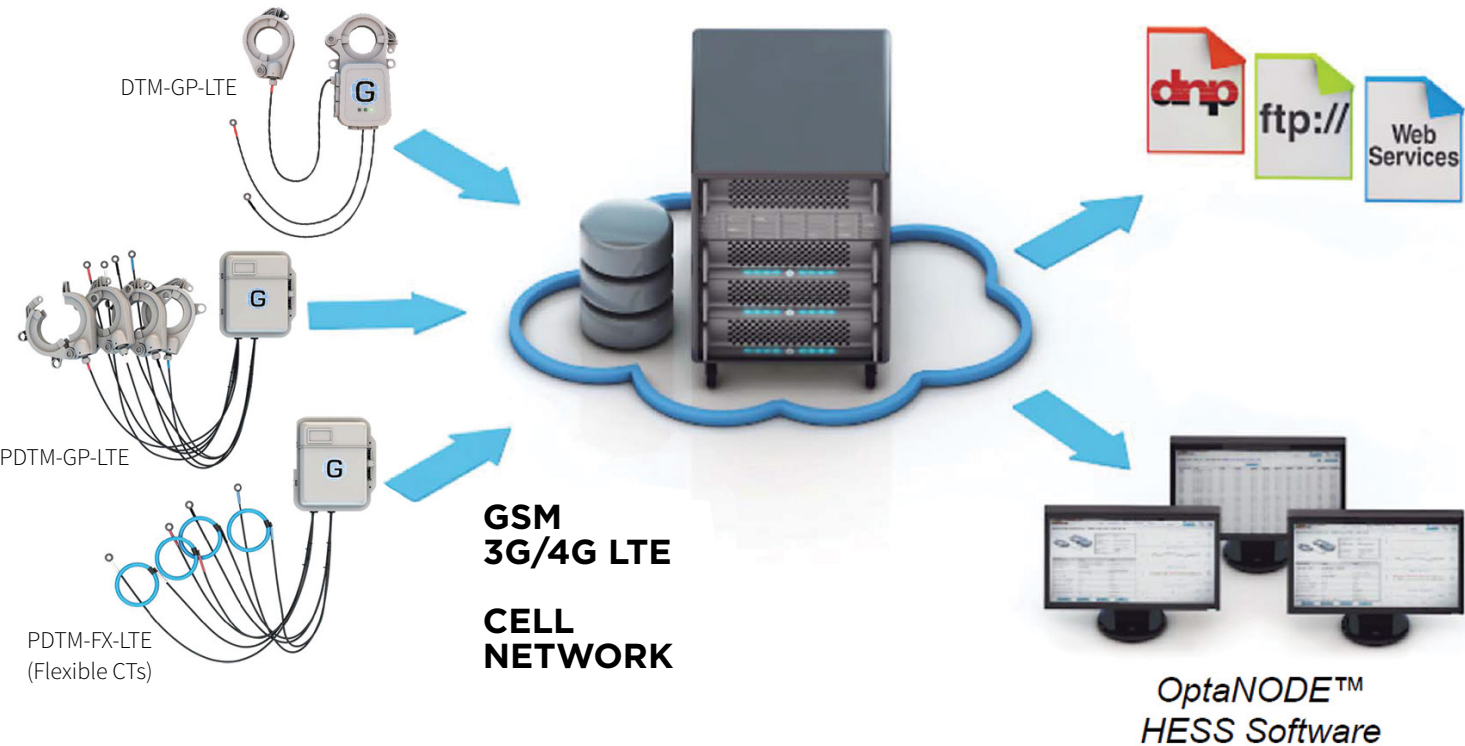
**GRID20/20**<sup>®</sup>  
Optimize Energy Efficiency

Datapoint	(per phase where applicable)
BI-DIRECTIONAL ENERGY (0.5% ANSI CLASS)	[KWHR] ACTIVE ENERGY [KVAHR] APPARENT ENERGY [KVARHR] REACTIVE ENERGY
RMS VOLTAGE	[V] INSTANTANEOUS; MAXIMUM; MINIMUM
RMS CURRENT*	[A] INSTANTANEOUS; MAXIMUM; MINIMUM
LINE CYCLE PERIOD	[SECONDS] 1/HZ
TEMPERATURE	[C] INTERNAL TEMP SENSOR
POLLING INTERVAL	[MINS] 5/15/30/60

\*Standard 1000A max. Optional 'High Current' version 3200A Max



## GRID20/20 - OPTANODE DTM SYSTEM CONT...



### KEY ADVANTAGES

- Self-contained/Maintenance Free unit: Metering, Sensing, and Communications fully integrated.
- High accuracy of monitored transformer parameters within all ranges of operation
- Speed and simplicity of installation. No on-site calibration.
- AMI, SCADA, MDM, 3rd party platforms integration via DNP3, FTP, Web-services and MultiSpeak Interfaces.
- Reduced complexity – all backhaul infrastructure is operated by Grid20/20 meaning no on-site expertise required.
- Web Based, secure graphical user interface available anywhere in the world.
- Suitable for permanent pole-top & pad-mount installations.
- Complete solution designed purely for network LV visibility.
- Outage notification – know when and where an outage has happened instantly (Last-gasp).
- Alert notification for current/voltage/outage notifications (email/sms).

Code	Phases	Voltage (AC)	Max Current
DTM-GP-LTE	1	216-264	1000A
DTM-FX-LTE			1000A
DTM-GP-LTE-HC			3600A
PDTM-GP-LTE	3	100-600	1000A
PDTM-FX-LTE			1000A
PDTM-GP-LTE-HC			3600A
PDTM-TERMTAIL			GRID 20/20 VOLTAGE SENSING LEAD

OptaNode Distribution Transformer Monitor (DTM) enables standard transformers to become 'smart transformers' with simple retrofittable hardware.

OptaNode DTM and PDTM devices grant utilities a clear vision of the LV network and distribution transformer health with a complete monitoring system designed for specifically for utility distribution monitoring.

It's fast and easy to install, compact and robust with accurate patented outdoor rated, UV stable current sensors. Voltage, Current, Demand and Temperature feedback is aggregated and sent wirelessly (4G/3G/LTE) to Grid20/20 servers for real-time analytics and reporting.

The HESS (Head End Server System) hosted by Grid20/20 in a leading US Datacentre provides storage of the collected data plus analytics and reporting designed specifically around the asset health of distribution transformers and LV network. Overloaded and underutilised transformers are detected instantly and current/voltage issues are concisely identified.

Grid20/20 provides bi-directional energy feedback on transformers connected to Distributed Generation (wind/solar) ensuring distribution transformers are still operating within their design constraints. Energy balancing to detect theft of energy, end-of-feeder voltage detection available also.







## IRISS IR WINDOWS

IRISS industrial-grade IR windows facilitate safer, more efficient inspections of energised electrical equipment when compared to traditional crystal windows. IRISS award-winning, IR window

designs feature a durable transparent polymer lens that allows visual, UV, and short/mid/longwave IR spectrum inspections.

### CAP-ENV SERIES INFRARED WINDOWS

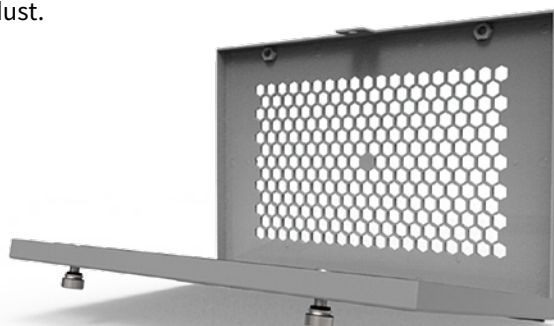
The CAP-ENV features a reinforced environmentally sealed door design while also providing the largest visually clear infrared (IR) transmissive viewing area available on the market today.

The exclusive pharmaceutical-grade reinforced Poly-View System™ polymer allows any thermography camera to monitor completely undisturbed assets inside energised electrical equipment in the visual, UV and shortwave, midwave and longwave IR spectrums.

The larger rectangular viewing area provides an unparalleled field of view when compared to traditional round IR windows. The CAP-ENV offers locking covers for your IR window. These are useful in areas of high traffic and protect the IR viewing panes from impacts, flying debris and dust.

#### FEATURES

- Arc flash rated to IEC 62271-200
- Versatile & durable
- Fixed And Stable Transmission (FAST)
- Poly-View System technology
- Unparalleled field of view
- Most certified windows in the industry



Model	Window Dimensions (cm)	Overall Dimensions (cm)
CAP-ENV-4	9.68 × 9.77	15.23 × 15.24
CAP-ENV-6	9.1 × 15	16 × 21.8
CAP-ENV-12	23.6 × 12.7	30.5 × 20.6
CAP-ENV-24	53 × 15	61 × 21.8

### DELTA T ALERT - 24/7 ONLINE ASSET MONITORING

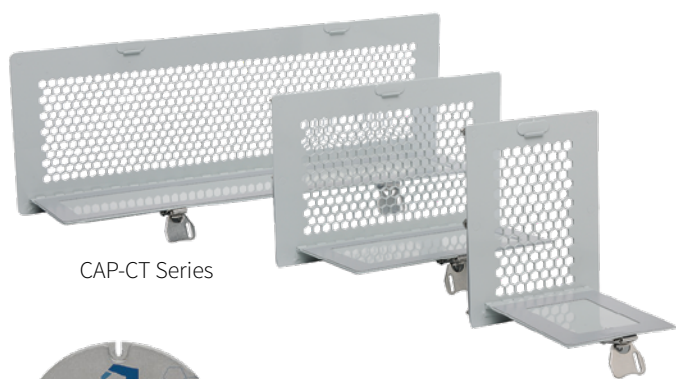
Delta T Alert™ is a wireless, self-contained temperature-monitoring system with sensors that attach to your electrical enclosures. The units monitor the delta between your internal and external enclosure temperatures. The data is wirelessly transmitted for analysis, trending and can even remotely alarm your support teams with the details and location of the temperature alarm.

The Delta T Alert™ system complements your existing electrical maintenance programs and bridges the gap between your

annual scheduled inspections by monitoring, tracking and reporting critical temperatures within your electrical enclosures on a daily basis.



Model	Outdoor Use	RF Range	Humidity	Over The Air Updates	Audible Alarm	LED Indicator	Operating Temperature
DELTA-T	NO	UP TO 250FT	NO	YES	YES	GREEN, RED	-40°C TO +85°C
DELTA-T-H		UP TO 300FT	YES				
DELTA-T-ENV	YES						



CAP-CT Series



VPT Series



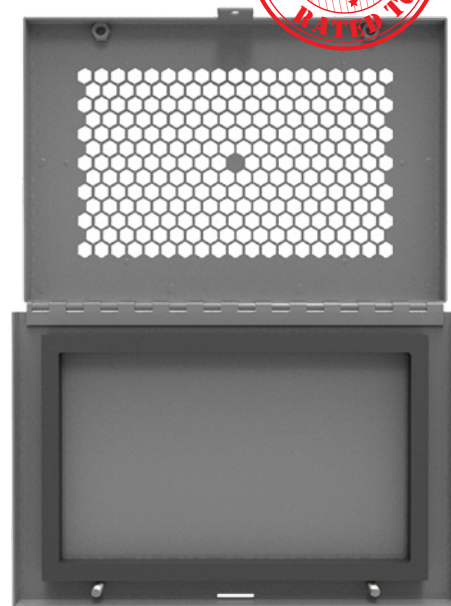
VPFC Series



VP-12-IR Series



VP-12-US Series



CAP-ENV Series



	CAP-CT	VPT	VPFC	VP-12-US	VP-12-IR	CAP-ENV
SHAPE: SQUARE (S), ROUND (R)	S	R	R	R	R	S
IR OPTICS: OPAQUE (O), POLY-VIEW (V), CALCIUM FLUORIDE (F), MAKROLON (M)	V	V	F		O	V
VISUAL OPTICS: POLY-VIEW (V), CALCIUM FLUORIDE (F), MAKROLON (M)	V	V	F	N/A		V
BODY MATERIAL: ALUMINIUM (A), SWITCH-GEAR GRADE MYLON 6 PLASTIC (S), STAINLESS STEEL (E)	A	S	S	S	S	E
COVER MATERIAL: ALUMINIUM (A), SWITCH-GEAR GRADE PLASTIC (S), EASY-GRIP™ STAINLESS STEEL (E)	A	E	A	A	A	E
LOCKABLE COVER	x	x	x	x	x	x
REINFORCING GRILL (COMPLIES WITH IP2X STANDARD)	x	x		x		x
FIXED & STABLE TRANSMISSION	x	x		N/A	x	x
IMPACT RESISTANT	x	x		x	x	x
LONGWAVE IR	x	x	x	x	x	x
MICROWAVE IR	x	x	x	x	x	x
SHORTWAVE IR	x	x	x	x	x	x
ULTRAVIOLET - UV	x	x	x	N/A		x
ALLOWS VISUAL INSPECTION	x	x	x	N/A		x
ALLOWS LASER POINTERS & ILLUMINATION SHINE THROUGH	x	x	x			x
ULTRASOUND OPTION AVAILABLE (O)				x		O
LOW/MEDIUM/HIGH VOLTAGE APPLICATIONS	x	x		x	x	x
ARC FLASH RATED TO IEC-62271-200		x				x

PAGE	CATEGORY
368	<b>JUMPERS</b>
368	LV Jumpers - Custom Made
368	LV Jumper Cable - Clear Sheath
368	LV Jumper Clamps
369	Insulated MV Jumpers
PAGE	<b>TEMPORARY EARTH SETS</b>
369	Temporary LV Earth Sets
370	Temporary 11/33kV Earth Sets
371	Temporary 11/33kV Earth Sets - Snap On Clamp





# JUMPERS

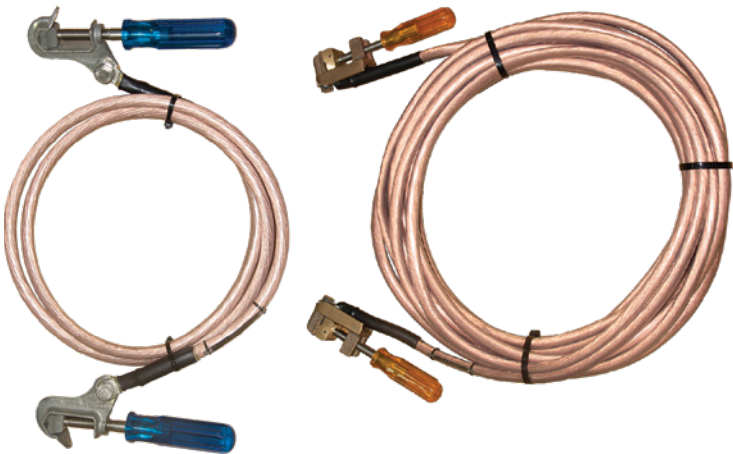
## LV JUMPERS - CUSTOM MADE

WHEN ORDERING PLEASE SPECIFY:

- Conductor Size
- Jumper Lead Length

\*Made to order, choice of clamp, conductor size and length

CONDUCTOR SIZES	35mm <sup>2</sup>
	50mm <sup>2</sup>
	70mm <sup>2</sup>
	95mm <sup>2</sup>
LENGTH	0.5m increments
CLAMP ACCOMMODATES	4-19mm OD (Blue handle)
	0-27mm OD (Yellow handle)



## LV JUMPER CABLE - CLEAR SHEATH

Extra flexible electrolytic copper cable, with 750V insulated protection made of crystal clear PVC, for visual inspection of the copper filaments, suitable for grounding equipment and terminals.

Cat No.	Size (mm <sup>2</sup> )	ISC Cap. (Symmetric KA) 30 Cycles (0.5X)
CTC-35	35	10
CTC-50	50	15
CTC-70	70	20
CTC-95	95	30



## LV JUMPER CLAMPS

Perfect for LV Jumper leads or Truck earths, these clamps are easy to use and robust to offer a long service life.

Cat No.	Description
BPL12-TIN	S/DRIVER CLAMP (BLUE) JAW OPENING 5–19MM OD
SC-P101559-02	S/DRIVER CLAMP (YELLOW) JAW OPENING 0–27MM O.D., STRAIN RELIEF FITS CABLE 25-35MM <sup>2</sup>





## INSULATED MV JUMPERS

Temporary Jumper Sets are used for bypassing work areas where equipment is under repair, the line is being upgraded and for making temporary or other emergency repairs. Pre-assembled for popular distribution system voltages, continuous current ratings for sets range from 200-400 amperes.

Insulation is Ethylene-propylene (EPR) and exceeds requirements of ICEA-NEMA standard S-68-516.

Jumper Clamps feature high impact polyethylene handles with wide handguard flange.

**NOTE:** Adequate PPE must be worn when installing or removing jumper clamps.



FLV211179+3M OF 3641

C601-0271

Cat No.	Description	Length (m)
C601-0271	AB CHANCE 33KV, 200A JUMPERS	3.6
FLV211179+3M OF 3641	15KV TRANSFORMER JUMPER 200A	3

## TEMPORARY EARTH SETS

### TEMPORARY LV EARTH SETS

- Flexible Copper Conductor with a clear sheath for ease of visual inspections
- Screwdriver handle clamps mean no tools are required for installation
- Reusable, these jumpers are for temporary use and can be used over and over again
- Strain relief applied to connection point for longevity of unit
- Designed for low voltage applications only
- Clear centre cluster for visual inspection of connection integrity

- Available with 35mm<sup>2</sup>, 50mm<sup>2</sup> or 70mm<sup>2</sup> conductor

Custom earth sets available, please contact us with your requirements.



Cat No.	Number of Leads with Handles	Length of Leads	Feature
LVE/SET6X2M35MM2LEAD	6	2M	
LVE/SET35MM1.5M10M	5	4 × 1.5M, 1 × 10M	
JUMPSETLV5WAY2MTR	5	2M	COMES IN CARRY BAG
LVE/SET35MM1.5M5M	5	4 × 1.5M, 1 × 5M	
LVE/SET35MM2M	4	2M	
LVE/SET35MM5X1.5/10M	6	5 × 1.5M, 1 × 10M	





TEMPORARY 11/33KV EARTH SETS

Temporary earth sets with attached earth stick for visual confirmation of earth set installation. These earths are a well known and extensively used design here in New Zealand.

The set is made up of the following;

- 3 x 3m leads attached to fully insulated line clamp hotsticks
- 1 x 9m lead from cluster to ground with ground clamp
- 1 x 1m lead from cluster to pole with ground clamp to bond pole metal work
- 1 x heavy duty storage bag
- 1 x 1m earth stake

- 1 x Acrylic cluster cover for easy fast inspection of connections

FEATURES

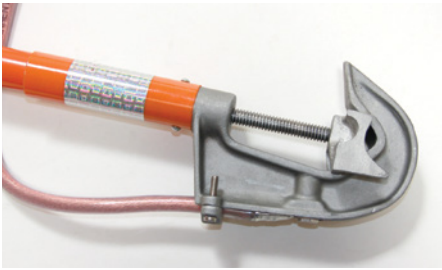
- Reflector at the top of each stick for night time visual check
- Factory test report supplied with every set
- Unique serial number for traceability
- Inspected and tested to IEC 61230 standard

ALSO AVAILABLE

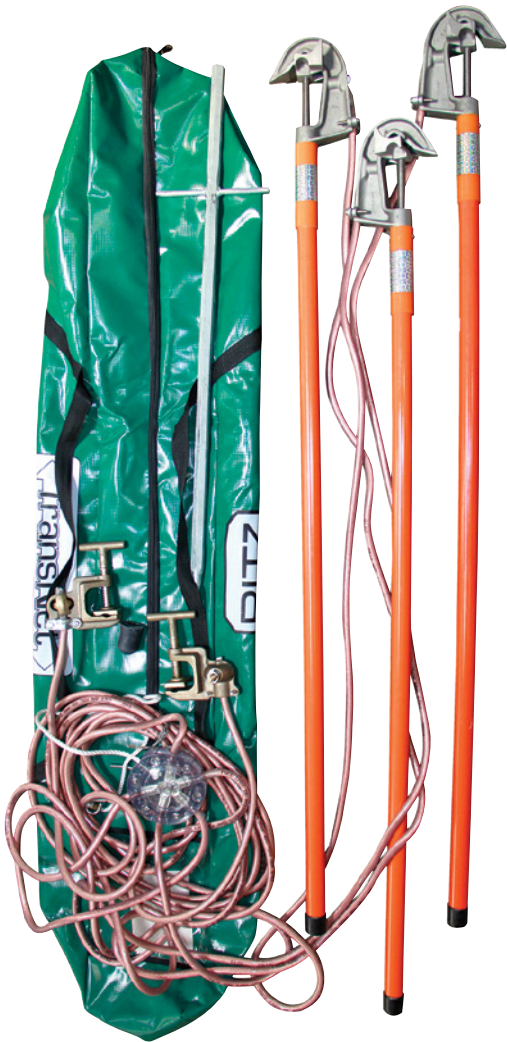
- Longer 2 piece sticks
- 50mm<sup>2</sup> conductor for higher fault current applications



Clear cluster



Reflective tape



Extendable Hotsticks

Cat No.	Description
CAR/ST-NZ-HG14880	RITZ PORTABLE EARTH SET, 35MM <sup>2</sup>
CAR/ST-NZ-HG14880-5	RITZ PORTABLE EARTH SET, 50MM <sup>2</sup>
TN11-33KV/SET	RITZ PORTABLE EARTH SET, 35MM <sup>2</sup> , 2 PIECE STICKS

## TEMPORARY 11/33KV EARTH SETS - SNAP ON CLAMP

Temporary earth sets with "snap on clamps" are available with a separate earth lead or with the earth looped into the set.

These spring loaded clamps make it extremely fast and easy to install the earths on overhead lines, the operator simply sets the preloaded jaw of each clamp and mounts them onto the application plate which is connected to a hotstick. Once the clamps are mounted to the application plate they are lifted above the conductor and pulled back down over it to snap into place.

These clamps are equally easy to remove, simply pull each clamp from the conductor with the clamp removal tool specifically

designed for use with these clamps.

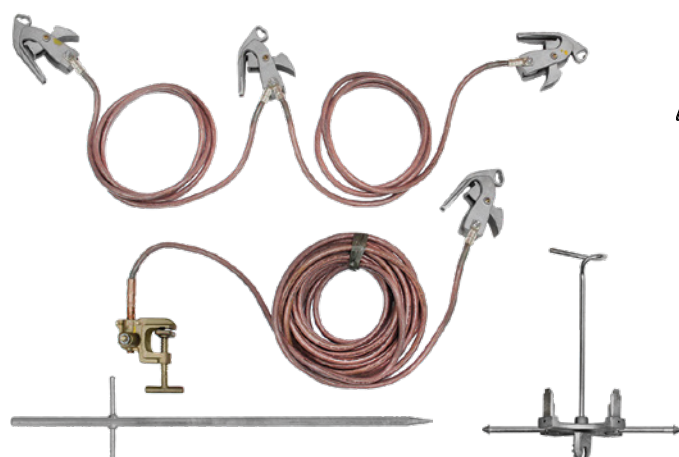
A three phase set with separate earth lead helps to reduce the amount of weight being lifted into the air while the looped shorting and earth set offers the convenience of everything already being connected (this is ideal for urban applications).

### ACCESSORIES

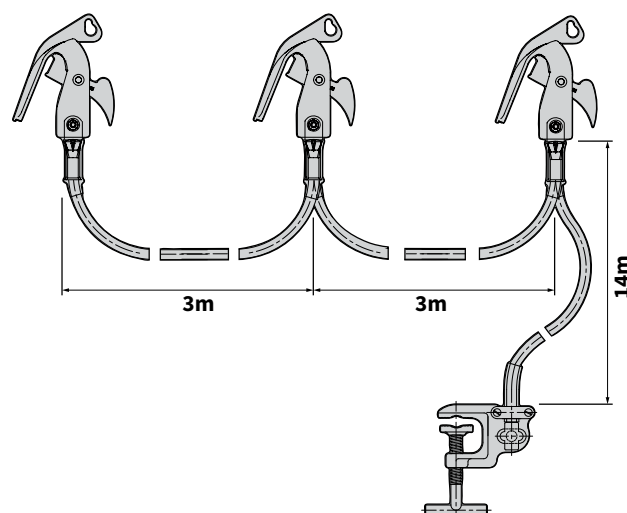
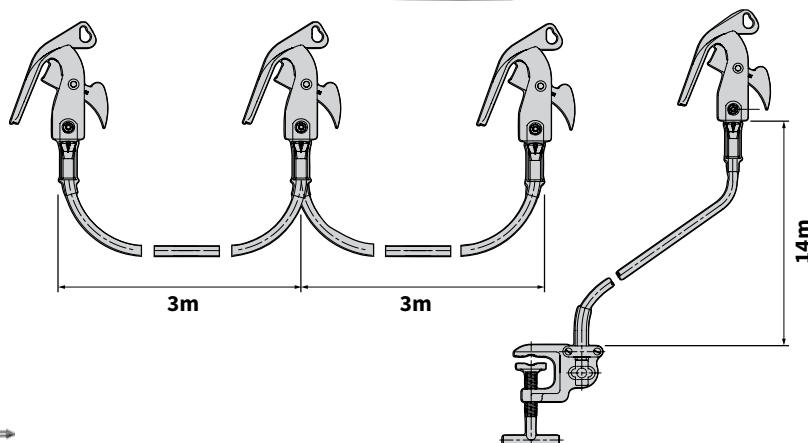
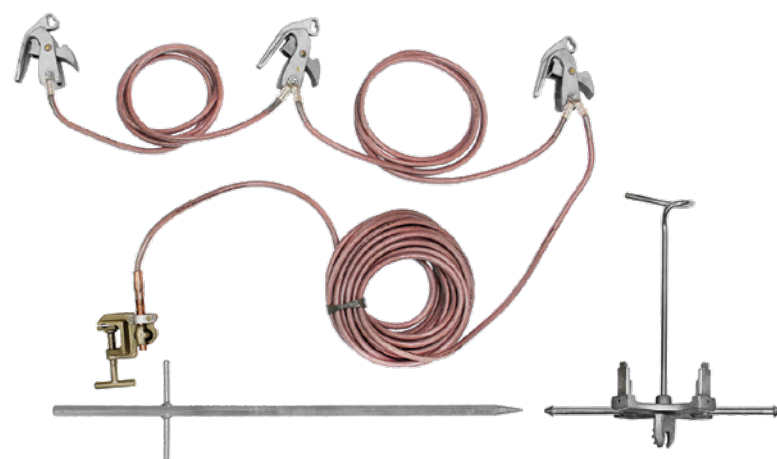
- Application platform – to attach snap on clamps to overhead lines, comes with universal hotstick attachment
- Clamp removal tool – to remove snap on clamps from overhead lines, comes with universal hotstick attachment



ATR-C-01400



ATR-C-01401



Cat No.	Description
ATR-C-01400	RITZ SNAP CLAMP PORTABLE EARTH SET WITH SEPARATE GROUND LEAD, 35MM <sup>2</sup> CU
ATR-C-01401	RITZ PORTABLE SNAP CLAMP EARTH SET WITH COMBINED GROUND LEAD, 35MM <sup>2</sup> CU
ATR13628-1	RITZ SNAP CLAMP
ATR1442-1	RITZ SNAP CLAMP REMOVAL TOOL
ATR04694-1	RITZ ALUMINIUM UNIVERSAL CLUSTER FOR INSTALLING & REMOVING GROUND CLAMPS



374	<b>WORKING &amp; RIGGER GLOVES</b>
375	<b>RUBBER LABELLING &amp; SIZING</b>
376	<b>RUBBER INSULATING GLOVES CLASS 00-4</b>
378	<b>LEATHER OVERGLOVES CLASS 00-4 &amp; COTTON LINERS</b>
379	<b>RUBBER INSULATING SLEEVES</b>
380	<b>INSULATING MATS/PIPES</b>
380	LV & MV Mats
380	Ground Mats
381	Equipotential Mat
381	Tiger Tails
381	MV Line Hose
382	<b>RUBBER GOODS ACCESSORIES</b>
382	B22 Plastic Buttons
382	Rubber Sleeve Harness & Straps
382	Plastic Blanket Peg
382	Liquid Rubber Cleaner
383	Portable Glove Inflator Kit
383	Glove Powder
383	Storage Bags
384	<b>ARC FLASH PROTECTION - FACE, HEAD &amp; NECK</b>
384	AS2000 & AS1200 Series
384	AS1200 Universal Fit Protective Face Shield - HRC2, 12 Cal/cm <sup>2</sup>
385	Protective Face Shield Optional Accessories
386	AS1000/AS1500 Protective Face Shields - HRC 2, 10 Cal/cm <sup>2</sup>
387	Replacement Arc Flash Protection Lenses, 8-100 Cal/cm <sup>2</sup>
388	Replacement Brackets, Protective Nets & Safety Glasses
389	Arc Flash Protection Hats & Hoods
390	AirFlow Hood System & Compact PRO-AIR™ ACAIR102
391	<b>PRO-WEAR® ARC FLASH PROTECTION CLOTHING</b>
392	Pro-HOOD® Arc Flash Protection Hoods - 8 to 10 Cal/cm <sup>2</sup>
393	Pro-Wear® Flash Protection Coats - 8 to 100 Cal/cm <sup>2</sup>
393	Pro-Wear® Flash Protection Bib Overalls - 8 to 100 Cal/cm <sup>2</sup>
394	Pro-Wear® Flash Protection Premium Coveralls - 8 to 20 Cal/cm <sup>2</sup>
394	Pro-Wear® Flash Protection Premium Overpants - 8 to 20 Cal/cm <sup>2</sup>
394	Pro-Wear® Flash Protection Premium Coverall Kits - 8 to 12 Cal/cm <sup>2</sup>
395	Pro-Wear® Premium Light Weight - 40 Cal/cm <sup>2</sup> HRC 4
395	Pro-Wear® Personal Protection Equipment Kits - HRC 2 & HRC 3
396	Pro-Wear® Personal Protection Equipment Kits - HRC 4
397	<b>LIVE LINE SUIT</b>
397	<b>LOW VOLTAGE RESCUE KIT</b>



# WORKING & RIGGER GLOVES

## LEATHER WORKING GLOVES

- Heavy duty Cow hide Leather
- Comfortable, practical and great value for money
- Perfect for all activities involving lifting and sorting of line hardware



Cat No.	Description	Size
T/NETL/GLOVE-LGE	LEATHER WORKING GLOVES	LARGE
T/NETL/GLOVE-XL		EXTRA LARGE

## ANSELL ACTIVARMR® FIRE & CUT RESISTANT WORK GLOVES

- Exclusive Dupont™ Kevlar® composite yarn provides exceptional cut resistance
- High protection and ergonomic design combined for better dexterity
- Materials used in the glove are inherently flame resistant, even after washing
- Arc Flash Hazard / Risk Category 2 - NFPA 70E
- Exclusive composite yarn provides exceptional cut resistance for safe handling of sharp objects and materials
- Soft foam coating for great flexibility and a secure grip in a variety of environments



Cat No.	Description	Size
PFLEX-7	ANSELL ACTIVARMR® 80-813 WORKING GLOVES WITH OUTSTANDING FLAME AND CUT RESISTANCE	7
PFLEX-8		8
PFLEX-9		9
PFLEX-10		10
PFLEX-11		11

















# RUBBER LABELLING & SIZING

## PROTECTIVE RUBBER EQUIPMENT LABELLING CHART

Rubber insulating gloves are available in six ASTM defined voltage classes. Rubber insulating sleeves are available in Class

00 through 4. The chart below identifies the class, proof test voltage and maximum allowable exposure voltage.

Protective Rubber Equipment Labelling Chart for Lineman's Natural Rubber and SALCOR® Rubber Protective Equipment			
Class Colour	Proof Test Voltage AC/DC	Max Use* Voltage AC/DC	Illustrative Labelling
00 BEIGE	2,500/10,000	500/750	 
0 RED	5,000/20,000	1,000/1,500	 
1 WHITE	10,000/40,000	7,500/11,250	 
2 YELLOW	20,000/50,000	17,000/25,500	 
3 GREEN	30,000/60,000	26,500/39,750	 
4 ORANGE	40,000/70,000	36,000/54,000	 

Insulating Gloves and Sleeves must have a colour coded label to meet appropriate ASTM Specifications.

\* Maximum Usage Voltage when worn with leather protectors.

## GLOVE SIZING GUIDE

Rubber insulating gloves are among the most important articles of personal protection equipment for electrical workers. Incorporating high dielectric and physical strength, flexibility and durability, these two brands of rubber insulating gloves have earned a reputation for superior performance – meeting and exceeding the requirements of current ASTM D120 specifications.

To determine a proper fit, measure (in inches) the circumference around the palm, allow for additional room if cotton glove liners are to be worn.

Before each use, gloves should be inspected for holes, rips, ozone cutting, UV checking and signs of chemical deterioration. Gloves should be regularly tested to ensure they are not damaged in any way.



Measure the circumference around the palm in inches to select the correct glove size

# RUBBER INSULATING GLOVES

## CLASS 00 RUBBER INSULATING GLOVES - MAX USE VOLTAGE 500V AC

- Available in solid colour (Red, and Blue) with other solid colours available upon request
- 11 inch length (other lengths available on request)

Cat No.		Description	Colour
Salisbury	ActivArmr		
-	RIG0011RS7**	1PR CL00 11 GLOVES SZ 7	RED
E0011R-8	RIG0011RS8	1PR CL00 11 GLOVES SZ 8	RED
E0011R-8.5	RIG0011RS8H	1PR CL00 11 GLOVES SZ 8.5	RED
E0011R-9	RIG0011RS9	1PR CL00 11 GLOVE SZ 9	RED
E0011R-9.5	RIG0011RS9H	1PR CL00 11 GLOVE SZ 9.5	RED
E0011R-10	RIG0011RS10	1PR CL00 11 GLOVE SZ 10	RED
E0011R-10.5	RIG0011RS10H	1PR CL00 11 GLOVE SZ 10.5	RED
E0011R-11	RIG0011RS11	1PR CL00 11 GLOVE SZ 11	RED
E0011R-11.5	-	1PR CL00 11 GLOVE SZ 11.5	RED
E0011R-12	-	1PR CL00 11 GLOVES SZ 12	RED

\*\*Special order only



## CLASS 0 RUBBER INSULATING GLOVES - MAX USE VOLTAGE 1000V AC

- Available in solid colour (Black or Yellow) with other solid colours available upon request
- 11 inch length (other lengths available on request)

Cat No.		Description	Colour
Salisbury	ActivArmr		
E011Y-8	RIG011YS8	1PR CL0 11 GLOVES SZ 8	YELLOW
E011Y-8.5	-	1PR CL0 11 GLOVES SZ 8.5	YELLOW
E011Y-9	RIG011YS9	1PR CL0 11 GLOVES SZ 9	YELLOW
E011Y-9.5	-	1PR CL0 11 GLOVES SZ 9.5	YELLOW
E011Y-10	RIG011YS10	1PR CL0 11 GLOVES SZ 10	YELLOW
E011Y-10.5	-	1PR CL0 11 GLOVES SZ 10.5	YELLOW
E011Y-11	RIG011YS11	1PR CL0 11 GLOVES SZ 11	YELLOW
E011Y-12	-	1PR CL0 11 GLOVES SZ 12	YELLOW

\*\*Special order only



## CLASS 1 RUBBER INSULATING GLOVES - MAX USE VOLTAGE 7,500V AC

- Available in dual colour
- 14 inch length (other lengths available on request)

Cat No.		Description	Colour
Salisbury	ActivArmr		
E114YB-8	RIG114YBS8	1PR CL1 14 GLOVES SZ 8	YELLOW/BLACK
E114YB-8.5	RIG114YBS8H	1PR CL1 14 GLOVES SZ 8.5	YELLOW/BLACK
E114YB-9	RIG114YBS9	1PR CL1 14 GLOVES SZ 9	YELLOW/BLACK
E114YB-9.5	RIG114YBS9H	1PR CL1 14 GLOVES SZ 9.5	YELLOW/BLACK
E114YB-10	RIG114YBS10	1PR CL1 14 GLOVE SZ 10	YELLOW/BLACK
E114YB-10.5	RIG114YBS10H	1PR CL1 14 GLOVES SZ 10.5	YELLOW/BLACK
E114YB-11	RIG114YBS11	1PR CL1 14 GLOVE SZ 11	YELLOW/BLACK
E114YB-12	-	1PR CL1 14 GLOVE SZ 12	YELLOW/BLACK



## CLASS 2 RUBBER INSULATING GLOVES - MAX USE VOLTAGE 17,000V AC

- Available in dual colour
- 16 inch length (other lengths available on request)

Cat No.		Description	Colour
Salisbury	ActivArmr		
E216YB-8	RIG216YBS8	1PR CL2 16 GLOVES SZ 8	YELLOW/BLACK
E216YB-8.5	RIG216YBS8H	1PR CL2 16 GLOVES SZ 8.5	YELLOW/BLACK
E216YB-9	RIG216YBS9	1PR CL2 16 GLOVES SZ 9	YELLOW/BLACK
E216YB-9.5	RIG216YBS9H	1PR CL2 16 GLOVES SZ 9.5	YELLOW/BLACK
E216YB-10	RIG216YBS10	1PR CL2 16 GLOVES SZ 10	YELLOW/BLACK
E216YB-10.5	RIG216YBS10H	1PR CL2 16 GLOVES SZ 10.5	YELLOW/BLACK
E216YB-11	RIG216YBS11	1PR CL2 16 GLOVES SZ 11	YELLOW/BLACK
E216YB-12	-	1PR CL2 16 GLOVES SZ 12	YELLOW/BLACK



## CLASS 3 RUBBER INSULATING GLOVES - MAX USE VOLTAGE 26,500V AC

- Available in dual colour
- 16 inch length (other lengths available on request)

Cat No.		Description	Colour
Salisbury	ActivArmr		
E316BCYB-10.5	RIG316YBB10H	1PR CL3 16 BELL CUFF SZ 10.5	YELLOW/BLACK
E316BCYB-11	RIG316YBB11	1PR CL3 16 BELL CUFF SZ 11	YELLOW/BLACK
E316YB-8	-	1PR CL3 16 GLOVES SZ 8	YELLOW/BLACK
E316YB-8.5	-	1PR CL3 16 GLOVES SZ 8.5	YELLOW/BLACK
E316YB-9	RIG316YBS9	1PR CL3 16 GLOVES SZ 9	YELLOW/BLACK
E316YB-9.5	RIG316YBS9H	1PR CL3 16 GLOVES SZ 9.5	YELLOW/BLACK
E316YB-10	RIG316YBS10	1PR CL3 16 GLOVES SZ 10	YELLOW/BLACK
E316YB-10.5	RIG316YBS10H	1PR CL3 16 GLOVES SZ 10.5	YELLOW/BLACK
E316YB-11	RIG316YBS11	1PR CL3 16 GLOVES SZ 11	YELLOW/BLACK



## CLASS 4 RUBBER INSULATING GLOVES - MAX USE VOLTAGE 36,000V AC

- Available in dual colour
- 18 inch length (other lengths available on request)

Cat No.		Description	Colour
Salisbury	ActivArmr		
E418YB-9	RIG418YBS9	1PR CL4 18 GLOVES SZ 9	YELLOW/BLACK
E418YB-9.5	RIG418YBS9H	1PR CL4 18 GLOVES SZ 9.5	YELLOW/BLACK
E418YB-10	RIG418YBS10	1PR CL4 18 GLOVES SZ 10	YELLOW/BLACK
E418YB-10.5	RIG418YBS10H	1PR CL4 18 GLOVES SZ 10.5	YELLOW/BLACK
E418YB-11	RIG418YBS11	1PR CL4 18 GLOVES SZ 11	YELLOW/BLACK



# LEATHER OVERGLOVES & COTTON LINERS

## LEATHER OVERGLOVES

Used to mechanically protect the rubber insulating gloves from potential damage caused by abrasion, chemical deterioration and cuts, leather protectors are made from cowhide, they are available in sizes 8-12 (cover full and half size, e.g. 8/8.5).

Leather protectors are available for specific Classes of rubber gloves. We stock two styles, both styles feature an adjustable strap with non-metallic buckle to tighten them and ensure they remain in place to protect the rubber insulating glove beneath them.

### CLASS 00-0 LEATHER OVERGLOVES

Cat No.		Description
Salisbury	Ansell	
-	OUTLVGS7	1PR LEATHER GLOVES CLASS 00-0 SIZE 7-7.5
ILPG10A-8	OUTLVGS8	1PR LEATHER GLOVES CLASS 00-0 SIZE 8-8.5
ILPG10A-9	OUTLVGS9	1PR LEATHER GLOVES CLASS 00-0 SIZE 9-9.5
ILPG10A-10	OUTLVGS10	1PR LEATHER GLOVES CLASS 00-0 SIZE 10-10.5
ILPG10A-11	OUTLVGS11	1PR LEATHER GLOVES CLASS 00-0 SIZE 11-11.5
ILPG10A-12	-	1PR LEATHER GLOVES CLASS 00-0 SIZE 12-12.5



### CLASS 1-4 LEATHER OVERGLOVES

Cat No.		Description
Salisbury	Ansell	
ILPG3S-8	OUTHVGS8	1PR LEATHER GLOVES CLASS 1-4 SIZE 8-8.5
ILPG3S-9	OUTHVGS9	1PR LEATHER GLOVES CLASS 1-4 SIZE 9-9.5
ILPG3S-10	OUTHVGS10	1PR LEATHER GLOVES CLASS 1-4 SIZE 10-10.5
ILPG3S-11	OUTHVGS11	1PR LEATHER GLOVES CLASS 1-4 SIZE 11-11.5
ILPG3S-12	-	1PR LEATHER GLOVES CLASS 1-4 SIZE 12-12.5



### CLASS 00-0 & 1-4 THE POWER GRIPZ™ LEATHER OVERGLOVES

The Power Gripz™ gloves have been designed by Linemen, for Linemen. With features including Arc Flash protection of 40 cal/cm<sup>2</sup> and cut resistance as well as the patent pending grip pad for extra safety and functionality.

Cat No.		Description	Size
Class 00-0	Class 1-4		
TPG010-8-8.5	TPG012-8-8.5	1PR ARC RATED, CUT RESISTANT LEATHER GLOVES	8-8.5
TPG010-9-9.5	TPG012-9-9.5	1PR ARC RATED, CUT RESISTANT LEATHER GLOVES	9-9.5
TPG010-10-10.5	TPG012-10-10.5	1PR ARC RATED, CUT RESISTANT LEATHER GLOVES	10-10.5
TPG010-11-11.5	TPG012-11-11.5	1PR ARC RATED, CUT RESISTANT LEATHER GLOVES	11-11.5
TPG010-12-12.5	TPG012-12-12.5	1PR ARC RATED, CUT RESISTANT LEATHER GLOVES	12-12.5





## COTTON GLOVE LINER

Cotton Glove Liners reduce the discomfort of wearing rubber insulating gloves. They provide warmth in colder temperatures and absorb perspiration in the warmer months. The knit wrist grips keep the liner

in place. Cotton Glove Liners are made from cotton and therefore are non-drip.

We have knitted and interlock fabric types available.

Cat No.	Description
COT1	COTTON INTERLOCK 10" GLOVE LINER, ONE SIZE
CPT3	COTTON INTERLOCK 14" GLOVE LINER, ONE SIZE
35-COTTON-LINER	COTTON GLOVE LINER, ONE SIZE



## RUBBER INSULATING SLEEVES

### CLASS 2 RUBBER SLEEVES

Cat No.	Description	Size	Class	Colour
RIS2RYECS-YT	1PR SLEEVES	SMALL	2	YELLOW/BLACK
TNRISC2R-EC	1PR SLEEVES	REGULAR	2	YELLOW/BLACK
TNRISC2L-EC	1PR SLEEVES	LARGE	2	YELLOW/BLACK



### CLASS 4 RUBBER SLEEVES

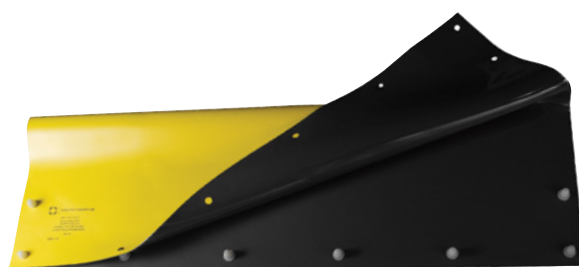
Cat No.	Description	Colour
RIS4RYECS-YT	1PR SLEEVES CL4 Y/B SMALL	YELLOW/BLACK
RIS4RYECS-YT	1PR SLEEVES CL4 Y/B REGULAR	YELLOW/BLACK
RIS4RYECL-YT	1PR SLEEVES CL4 Y/B LARGE	YELLOW/BLACK





# INSULATING BLANKETS/MATS/PIPES

## LV BLANKETS



Cat No.	Dimensions	Description	Features	Colour
1836YLVNV	18" × 36" (457MM × 914MM)	TYPE II SALCOR RUBBER LV BLANKET	PLAIN STYLE	YELLOW
3636YLV	36" × 36" (914MM × 914MM)		VELCRO FASTENING	
10008	450MM × 300MM		EYELET FASTENING	
10009	600MM × 450MM	650V EPDM SWITCHBOARD DRAPE	EYELET FASTENING	YELLOW/ BLUE
10010	900MM × 600MM		EYELET FASTENING	
2010	1000MM × 235MM DROP		VELCRO FASTENING	
2004	1200MM × 225MM DROP	650V EPDM LINE COVER	VELCRO FASTENING	
7004	1200MM × 225MM DROP		VELCRO FASTENING	
8001	600MM × 375MM DROP		VELCRO FASTENING	
8001	600MM × 375MM DROP	650V PVC FUSE LINK COVER	STUD FASTENING	
10005	600MM × 450MM		EYELET/MAGNET FASTENING	
9007	600MM × 450MM		PLAIN STYLE	
10020	900MM × 900MM	650V PVC SWITCHBOARD DRAPE	EYELET FASTENING	YELLOW/ GREY
2001	1200MM × 225MM DROP		STUD FASTENING	
2003	1200MM × 225MM DROP		MAGNET/PRESS STUD FASTENING	
3001	1200MM × 300MM DROP		STUD FASTENING	
4001	1200MM × 375MM DROP		STUD FASTENING	
9001	12M × 1200MM × 2MM	650V PVC CUT TO LENGTH, ROLL STOCK	12M ROLL	

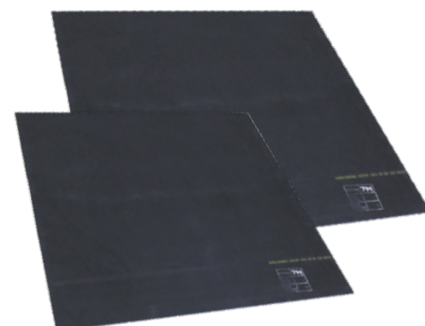
## MV BLANKETS

Cat No.	Dimensions inch (mm)	Description	Features	Colour
13	22" × 22" (559 × 559)	TYPE II SALCOR RUBBER, CLASS 4 BLANKET	SOLID	ORANGE
900E	36" × 36" (914 × 914)		SOLID	
15	22" × 22" (559 × 559)		SPLIT	
1300	36" × 36" (914 × 914)		SPLIT	



## GROUND MATS

Cat No.	Class Rating	Description	Colour
1814	4	1M × 1M × 6MM, EPDM GROUND MAT	BLACK
6EPDM1000LV	0	1M × 1M × 6MM, SUBSTATION MAT	BLACK
6EPDM12000LV	0	10M × 1M × 6MM, ROLL OF SUBSTATION MAT	BLACK



## EQUIPOTENTIAL MAT

Designed to assist in de-energised work by eliminating step and touch potential voltages, by establishing an equal voltage potential between personnel using the Mat and the clamped object.

- 770mm x 770mm Mat size (custom sizes available)
- 35mm<sup>2</sup> Weldflex cable with heavy duty insulation
- 400 Amp welding clamp – heavy duty spring with Copper contacts (lower or higher current clamps available)
- Stainless Steel mesh
- All Stainless Steel and Brass hardware to prevent corrosion
- Bound edges
- Cable affixed to Mat to prevent fatigue
- Comes as a kit with protective carry bag

Cat No.	Length (feet)
181EP-1	770 × 770MM EQUIPOTENTIAL MAT IN CARRY BAG



## TIGER TAILS

Balmoral Engineering Torapoli Pipe 'Tiger Tails' are the perfect LV line guard, they can couple together for extended distances.

- Rated to 650V, AS4202
- Yellow/Black stripes assist with visual warning of lines
- Easy to install and remove

Cat No.	Description	Colour
DB.35A	TIGER TAILS 35MM × 2.5M LONG	YELLOW/BLACK



## MV LINE HOSE

AB Chance Line Hose comes in two variants, plain both ends and plain one end with coupler on the other end.

- Rated for 11kV use
- Low weight, high performance, easy to handle and place
- Excellent colour retention
- Interchangeable with other flexible cover up brands
- Meets ASTM D 1050

Cat No.	Inside Diameter (inch)	Length (feet)	Weight (kg)	Style
C406-0295	1.25	4.5	1.6	PLAIN, BOTH ENDS
C406-0305	1.25	4.5	1.9	COUPLER, ONE END



COUPLER, ONE END

# RUBBER GOODS ACCESSORIES

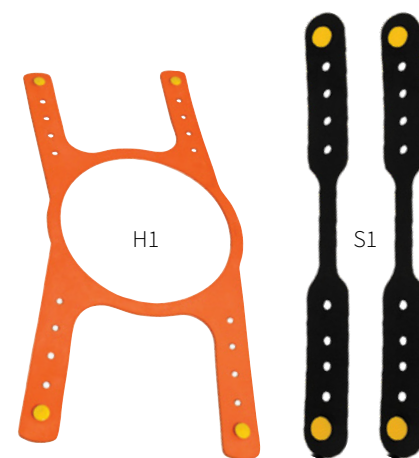
## B22 PLASTIC BUTTONS

Cat No.	Description
B22	4PCE/PACK PLASTIC BUTTONS 2-PART



## RUBBER SLEEVE HARNESS & STRAPS

Cat No.	Description
H1	SALISBURY RUBBER SLEEVE HARNESS
S1	SALISBURY RUBBER SLEEVE STRAP



## PLASTIC BLANKET PEG

Cat No.	Description
21	BLANKET PEG 240MM LONG, 125MM OPENING
YS-211-3-5	BLANKET PEG 220 × 115 × 22MM



## LIQUID RUBBER CLEANER

Cat No.	Description
S4	LIQUID RUBBER CLEANER 1GAL





## PORTABLE GLOVE INFLATOR KIT

Cat No.	Description
G99	PORTABLE GLOVE INFLATOR KIT



## GLOVE POWDER

Ten-Four Glove Dust is a cooling, frictionless powder that absorbs moisture and perspiration when wearing rubber gloves preventing gloves getting sticky.

Cat No.	Description
10-4(1X5OZ)	SALISBURY 5 OZ BOTTLE GLOVE POWDER



## STORAGE BAGS

Specialty bags designed and fit for purpose, these bags are made from the highest quality materials and double stitched for durability. Proper storage extends the service life of gloves, sleeves and Hot Sticks. Glove Bags feature a clip and tapered gussets with wide opening tops for ease of use.



HEAVY DUTY CLIP ON ALL GLOVE BAGS

Cat No.	Description
GLOBEBAG	HV/LV GLOVE BAG
DUALBAG	HV/LV GLOVE & LEATHER PROTECTOR BAG
COMBOBAG	HV/LV TRI BAG SLEEVE/GLOVE/LEATHER PROTECTOR



GLOBEBAG

DUALBAG

COMBOBAG



# ARC FLASH PROTECTION - FACE, HEAD & NECK

## AS2000 & AS1200 SERIES

### AS2000HAT SERIES

- 7.5" x 20" viewing area
- Extra light tint
- .06" thick
- Absorbs >99.9% of harmful UV radiation
- Resistant to fogging

- Meets current ANSI Z87.1 and is CSA standard compliant
- Tested to ASTM F2178 specifications
- 20 cal/cm<sup>2</sup> ATPV rating
- Ventilation ribs for natural convection air flow for less fogging & lower CO<sub>2</sub> levels



### AS1200HAT SERIES

- 7.5" x 20" viewing area
- Extra light tint
- .06" thick
- Absorbs >99.9% of harmful UV radiation
- Resistant to fogging

- Meets current ANSI Z87.1 and is CSA standard compliant
- Tested to ASTM F2178 specifications
- 12 cal/cm<sup>2</sup> ATPV rating
- Ventilation ribs for natural convection air flow for less fogging & lower CO<sub>2</sub> levels



Cat No.	Description
AS2000HAT	20 CAL/CM <sup>2</sup> , ARC FLASH PROTECTION FACESHIELD UNIT WITH SA79R03 HARD HAT
AS2000	20 CAL/CM <sup>2</sup> , ARC FLASH PROTECTION FACESHIELD UNIT
AS2000FS	REPLACEMENT FACESHIELD/WINDOW
AS1200HAT	12 CAL/CM <sup>2</sup> WEIGHT BALANCING ARC FLASH PROTECTION FACESHIELD UNIT WITH HARD HAT
AS1200HAT-CLR	AS1200HAT WITH TRANSPARENT CHIN GUARD
AS1200	12 CAL/CM <sup>2</sup> WEIGHT BALANCING ARC FLASH PROTECTION FACESHIELD UNIT

## AS1200 UNIVERSAL FIT PROTECTIVE FACE SHIELD - HRC2, 12 CAL/CM<sup>2</sup>

### UNIVERSAL FIT AS1200FB & AS1200U

Weight balancing arc flash protection faceshields that fit all popular full brim (AS1200FB) and front brim (AS1200U) hard hats. An elastomeric band secures the bracket to the brim of the hard hat. All parts are dielectric and specifically designed for arc flash protection.

- ATPV rating is 12 cal/cm<sup>2</sup>
- Upper bracket ventilation feature for natural air flow to reduce fogging & lower CO<sub>2</sub> levels
- Transparent Chin Guard is an optional accessory & increases peripheral view dramatically
- 7.5" x 20" viewing area
- Extra light tint
- .06" thick
- Absorbs >99.9% of harmful UV radiation

- Resistant to fogging
- Meets current ANSI Z87.1 and is CSA standard compliant & tested to ASTM F2178 specifications
- Unique weight balancing design
- Optional task light feature
- Replaceable window, no tools required
- Adjustable pivot tension
- One hand operation





## PROTECTIVE FACE SHIELD OPTIONAL ACCESSORIES

### AFLENS ANTI-FOG INNER LENS

- Includes an air spaced design and natural convection air flow helps minimise fogging
- Shield meets ASTM requirements for an Anti-Fog Lens

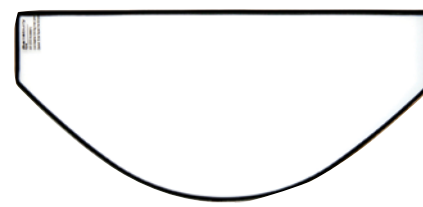
### ASFL FLAME RESISTANT ATTACHABLE TASK LIGHTS

Features a high intensity long lasting white LED lamp with an overall brightness of 35 lumens. From a 24" distance, the beam is approximately 6-7" in diameter. The high intensity illumination is very useful when working up close. 2AAA batteries provide 14-15 hours of high brightness.

**NOTE:** The AS1200HAT can hold two ASFL task lights. The FLKIT only contains one task light and one clip.

### AS12CLR TRANSPARENT CHIN GUARD

The AS12CLR Transparent Chin Guard dramatically increases the users peripheral view. The enhanced viewing area increases worker performance and productivity. Allows improved awareness and greater safety.



Cat No.	Description
AS1200	WEIGHT BALANCING ARC FLASH PROTECTION FACESHIELD UNIT
AS1200FB	12 CAL/CM <sup>2</sup> , UNIVERSAL FIT, AFP FACESHIELD UNIT FOR FULL BRIM HARD HATS
AS12ORG-FB	ORANGE CHIN GUARD FOR AS1200FB
AS12CLR-FB	TRANSPARENT CHIN GUARD FOR AS1200FB
AS1200FS-FB	REPLACEMENT FACESHIELD/WINDOW 12 CAL/CM <sup>2</sup> FOR AS1200FB FULL BRIM
AS1200U	12 CAL/CM <sup>2</sup> , UNIVERSAL FIT, AFP FACESHIELD UNIT FOR FRONT BRIM HARD HATS
AS12CLR	TRANSPARENT CHIN GUARD
AS1200FS	REPLACEMENT WINDOW FOR AS1200 SERIES FRONT BRIM
AS1200HAT	WEIGHT BALANCING ARC FLASH PROTECTION FACESHIELD UNIT WITH HARD HAT
AS1200HATCLR	AS1200HAT WITH TRANSPARENT CHIN GUARD
AFLENS	ANTI FOG INNER LENS
ASFL	ARC RATED ATTACHABLE TASK LIGHT (1)
AS12CLIP	REPLACEMENT CLIPS SET (2) FOR AS1200HAT SHIELD
FLCLIP	ATTACHABLE TASK LIGHT CLIP (1)
FLKIT	ATTACHABLE TASK LIGHT (1) & FLCLIP
AFLENSU	INNER ANTI FOG LENS FOR PRO-HOOD®

## AS1000/AS1500 PROTECTIVE FACE SHIELDS - HRC 2, 10 CAL/CM<sup>2</sup>

### AS1000 SERIES

- 10 cal/cm<sup>2</sup> ATPV rating when used with the included chin cup
- 7.5" x 20" viewing area
- Extra light tint
- .06" thick
- Absorbs >99.9% of harmful UV radiation
- Resistant to fogging
- Shield meets current ANSI Z87.1 and tested to ASTM F2178 specifications



Cat No.	Description
AS1000	AS1000FS WITH ASCP & SLOTTED ASSLB BRACKET. FITS MOST SLOTTED FRONT BRIM HARD HATS
AS1000U	AS1000FS WITH ASCP & UNIVERSAL BRACKET. FITS MOST FRONT BRIM HARD HATS
AS1000FB	AS1000FS WITH ASCP & UNIVERSAL FB BRACKET. FITS MOST FULL BRIM HARD HATS
AS1000R	AS1000FSR WITH ASCP & ASRHG4 PIN LOCK HEAD BAND WITH 4" ARC GUARD
AS1000HAT	AS1000 WITH SA79R FRONT BRIM HARD HAT
ASBAG	COTTON CANVAS STORAGE BAG WITH DRAWSTRING CLOSURE & FLEECE INTERIOR, FOR AS1000 SERIES
SA79*	PEAK FRONT BRIM HARD HAT WITH RAIN TROUGH, 4-POINT NYLON SUSPENSION, PIN-LOCK ADJUSTMENT. ANSI & CSA TYPE I, CLASS E. DIELECTRICALLY RATED. ANSI Z89.1-2003
SA79R*	PEAK FRONT BRIM HARD HAT WITH RAIN TROUGH, 4-POINT NYLON SUSPENSION, RATCHETING ADJUSTMENT. ANSI & CSA TYPE I, CLASS E. DIELECTRICALLY RATED. ANSI Z89.1-2003

**\*IMPORTANT** – Please add the colour code to the end of hard hat #. White = 01, Yellow = 02, Orange = 03



## REPLACEMENT ARC FLASH PROTECTION LENSES, 8-100 CAL/CM<sup>2</sup>

### AS1000/AS1200/AS1500 & PRO-HOOD®

- 8 cal/cm<sup>2</sup> to 100 cal/cm<sup>2</sup> ATPV ratings
- 7.5" x 20" viewing area for replacement AS1000 protective shield lenses
- 10" x 20" viewing area for replacement PRO-HOOD® lenses
- 4000V & 10000V lenses have two layers of protection
- Extra light tint
- .06" thick
- Absorbs >99.9% of harmful UV radiation
- Resistant to fogging
- Meets current ANSI Z 87.1 and tested to ASTM F 2178 specifications

### AFLENSU

The universal inner lens is a field installed anti-fog lens for PRO-HOOD® arc flash protective switching hoods. Installs quickly without tools to the inside of the PRO-HOOD® faceshield and can be removed for cleaning or replacement.



Cat No.	Description
AS1000PC	REPLACEMENT FACE SHIELD FOR AS1000HAT, AS1000FB & AS1000U
AS1200FS	REPLACEMENT WINDOW FOR AS1200HAT, 12 CAL/CM <sup>2</sup>
AS1000FSR	REPLACEMENT FACE SHIELD FOR AS1000R
AFLENSU	INNER ANTI-FOG LENS FOR PRO-HOOD®
1000V	REPLACEMENT LENS WITH HOOK & PILE ATTACHMENT FOR NEW DESIGN 8 CAL/CM <sup>2</sup> TO 20 CAL/CM <sup>2</sup> PRO-HOOD®, SINGLE LAYER LENS
2000V	REPLACEMENT LENS WITH HOOK & PILE ATTACHMENT FOR OLD DESIGN 8 CAL/CM <sup>2</sup> TO 20 CAL/CM <sup>2</sup> PRO-HOOD®, SINGLE LAYER LENS
4000V	REPLACEMENT LENS WITH HOOK & PILE ATTACHMENT FOR NEW DESIGN 31 CAL/CM <sup>2</sup> TO 55 CAL/CM <sup>2</sup> PRO-HOOD®, DUAL LAYER LENS
4000VB	REPLACEMENT LENS WITH HOOK & PILE ATTACHMENT FOR NEW DESIGN 31 CAL/CM <sup>2</sup> TO 55 CAL/CM <sup>2</sup> PRO-HOOD®, DUAL LAYER LENS INCLUDES BRACKET FOR FRONT BRIM HARD HAT
4000VFB	REPLACEMENT LENS WITH HOOK & PILE ATTACHMENT FOR NEW DESIGN 31 CAL/CM <sup>2</sup> TO 55 CAL/CM <sup>2</sup> PRO-HOOD®, DUAL LAYER LENS INCLUDES BRACKET FOR FULL BRIM HARD HAT
10000V	REPLACEMENT LENS WITH HOOK & PILE ATTACHMENT FOR NEW DESIGN 75 CAL/CM <sup>2</sup> TO 100 CAL/CM <sup>2</sup> PRO-HOOD®, DUAL LAYER LENS

## REPLACEMENT BRACKETS, PROTECTIVE NETS & SAFETY GLASSES

### FIRE RESISTANT HAIRNET & BEARDNET

Give added protection in any industry that requires the worker to wear a hairnet or beardnet. With ATPV rating of  $2.4 \text{ cal/cm}^2$ , they are available in Grey only. Made from washable  $1.7 \text{ oz/yd}^2$  ( $58 \text{ g/m}^2$ ) woven Nomex® fabric. Meets current ASTM F1506 standards.

### SAFETY GLASSES

Anti-fogging, anti-scratch and anti-static, with 99.9% UV protection, these glasses meet current ANSI Z87.1, 2003 and CSA Z94.3\* standards.

\* The CSA Z94.3 standard applies to eye and face protectors used in all occupational and educational operations or processes involving hazards to the eyes or face.



Cat No.	Description
ASCP	REPLACEMENT CHIN CUP FOR AS1000 SERIES SHIELDS
BRACKET	UNIVERSAL DIELECTRIC HARD HAT BRACKET, USED WITH FRONT BRIM HARD HATS
FBBRACKET	UNIVERSAL DIELECTRIC HARD HAT BRACKET, USED WITH FULL BRIM HARD HATS
ASSLB	DIELECTRIC BRACKET, FITS SLOTTED FRONT BRIM HARD HATS. USED WITH ALL AS1000 SERIES LENSES
ASRHG4	RATCHETED HEAD GEAR WITH 4" ARC GUARD. USED WITH AS1000FSR LENS
HN-1	ARC RATED PROTECTIVE HAIRNET, $2.4 \text{ CAL/CM}^2$ , $1.7 \text{ OZ/YD}^2$ ( $58 \text{ G/M}^2$ ) WOVEN NOMEX®
BN-1	ARC RATED PROTECTIVE BEARDNET, $2.4 \text{ CAL/CM}^2$ , $1.7 \text{ OZ/YD}^2$ ( $58 \text{ G/M}^2$ ) WOVEN NOMEX®
1015360AN	A700 CLEAR FRAME CLEAR ANTI-FOG LENS
1015361AN	A700 GREY FRAME GREY ANTI-FOG LENS
1015362AN	A700 GREY FRAME GREY HARD COAT LENS
1015364	PROTEGE BLACK/ORANGE FRAME CLEAR ANTI-FOG LENS



## ARC FLASH PROTECTION AS1000HAT & AFHOOD KIT

### AS1000HAT, AS1200HAT & AS2000HAT KITS

Make procurement even easier, these convenient kits contain a hard hat, a ATPV rated AFHOOD (at your specified rating 10/12 or 20 cal/cm<sup>2</sup>), safety glasses and an ASBAG.

- AS2000HAT – 20 cal/cm<sup>2</sup>, utilises nanotechnology to provide a clearer, more transparent window for improved visibility.
- AS1200HAT – 12 cal/cm<sup>2</sup>, includes ventilation ribs that allow natural convection air flow through the top of the face shield
- AS1000HAT – 10 cal/cm<sup>2</sup>, lens provides a 7.5" x 20" viewing area with an extra light tint



Cat No.	Description
SKA10	ATPV 10 CAL/CM <sup>2</sup> KIT – 10 CAL/CM <sup>2</sup> AFHOOD, AS1000HAT, ANSI RATED SAFETY GLASSES & ASBAG
SKA12-1200	ATPV 12 CAL/CM <sup>2</sup> KIT – 12 CAL/CM <sup>2</sup> AFHOOD CX, 12 CAL/CM <sup>2</sup> AS1200HAT, ANSI RATED SAFETY GLASSES & ASBAG
SKA20-2000	ATPV 20 CAL/CM <sup>2</sup> KIT – 20 CAL/CM <sup>2</sup> AFHOOD, AS2000HAT, ANSI RATED SAFETY GLASSES & ASBAG

## ARC FLASH PROTECTION HOODS - AFHOODS

AFHOODs, or balaclavas as they are also know, create 360° head and neck protection from arc flash dangers when used with an AS1000 series face shield, hard hat & chin cup. Each AFHOOD is made from two layers of rib knit material and has an elastic face opening that maintains its shape and size.

**CAUTION:** Arc Flash Hoods must be worn in combination with a faceshield in order to comply with the requirements of NFPA 70E and will protect 360° inside the arc flash boundary.



Cat No.	Description
AFHOOD10	10 CAL/CM <sup>2</sup> PROTECTION
AFHOOD20	20 CAL/CM <sup>2</sup> PROTECTION
AFHOOD28FF	28 CAL/CM <sup>2</sup> PROTECTION
AFHOOD28EO	28 CAL/CM <sup>2</sup> PROTECTION, 2-EYE HOOD



## AIRFLOW HOOD SYSTEM & COMPACT PRO-AIR™ ACAIR102

The PRO-AIR™ Air Flow Hood System is integrated with Salisbury's PRO-HOOD® Arc Flash Protection Hood. Now, all Salisbury PRO-HOOD® Arc Flash Protection Hood. Now all hoods are available with an optional integrated cooling system. This newest addition to the PRO-AIR™ line of products provides additional air flow and cools the worker. This unit is excellent in warm conditions or confined spaces. The easy to wear system is light weight, compact and easy to use. The system is designed to provide the worker with approximately 80cfm of air flow throughout the breathing zone. The unit is powered by 8 AA batteries and is designed to maintain a useful continuous life of up to 35 hours at 80cfm. The unit is non-filtered and is

not considered a respirator.

The PRO-AIR kit consists of a blower unit, belt and comfort pad, rechargeable battery pack, breathing hose and battery charger. Blower unit and hose are covered with a fire resistant material to meet NFPA 70E requirements. The PRO-AIR™ kit is shipped in a durable carrying case.

This belt mounted system provides a continuous flow of filtered air to reduce worker fatigue and provide additional comfort when working in hot and humid conditions. The PRO-AIR™ integrates with the full ATPV range of Salisbury's PRO-HOOD® line and easily attaches inside the hood using the exclusive Salisbury hook and pile looped fastener system.



Cat No.	Description
FH8BL-C	8 CAL/CM <sup>2</sup> ARC FLASH HOOD WITH AIR SYSTEM
FH11BL-C	12 CAL/CM <sup>2</sup> ARC FLASH HOOD WITH AIR SYSTEM
FH20BL-C	20 CAL/CM <sup>2</sup> ARC FLASH HOOD WITH AIR SYSTEM
FH31RB-C	31 CAL/CM <sup>2</sup> ARC FLASH HOOD WITH AIR SYSTEM
FH40GY-C	40 CAL/CM <sup>2</sup> ARC FLASH HOOD WITH AIR SYSTEM
FH40PLT-C	NEW 40 CAL/CM <sup>2</sup> ARC FLASH HOOD WITH AIR SYSTEM
FH55GY-C	55 CAL/CM <sup>2</sup> ARC FLASH HOOD WITH AIR SYSTEM
FH75GY-C	75 CAL/CM <sup>2</sup> ARC FLASH HOOD WITH AIR SYSTEM
FH100TW-C	100 CAL/CM <sup>2</sup> ARC FLASH HOOD WITH AIR SYSTEM
ACAIR102	PRO-AIR COMPACT POWERED AIR SYSTEM, COMPLETE KIT
AC103	PRO-AIR BATTERY
A168091	REPLACEMENT AIR FILTER CARTRIDGES
AC124	O-RINGS FOR AIR FILTERS
AC129	Y SHAPED BREATHING HOSE
AC129FR	FIRE RETARDANT TUBE COVERS FOR AC129 (3)
AC131	SINGLE UNIT BATTERY CHARGER
AC135	COMPACT POWERED AIR SYSTEM CARRYING CASE



## PRO-WEAR® ARC FLASH PROTECTION CLOTHING

### PRO-WEAR® ARC FLASH PROTECTION CLOTHING KITS - SIZING

#### COATS & JACKETS

Measurement in Inches (Minimum Allowed)	
Chest	Coat/Jacket Size
34-36"	S
38-40"	M
42-44"	L
46-48"	XL
50-52"	2XL
54-56"	2XL
SPECIAL ORDER SIZES	
58-60"	4XL
62-64"	5XL

#### BIBS/OVERALLS & OVERPANTS

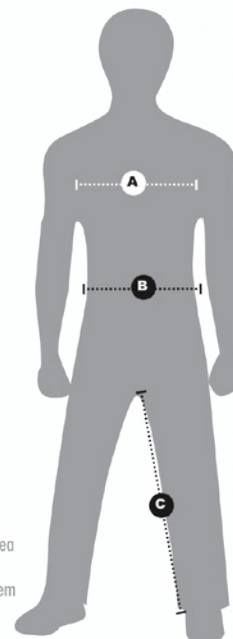
Measurement in Inches (Minimum Allowed)		
Chest	Bib/Overpant Size	Inseam
28-30"	S	28"
32-34"	M	29"
36-38"	L	30"
40-42"	XL	30"
44-46"	2XL	30"
48-50"	2XL	30"
SPECIAL ORDER SIZES		
52-54"	4XL	30"
56-58"	5XL	30"

#### COVERALL

Measurement in Inches (Minimum Allowed)		
Chest	Bib/Overpant Size	Inseam
34-36"	S	28"
38-40"	M	29"
42-44"	L	30"
46-48"	XL	30"
50-52"	2XL	30"
54-56"	2XL	30"
SPECIAL ORDER SIZES		
28-60"	4XL	30"
62-64"	5XL	30"

#### HOW TO MEASURE

- A** Chest - Measure around body at the underarm area
- B** Waist - Measure around waist at the largest area
- C** Inseam - Measure from mid crotch down to leg hem



### PRO-WEAR® ARC FLASH PROTECTION CLOTHING KITS - MATERIAL WEIGHTS

The Salisbury premium light weight 40 cal/cm<sup>2</sup> PLT Arc Flash material makes working more comfortable than ever.

Salisbury by Honeywell's Premium Light Weight 40 cal/cm<sup>2</sup> Arc Flash Protection suit has a total fabric weight of 11 oz/yd<sup>2</sup>.

This is approximately 60% lighter than Salisbury's standard HRC 4 suit with a total fabric weight of 18.5 oz/yd<sup>2</sup>. Keep cooler and improve worker comfort without compromising safety.

ATPV Rating (Cal/cm <sup>2</sup> )	Material Weight (oz/yd <sup>2</sup> )
8	7 (237 G/M <sup>2</sup> )
12	9 (305 G/M <sup>2</sup> )
20	13 (441 G/M <sup>2</sup> )
31	2 LAYERS - 9 (305 G/M <sup>2</sup> ) & 7 (237 G/M <sup>2</sup> )
40	2 LAYERS - 13 (441 G/M <sup>2</sup> ) & 5.5 (186 G/M <sup>2</sup> )
40-PLT	APPROXIMATELY 60% LIGHTER FABRIC WEIGHT THAN STANDARD 40 CALORIE GARMENT. 2 LAYERS - 5 (141.747 G/M <sup>2</sup> ) & 6 (170.097 G/M <sup>2</sup> )
55	2 LAYERS - OF 13 (441 G/M <sup>2</sup> )
75	3 LAYERS - 2 LAYERS OF 13 (441 G/M <sup>2</sup> ) & 1 LAYER 7 (237G/M <sup>2</sup> )
100	3 LAYERS - 10 (339 G/M <sup>2</sup> ) & 2 LAYERS 9.4 (319 G/M <sup>2</sup> )

## PRO-HOOD® ARC FLASH PROTECTION HOODS - 8 TO 10 CAL/CM<sup>2</sup>

- 8 cal/cm<sup>2</sup> to 100 cal/cm<sup>2</sup>\* ATPV ratings
- 8 cal/cm<sup>2</sup> to 75 cal/cm<sup>2</sup>\* Hoods are made from arc flash resistant material
- 100 cal/cm<sup>2</sup>\* Hood is made from TuffWeld® and Q/9® material layers
- Sewn with Nomex® thread
- Arc rated 10" x 20" anti-fogging replaceable lens
- Slotted bracket
- Hook and pile tabs to attach Salisbury's PRO-AIR™ belt mounted compact air system
- One size fits all
- Hard hat is included
- Meet current ASTM F2178 and NFPA 70E standards and the flammability requirements for ASTM F1506
- All Pro-HOODs are CE 0120 certified

### NOTE

- Other sizes and orange colour available by special order
- \*NFPA 70E does not have a hazard risk category above 40 cal/cm<sup>2</sup>
- Working on levels above 40 cal/cm<sup>2</sup> should be avoided because of the blast hazards caused by Arc Flash

### OPTIONAL

- Universal Inner Anti-Fog Lens
- Integrated Air Flow Hood System

Cat No.	Description
FH8BL	8 CAL/CM <sup>2</sup> , NAVY BLUE
FH11BL	12 CAL/CM <sup>2</sup> , NAVY BLUE
FH20BL	20 CAL/CM <sup>2</sup> , NAVY BLUE
FH31RB	31 CAL/CM <sup>2</sup> , ROYAL BLUE
FH40GY	40 CAL/CM <sup>2</sup> , GREY
FH40PLT	40 CAL/CM <sup>2</sup> , PREMIUM LIGHT WEIGHT, GREEN
FH55GY*	55 CAL/CM <sup>2</sup> , GREY
FH75GY*	75 CAL/CM <sup>2</sup> , GREY
FH100TW*	100 CAL/CM <sup>2</sup> , KHAKI, TUFFWELD®

Add suffix "-C" to include integrated air flow hood system



## PRO-WEAR® FLASH PROTECTION COATS - 8 TO 100 CAL/CM<sup>2</sup>

- 8 cal/cm<sup>2</sup> to 100 cal/cm<sup>2</sup>\* ATPV ratings
- 8 cal/cm<sup>2</sup> to 75 cal/cm<sup>2</sup>\* coats are made from arc flash resistant material
- 100 cal/cm<sup>2</sup>\* coat is made from TuffWeld® and Q/9® material layers
- Sewn with Nomex® thread
- 32" long
- Nomex® wristlets, expansion back for added comfort, Arc rated hook and pile storm flap
- Dual stage front closure with high temperature plastic zipper on the 31–100 cal/cm<sup>2</sup>\* coats
- Coats are intended to be used with PRO-HOODS
- Meet current ASTM F1506 and NFPA 70E standards, and fully CE 0120 certified
- Sizes S, M, L, XL, 2XL and 3XL available as standard

### NOTE

- Other sizes and orange colour available by special order
- \*NFPA 70E doesn't have a hazard risk category above 40 cal/cm<sup>2</sup>. Working on levels above 40 cal/cm<sup>2</sup> should be avoided because of the blast hazards caused by Arc Flash



Cat No.	Description
ACC832BL	8 CAL/CM <sup>2</sup> , NAVY BLUE
ACC1132BL	12 CAL/CM <sup>2</sup> , NAVY BLUE
ACC2032BL	20 CAL/CM <sup>2</sup> , NAVY BLUE
ACC3132RB	31 CAL/CM <sup>2</sup> , ROYAL BLUE
ACC4032GY	40 CAL/CM <sup>2</sup> , GREY
ACC4032PLT	40 CAL/CM <sup>2</sup> , PREMIUM LIGHT WEIGHT, GREEN
ACC5532GY*	55 CAL/CM <sup>2</sup> , GREY
ACC7532GY*	75 CAL/CM <sup>2</sup> , GREY
ACC10032TW*	100 CAL/CM <sup>2</sup> , KHAKI, TUFFWELD®

Add suffix for desired size: S, M, L, XL, 2XL or 3XL

## PRO-WEAR® FLASH PROTECTION BIB OVERALLS - 8 TO 100 CAL/CM<sup>2</sup>

- 8 cal/cm<sup>2</sup> to 100 cal/cm<sup>2</sup>\* ATPV ratings
- 8 cal/cm<sup>2</sup> to 75 cal/cm<sup>2</sup>\* bib overalls are made from arc flash resistant material
- 100 cal/cm<sup>2</sup>\* bib overalls are made from TuffWeld® and Q/9® material layers
- Sewn with Nomex® thread
- Integrated heavy duty suspenders, adjustable gussets on pant cuffs, relaxed cut for mobility
- 30" inseam
- Adjustable hook and pile waist straps
- Bib front for added protection
- Meet current ASTM F1506 and NFPA 70E standards and fully CE 0120 certified
- Sizes S, M, L, XL, 2XL and 3XL available as standard

### NOTE

- Other sizes and orange colour available by special order
- \*NFPA 70E doesn't have a hazard risk category above 40 cal/cm<sup>2</sup>. Working on levels above 40 cal/cm<sup>2</sup> should be avoided because of the Arc Flash blast hazards



Cat No.	Description
ACB830BL	8 CAL/CM <sup>2</sup> , NAVY BLUE
ACB1130BL	12 CAL/CM <sup>2</sup> , NAVY BLUE
ACB2030BL	20 CAL/CM <sup>2</sup> , NAVY BLUE
ACB3130RB	31 CAL/CM <sup>2</sup> , ROYAL BLUE
ACB4030GY	40 CAL/CM <sup>2</sup> , GREY
ACB4030PLT	40 CAL/CM <sup>2</sup> , PREMIUM LIGHT WEIGHT, GREEN
ACB5530GY*	55 CAL/CM <sup>2</sup> , GREY
ACB7530GY*	75 CAL/CM <sup>2</sup> , GREY
ACB10030TW*	100 CAL/CM <sup>2</sup> , KHAKI, TUFFWELD®

Add suffix for desired size: S, M, L, XL, 2XL or 3XL



## PRO-WEAR® FLASH PROTECTION PREMIUM COVERALLS - 8 TO 20 CAL/CM<sup>2</sup>

- 8 cal/cm<sup>2</sup> to 20 cal/cm<sup>2</sup>\* ATPV ratings
- Made from arc flash resistant material
- Sewn with Nomex® thread
- Full cut with set in sleeves
- Arc rated hook and pile front closure & cuff opening
- 30" inseam
- Expansion back
- 2-ply Nomex® wristlets
- Meet current ASTM F1506 and NFPA 70E standards and fully CE 0120 certified
- Sizes S, M, L, XL, 2XL and 3XL available as standard

**NOTE:** Other sizes and orange colour available by special order

Cat No.	Description
ACCA8BL	8 CAL/CM <sup>2</sup> , NAVY BLUE
ACCA11BL	12 CAL/CM <sup>2</sup> , NAVY BLUE
ACCA20BL	20 CAL/CM <sup>2</sup> , NAVY BLUE

Add suffix for desired size: S, M, L, XL, 2XL or 3XL



## PRO-WEAR® FLASH PROTECTION PREMIUM OVERPANTS - 8 TO 20 CAL/CM<sup>2</sup>

- Overpants have full elastic waistband with arc rated hook and pile front closure
- 30" inseam
- Overpants have hook and pile cuff adjustment
- Loose design and flared legs make it easy to put on and take off over existing work clothing

**NOTE:** Other sizes and orange colour available by special order

Cat No.	Description
ACP830BL	8 CAL/CM <sup>2</sup> , OVERPANTS, NAVY BLUE
ACP1130BL	12 CAL/CM <sup>2</sup> , OVERPANTS, NAVY BLUE
ACP2030BL	20 CAL/CM <sup>2</sup> , OVERPANTS, NAVY BLUE

Add suffix for desired size: S, M, L, XL, 2XL or 3XL



## PRO-WEAR® FLASH PROTECTION PREMIUM COVERALL KITS - 8 TO 12 CAL/CM<sup>2</sup>

Salisbury PRO-WEAR® Arc Flash Protection Coverall Kits are clothing kits containing arc flash coveralls in an ATPV rating of either 8 cal/cm<sup>2</sup> or 12 cal/cm<sup>2</sup>, an AS1000HAT, an appropriate ATPV rated AFHOOD, ASBAG, SKBAG and safety glasses.

Sizes S, M, L, XL, 2XL and 3XL available from stock

**NOTE:** Available in orange upon request

Cat No.	Size of Garments (Choose 1)	ATPV Rating (cal/cm <sup>2</sup> )	HRC	Colour
SKCA8	S, M, L, XL, 2XL OR 3XL	8	2	NAVY
SKCA11	S, M, L, XL, 2XL OR 3XL	10	2	NAVY
EXAMPLE: SKCA8	L	8	2	NAVY

Add suffix for desired size: S, M, L, XL, 2XL or 3XL





## PRO-WEAR® PREMIUM LIGHT WEIGHT - 40 CAL/CM<sup>2</sup> HRC 4

Salisbury by Honeywell's NEW Premium Light Weight 40 cal/cm<sup>2</sup> PRO-WEAR® Arc Flash Protection suit has a total fabric weight of 11 oz/yd<sup>2</sup> as compared to the standard 40 calorie garment with a fabric weight of 18 oz/yd<sup>2</sup>. This material is the lightest available and meets all the necessary standards to keep you safe from arc flash. Keep cooler and improve worker comfort without compromising safety. Better products means better work performance. Trust Salisbury to always provide the best possible products available.

- Complies with NFPA 70E HRC 4
- Meets ASTM F1506-02A, ASTM F1959M/ F1959M-99
- Made from synthetic fibre blend
- Arc rated for the life of the garment
- Available individually (coat, hood, overalls) or in kits
- Heat attenuation factor of 93.20%

(meaning the garment is not only flame resistant, but it resists 93.2% of the heat experienced in an arc flash).

- Light weight – lightest in the industry
- Added ease of movement
- Keeps user cooler longer
- PRO-HOOD® includes the most transparent lens available
- Integrated cooling system available for PRO-HOOD®
- Longer coat creates better body coverage while working overhead
- Adjustable gussets on overall cuffs

**NOTE:** NFPA 70E Does not have a Hazard Risk Category above 40 cal/cm<sup>2</sup>. Working on levels above 40 cal/cm<sup>2</sup> should be avoided because of the blast hazards caused by arc flash.



Cat No.	Description	Sizes
FH40PLT	40 CAL/CM <sup>2</sup> , HOOD, PREMIUM LIGHT WEIGHT	S, M, L, XL, 2XL OR 3XL*
ACC4032PLT	40 CAL/CM <sup>2</sup> , JACKET, PREMIUM LIGHT WEIGHT	S, M, L, XL, 2XL OR 3XL*
ACB4030PLT	40 CAL/CM <sup>2</sup> , OVERALL, PREMIUM LIGHT WEIGHT	S, M, L, XL, 2XL OR 3XL*
SK40PLT	40 CAL/CM <sup>2</sup> , KIT, PREMIUM LIGHT WEIGHT	S, M, L, XL, 2XL OR 3XL*
FH40PLT-C	40 CAL/CM <sup>2</sup> , HOOD W/COOLING, PREMIUM LIGHT WEIGHT	S, M, L, XL, 2XL OR 3XL*
SK40PLT-C	40 CAL/CM <sup>2</sup> , KIT W/COOLING, PREMIUM LIGHT WEIGHT	S, M, L, XL, 2XL OR 3XL*

Add suffix for desired size: S, M, L, XL, 2XL or 3XL

## PRO-WEAR® PERSONAL PROTECTION EQUIPMENT KITS - 8, 12, 20 CAL/CM<sup>2</sup> HRC 2 & 31 CAL/CM<sup>2</sup> HRC 3

- Kits contain arc flash coat, bib overalls, PRO-HOOD®, hard hat, SKBAG and safety glasses.
- 2 colour 8 & 12 cal/cm<sup>2</sup> PRO-WEAR arc flash protection PPE kits available.
- Sizes, S, M, L, XL, 2XL and 3XL available from stock, other sizes and orange colour available by special order
- 8, 12 & 20 cal/cm<sup>2</sup> kits meet NFPA 70E Hazard Risk Category 2
- 31 cal/cm<sup>2</sup> kits meet NFPA 70E Hazard Risk Category 3
- Add suffix "-BP" to replace SKBAG with SKBACKPACK, specialty reinforced backpack



Cat No.	Size of Garments (Choose One)	ATPV Rating (Cal/cm <sup>2</sup> )	HRC	Colour
SK8	S, M, L, XL, 2XL OR 3XL	8	2	NAVY
SK11	S, M, L, XL, 2XL OR 3XL	12	2	NAVY
SK20	S, M, L, XL, 2XL OR 3XL	20	2	NAVY
SK31	S, M, L, XL, 2XL OR 3XL	31	3	-
EXAMPLE: SK8	M	8	2	NAVY

Add suffix for desired size: S, M, L, XL, 2XL or 3XL



## PRO-WEAR® PERSONAL PROTECTION EQUIPMENT KITS - 40 & 50-75 CAL/CM<sup>2</sup> HRC 4

- Kit contains arc flash coat, bib overalls, PRO-HOOD®, hard hat, SKBAG and safety glasses
- 2 colour PRO-WEAR arc flash Protection PPE kits available
- Sizes S, M, L, XL, 2XL and 3XL available from stock, other sizes and orange colour available by special order
- Complies with NFPA 70E HRC 4

### NOTE:

- \*NFPA 70E doesn't have a hazard risk category above 40 cal/cm<sup>2</sup>. Working on levels above 40 cal/cm<sup>2</sup> should be avoided because of the blast hazards caused by Arc Flash



Cat No.	Size of Garments (Choose One)	ATPV Rating (Cal/cm <sup>2</sup> )	HRC	Description
SK40	S, M, L, XL, 2XL OR 3XL	40	4	GREY KIT
SK40PLT	S, M, L, XL, 2XL OR 3XL	40	4	PREMIUM LIGHT WEIGHT
SK55*	S, M, L, XL, 2XL OR 3XL	55	4	-
SK75*	S, M, L, XL, 2XL OR 3XL	75	4	-
EXAMPLE: SK40	2XL	40	4	GREY KIT

Add suffix for desired size: S, M, L, XL, 2XL or 3XL

## PRO-WEAR® PERSONAL PROTECTION EQUIPMENT KITS - 100 CAL/CM<sup>2</sup> HRC 4

- Kit contains arc flash coat, bib overalls, PRO-HOOD®, hard hat, SKBAG and safety glasses
- Made from TUFFWELD®
- TUFFWELD® offers inherent arc rated protection with a high level of comfort and durability
- Exceptional light weight comfort with superb wicking so you can stay cooler and drier
- Sizes S, M, L, XL, 2XL and 3XL available from stock, other sizes and orange colour available by special order

- Complies with NFPA 70E HRC 4

### NOTE

- \*NFPA 70E doesn't have a hazard risk category above 40 cal/cm<sup>2</sup>. Working on levels above 40 cal/cm<sup>2</sup> should be avoided because of the blast hazards caused by Arc Flash
- Add suffix "BP" to replace the SKBAG with a SKBACKPACK Specialty Reinforced Back Pack



Cat No.	Size of Garments (Choose One)	ATPV Rating (Cal/cm <sup>2</sup> )	HRC
SK100*	S, M, L, XL, 2XL OR 3XL	100	4
EXAMPLE: SK100	2XL	100	4

Add suffix for desired size: S, M, L, XL, 2XL or 3XL

## LIVE LINE SUIT

### CONDUCTIVE LIVE LINE SUIT & ACCESSORIES

Renowned industry-wide for safety, comfort and durability, Euclid's KV-GARD® conductive clothing is a soft Faraday cage that puts the linemen at the same potential as the conductor. With clothing bonded to the conductor, the lineman can work comfortably inside the electrical field with gloved hands at close range.

- All KV-GARD® garments are completely washable hand/machine and able to go in the dryer (low heat).
- Multiple tests are performed on each garment to check for wrist cuff- to-wrist cuff conductivity and sleeve-to-ankle conductivity
- All data is recorded for monitoring of quality and performance over years
- Leave factory guaranteed under 100 Ω conductivity
- Hood, pants & jacket are all bonded to ensure conductivity
- Gloves give good dexterous fit whilst remaining strong and durable
- KV-GARD® socks are jersey knit with an elastic rib calf that fits over the pant leg



Cat No.	Description	Size
13-38-811	CONDUCTIVE GLOVES	ONE SIZE
28-38-911	CONDUCTIVE SOCKS	ONE SIZE
BAG2074-2	BLACK NYLON ATHERTIC TO SUIT EUCLID WEAR	ONE SIZE
J3473-8-T	EUCLID CONDUCTIVE KV SUIT	ADD SUFFIX TO CAT NO.

Add size as suffix to suit Cat No. - for example J3473-8-T-M for a medium size suit

## RESCUE KIT

### LOW VOLTAGE RESCUE KIT

In order to maintain a safe work environment we must take all necessary precautions to deal with an emergency should one occur. One of the easiest precautions to make for people working in the electricity industry is to have an LV rescue kit on site in situations where electric shock could occur.

For ease of identification this LV Rescue Kit is supplied in a heavy duty yellow bag, it is clearly labelled and there is a contents list printed on the inside flap of the bag. This list helps ensure the kit is complete and if it's found to be incomplete it is easy to determine what is missing so it can be restocked.

Designed for use in emergencies around LV electrical systems. It is perfect for all staff tasked with working on live LV electrical systems whatever the location.

#### FEATURES

- High quality rescue kit, complies with all relevant standards
- Essential for anyone working on live electricity and live poles
- Suitable for anyone at risk of electric shock including emergency services

#### KIT CONTAINS

- Electrosoft 1000V Electrical Gloves Size 10
- First Aid Booklet
- Multi Trauma Dressing
- 'Isolate Here' Sign
- LV Rescue Hook
- Eveready 2D Brilliant Beam Torch VAL2D
- Fire Blanket 1.2m x 1.8m AS/NZS 3504 Approved
- Heavy duty yellow storage bag



Cat No.	Description
LVRESCUEKIT	RESCUE KIT FOR WORK ON LOW VOLTAGE SWITCHBOARDS ETC





PAGE	CATEGORY
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400	LED Floodlight 15W – 180W - LEDIFL19
400	80-200W Commercial & Industrial Floodlight - LEDFL16
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401	Battery Powered LED Floodlights
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403	LED Under Verandah Lights 40W & 60W - LED5FT
403	LED Wall Pack Lights 30W - LEDWP-30AC
PAGE	<b>SOLAR STREETLIGHTS</b>
404	LED Solar Streetlight Kit 20W - LEDSOLAR-ST20KIT





# LED FLOODLIGHTS

## LED FLOODLIGHT 15-180W - LEDIFL19

The LEDIFL19 range of fittings are a true industrial grade LED solution.

This is a IP65 rated fitting that includes LM06 aluminium housing and dual layer anti-corrosion powder coat finish it can be relied upon in the harshest of conditions.

This also comes with an anti-glare tempered glass frosted lens and has fantastic light output. This is ideal for a number of different applications including floodlighting, high bay and with the narrow beam angle it makes

for the ideal spotlight and tower lighting applications. The bracket includes an easy to use adjustable pivot to enable very precise angle placement.



Cat No.	Power (W)	Colour Temperature	LED Lumens	Weight (kg)	Beam Angle	Supply Voltage
LEDIFL19-15AC	15	5700K	1200	0.71	76.5°	200-240V AC
LEDIFL19-15ACWW	15	3000K	1200	0.71	76.5°	200-240V AC
LEDIFL19-55AC	55	5700K	4750	3.75	90°	200-240V AC
LEDIFL19-120AC	120	5000K	14,400	6.00	120°	200-240V AC
LEDIFL19-180ACCW	180	5000K	21,600	12.00	120°	200-240V AC
LEDIFL19-180ACNW	180	4000K	21,600	12.00	120°	200-240V AC

## 80-200W COMMERCIAL & INDUSTRIAL FLOODLIGHT - LEDFL16

The LEDFL16 series of floodlights provide high luminous efficiency with the flexibility of multiple beam angle and wattage options. Powerful enough to be suitable for a broad range of locations on both commercial and industrial sites, LEDFL16 floodlights also feature an adjustable U-type bracket and low weight for easy mounting and maintenance.

### APPLICATIONS

- Buildings
- Warehouses
- Sports arenas
- Workshops
- Airports
- Docks
- Billboards



Model No.	Power (W)	Lumens (lm)	Colour Temperature	Dimmable	Beam Angle	Weight (kg)	Dimensions (mm)
LEDFL16-80AC	80	8800	5000K	NO	110°	5.3	300 × 300 × 261
LEDFL16N-80AC	80	8800	5000K	NO	30°	5.3	300 × 300 × 261
LEDFL16-140AC	140	15,400	5000K	NO	110°	7.5	380 × 380 × 261
LEDFL16N-140AC	140	15,400	5000K	NO	30°	7.5	380 × 380 × 261
LEDFL16-200AC	200	22,000	5000K	NO	110°	7.5	380 × 380 × 261
LEDFL16N-200AC	200	22,000	5000K	NO	30°	7.5	380 × 380 × 261



## 200-400W MODULAR FLOODLIGHT - LEDIFL43

The LEDIFL43 series of floodlights features a unique LED modular design. Available in 200W and 400W and with a choice of 13°, 60° or 120° symmetrical beam spreads. The tilt angle on each module can be set independently. An economical choice where high light levels are desired.

### APPLICATIONS

- Carparks
- Factories
- Sports Fields
- Airports
- Area Lighting



Model No.	Power (W)	Lumens (lm)	Colour Temperature	Input Voltage	Beam Angle*	Weight (kg)	Dimensions (mm)
LEDIFL43-200AC-13	200	22,000	5000K	220~240V AC	13°	5.5	496 × 228 × 153
LEDIFL43-200AC-60	200	23,000			60°		
LEDIFL43-200AC-120	200	24,000			120°		
LEDIFL43-200AC-13	200	44,000			13°	12	496 × 326 × 222
LEDIFL43-400AC-60	400	46,000			60°		
LEDIFL43-400AC-120	400	48,000			120°		

**Note:** 30° & 90° beam angles available on special request

## TEMPORARY LIGHTS

### BATTERY POWERED LED FLOODLIGHTS

The perfect portable work light. Available in 20W and 50W this rechargeable battery powered LED floodlight with a sturdy stand is a must have for all tradesmen.

### FEATURES

- Slim & compact design for ease of storage
- USB outlet to charge other devices
- 4-5 hour battery run time
- Two light level settings - 100% & 50%
- Bluetooth connection function to play music
- Rechargeable Li-ion battery
- 12V DC & 230V AC charger
- Optional magnetic base that clips onto the light



LEDPORT-MAGBASE



Cat No.	Base Mount	Lumens	Power	IP Rating	Charger
LEDPORT-MAGBASE	OPTIONAL MAGNETIC BASE				
LEDPORT-20W-BATT	STAND	1600	20W	IP54	12V DC/230V AC
LEDPORT-50W-BATT		3500	50W	IP54	12V DC/230V AC

## PORTABLE LIGHT STAND - 2X45W LEDS

This industrial light stand (ILS) is engineered to cater for the commercial user where durability is of key importance.

### FEATURES

- Telescopic stand to offer a range of working heights, approximately 1250mm–2500mm
- Easy to assemble and put away, fits into small storage areas
- Long 12m lead
- Power source 230V AC
- Cool running temperature
- \*DC model available on special order

Cat No.	Lumens	Power	Supply Voltage
LEDILS-2500	6000	2 × 45W	230V AC



## PORTABLE LIGHT STAND - 400W LEDS

This light kit is the epitome of temporary light stands. With an air extendable hydraulic telescopic stand the light can be positioned up to 5m\* above the work site. All the components to run this light (AC and DC) are included in the kit.

### SPECIFICATIONS

- IP65 Rating
- 1.6m up to 5m\* when extended
- LxWxH when packed in case = 800x520x320mm
- Stand Weight = 17.85kg
- Packed in Case Weight = 32.85kg

### KIT CONTENTS

- 400W LED light fitting
- Air extendable light stand
- Bicycle track pump
- Battery leads
- 400W inverter
- Storage bag for stand
- Tough plastic carry case

\*Height of stand only, not including lights



Cat No.	Lumens	Power	Supply Voltage
LEDILS-5M-200	21,000	200W	230V AC OR 12V DC
LEDILS-5M-400	42,000	400W	

## UNDER VERANDAH & WALL LIGHTS

### LED INDUSTRIAL UNDER VERANDAH LIGHTS 39-41W - LEDUV1200

Designed specifically to replace traditional 4 ft fluorescent fixtures for most areas, including carparking, walkways and under verandah areas.

The benefits of this model are that it has an option for onboard daylight sensor and a microwave sensor for motion detection. In addition, this model also has

the ability to run at dim state until motion is detected, optimising lighting & power output to a need only requirement.

This luminaire is also capable of working in conjunction with a row of lights (master & slave) so that only the sensors at both ends of a carpark/ walkway area function.



Cat No.	Backup Battery	Power	Lumens	Sensor
LEDUV1200-39AC	NO	39W	3,900	NO
LEDUV1200-40SEN	NO	40W		YES
LEDUV1200-41BATT <sup>EM</sup>	YES	41W		YES

<sup>EM</sup>Emergency rated fittings comply with AS/NZS 2293.3 - self contained; maintained; emergency duration 120 mins. Emergency rated IES files available on request.

### LED UNDER VERANDAH LIGHTS 40W & 60W - LED5FT

Developed for use in areas commonly fitted with 2 x 58W fluorescent fittings.

Widely used in commercial and industrial food manufacturing areas. The battery model ensures worker safety is enhanced by a separate driver running the luminaire at 20W during a power cut to ensure some light is available.

#### FEATURES

- IP65 – waterproof, dustproof, corrosion-proof, chemical resistant
- Long life span
- High lumen output



Cat No.	Dimming Function	Power	Lumens	Colour Temperature	Dimensions L x W x H (mm)
LED5FT-60AC	NO	60W	5,400	6500K	1570 × 135 × 95
LED5FT40ACPW		40W	4,091	5000K	1565 × 124 × 90

### LED WALL PACK LIGHTS 30W - LEDWP-30AC

Modern bulk head style LED fitting for use in a wide variety of outdoor applications:

- Airports, car parks & railway stations
- Corridors & balconies
- Walkways, loading docks, storage areas

#### FEATURES

- Weather and vandal resistant
- Bright white colour
- High quality anodised Aluminium reflector
- Driver warranty two years



Cat No.	Power	Lens Type	Lumens	Colour Temperature	Beam Angle	Dimensions L x W x H (mm)
LEDWP-30AC	30W	FROSTED	3000	6000K	90°	308 × 288 × 182
LEDWP-30ACC		CLEAR	2760			



# SOLAR STREETLIGHTS

## LED SOLAR STREETLIGHT KIT 20W - LEDSOLAR-ST20KIT

These 20W LED street light kits deliver exceptional performance while substantially reducing operational costs. They incorporate excellent optical design and light distribution, and you can choose from two visually appealing luminaire designs. The cutting edge Luxtella LED luminaire is one of the most efficient on the NZTA M30 list where it's 2,500 lumen output is generated from just 19.5W (replacing 70W SON).

The battery is discreetly hidden away in a compartment near the top of the pole keeping it out of harms way.

### APPLICATIONS

Perfect for locations where mains power is not currently available, pedestrian and cycle paths, parks and reserves, public areas such as shopping precincts, outdoor carparks etc.

### KITSET COMPONENTS

- 20W LED Street Light
- 115W Solar Panel
- 1x Lithium-ion battery (950Wh)
- 20A controller
- 5m Galvanised Steel Pole (Flange mounted & includes anchor bolts)



LED SOLAR-ST20XPL



LED SOLAR-ST20ECO



Cat No.	Luminaire	Description
LED SOLAR-ST20ECO	TNL0729-20DC12	20W SOLAR STREETLIGHT KIT INCLUDES PANEL, 20W LUMINAIRE, 5M GALVANISED STEEL POLE, BATTERY AND CONTROLLER
LED SOLAR-ST20XPL	S12XPL-20DC-GRN0	



PAGE	CATEGORY
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407	Cable Cross Sections - Annealed Al & Copper Stranded Conductors
408	Overhead Conductors
409	Stranded Hard Drawn Copper Conductor Sizes - Metric & Imperial
409	Cross Sectional Area mm <sup>2</sup>
410	Aluminium Conductor (Galvanised) Steel Reinforced ACSR/GZ/1350 Aus. Standard - AS 3607
410	Aluminium Conductor (Aluminised) Steel Reinforced ACSR/AZ/1350 Aus. Standard - AS 3607
410	Aluminium Conductor (Aluminised) Steel Reinforced ACSR/AC/1350 Aus. Standard - AS 3607 Extra High Strength
411	Aluminium Conductor (Aluminium Clad) Steel Reinforced ACSR/AC/1350 Aus. Standard - AS 3607
411	Aluminium Conductor AAC/1350 Aust. Standard - AS 1531
412	All Aluminium Alloy Conductor AAAC 6201 Aust. Standard - AS 1531
412	All Aluminium Alloy Conductor AAAC 1120 Aust. Standard - AS 1531
413	Steel Conductor/Galvanised SC/GZ Aust. Standard - AS 1222 Part 1
413	Hard Drawn Copper Conductor HDC Aust. Standard - AS 1746
414	<b>CADWELD MOLD RENTAL FORM</b>



## CONVERSION TABLES FOR NON-METRIC CABLE SIZES

SWG	Metric (mm <sup>2</sup> )	American AWG	Metric (mm <sup>2</sup> )	American AWG	Metric (mm <sup>2</sup> )
33	0.0507	250 MCM	127	30	0.0507
32	0.0591	300 MCM	152	29	0.0645
31	0.0682	350 MCM	177	28	0.0806
30	0.0779	400 MCM	203	27	0.102
29	0.0937	450 MCM	228	26	0.128
28	0.0111	500 MCM	253	25	0.163
27	0.0136	550 MCM	279	24	0.205
26	0.0164	600 MCM	304	23	0.259
25	0.0203	650 MCM	329	22	0.324
24	0.0245	700 MCM	355	21	0.412
23	0.029	750 MCM	380	20	0.519
22	0.0397	800 MCM	405	19	0.652
21	0.0519	850 MCM	431	18	0.82
20	0.0657	900 MCM	456	17	1.04
19	0.81	950 MCM	481	16	1.31
18	1.17	1000 MCM	507	15	1.65
17	1.59	1100 MCM	557	14	2.08
16	2.08	1200 MCM	608	13	2.63
15	2.63	1300 MCM	659	12	3.31
14	3.24	1400 MCM	709	11	4.17
13	4.29	1500 MCM	760	10	5.26
12	5.48	1600 MCM	811	9	6.63
10	8.30	1700 MCM	861	8	8.37
		1800 MCM	912	7	10.6
		1900 MCM	963	6	13.3
		2000 MCM	1010	5	16.8
				4	21.2
				3	26.7
				2	33.6
				1	42.4
				0	53.5
				2/0	67
				3/0	85
				4/0	107

Imperial (in <sup>2</sup> )	Metric (mm <sup>2</sup> )	Imperial (in <sup>2</sup> )	Metric (mm <sup>2</sup> )	Imperial (in <sup>2</sup> )	Metric (mm <sup>2</sup> )
0.001	0.657	0.03	18.6	0.4	267
0.0015	0.981	0.04	26.0	0.5	328
0.002	1.28	0.06	39.4	0.6	399
0.003	1.97	0.075	49.9	0.75	489
0.0032	2.08	0.1	66.3	0.85	557
0.0045	2.98	0.12	76.8	1.0	683
0.007	4.60	0.15	97.2	1.25	807
0.01	6.81	0.2	129	1.5	1050
0.0145	9.59	0.25	162		
0.0225	14.5	0.3	199		



## CABLE CROSS SECTIONS - ANNEALED ALUMINIUM & COPPER STRANDED CONDUCTORS

Metric			Imperial				
Nom. Cross Sectional Area (mm <sup>2</sup> )	Number & Nominal Dia. of Wires (mm)	Nom. Diameter of Conductors (mm)	Nom. Cross Sectional Area (mm <sup>2</sup> )	Number & Nominal Dia. of Wires		Nom. Cross Sectional Area (in <sup>2</sup> )	Nom. Diameter of Conductors (mm)
				Inch	mm		
1	1/1.13	1.13	.97	1/.044	1/1.12	.0015	1.12
-	-	-	1.25	3/.029	3/.737	.0019	1.59
1.5	1/1.38	1.38	-	-	-	-	-
-	-	-	1.93	3/.036	3/.914	.003	1.97
2.5	7/0.67	2.01	-	-	-	-	-
-	-	-	2.93	7/.029	7/.737	.0045	2.21
4	7/0.85	2.55	-	-	-	-	-
-	-	-	4.52	7/.036	7/.914	.007	2.74
6	7/1.04	3.12	-	-	-	-	-
-	-	-	6.75	7/.044	7/1.12	.010	3.35
-	-	-	9.43	7/.052	7/1.32	.0146	3.96
10	7/1.35	4.05	-	-	-	-	-
-	-	-	14.28	7/.064	7/1.63	.0025	4.88
16	7/1.35	5.10	-	-	-	-	-
-	-	-	18.29	19/.044	19/1.12	.03	5.59
25	7/2.14	6.42	25.5	19/.052	19/1.32	.04	6.60
35	19/1.53	7.65	-	-	-	-	-
-	-	-	38.7	19/.064	19/1.63	.06	8.13
50	19/1.78	8.90	-	-	-	-	-
-	-	-	65.1	19/.083	19/2.11	.10	10.5
70	19/2.14	10.70	-	-	-	-	-
-	-	-	75.3	37/.064	37/1.63	.12	11.4
95	19/2.52	12.60	95.3	37/.072	37/1.83	.15	12.8
120	37/2.03	14.21	126.7	37/.083	37/2.11	.20	14.8
150	37/2.25	15.75	-	-	-	-	-
-	--	-	159.1	37/.093	37/2.36	.25	16.5
185	37/2.25	17.64	-	-	-	-	-
-	-	-	195.1	37/.103	37/2.62	.30	18.3
240	61/2.25	20.25	-	-	-	-	-
-	-	-	262.2	61/.093	61/2.36	.40	21.3
300	61/2.52	22.68	-	-	-	-	-
-	-	-	321.6	61/.103	61/2.62	.50	23.5
-	-	-	391.1	91/.093	91/2.36	.60	26.0
400	61/2.85	25.65	-	-	-	-	-
-	-	-	479.7	91/.103	91/2.62	.75	28.8
500	61/3.20	28.80	-	-	-	-	-
630	127/2.52	32.76	-	-	-	-	-
-	-	-	669.4	127/.103	127/2.62	1.00	34.0
800	127/2.85	37.05	800.00	127/.112	127/2.84	1.24	36.92
1000	127/3.20	41.60	1000.0	127/.125	127/3.18	1.50	41.34



## OVERHEAD CONDUCTORS

AAC		
Conductor Code Name	Number of Strands/Wire Diameter	O.D. mm
BEE	7/4.90	14.70
BEETLE	19/2.66	13.33
BUTTERFLY	19/4.64	23.25
CATERPILLAR	19/3.50	17.70
CENTIPEDE	37/3.78	26.46
CHAFER	19/3.78	18.90
CICADA	37/4.65	32.54
COCKROACH	19/4.21	21.10
CRICKET	7/5.35	16.10
FLY	7/3.40	10.20
GNAT	7/2.05	6.62
GRASSHOPPER	7/3.91	11.70
HORNET	19/3.25	16.25
HUHU	37/2.52	17.60
KUTU	7/3.00	9.00
LADYBIRD	7/2.80	8.40
MATA	19/3.86	19.30
MOKA	7/4.09	12.26
NAMU	7/2.11	6.33
POKO	7/2.36	7.08
RANGO	7/3.66	10.98
SPIDER	19/3.40	19.94
WASP	7/4.40	13.20
WEKE	7/4.72	14.16
WETA	19/3.35	16.75

SBC	
Conductor Code Name	O.D. mm
FLOUNDER	6.70
HAKE	10.41
LAMPREY	8.97
MULLET	4.90

AAAC		
Conductor Code Name	Number of Strands/Wire Diameter	O.D. mm
ARGON	7/1.75	5.25
BORON	7/2.25	6.75
CHLORINE	7/2.50	7.50
CHROMIUM	7/2.75	8.25
FLUORINE	7/3.00	9.00
HELIUM	7/3.75	11.30
HYDROGEN	7/4.50	13.50
IODINE	7/4.75	14.30
KRYPTON	19/3.25	16.30
LUTETIUM	19/3.50	17.50
NEON	19/3.75	18.80
NITROGEN	37/3.00	21.00
NOBELIUM	37/3.25	22.80
OXYGEN	19/4.75	23.80
PHOSPHORUS	37/3.75	26.30
SELENIUM	61/3.25	29.30
SILICON	61/3.50	31.50
SULPHUR	61/3.75	33.80
XENON	91/4.50	49.50

ACSR		
Conductor Code Name	Number of Strands/Wire Diameter	O.D. mm
CHUKAR	84/3.69-19/2.21	40.69
COYOTE	26/2.54-7/1.91	15.90
DINGO	18/3.35-1/3.35	16.75
DOG	6/4.72-7/1.57	14.15
FERRET	6/3.00-1/3.00	9.00
FOX	6/2.80-1/2.80	8.38
GOAT	30/3.71-7/3.71	25.96
GOPHER	6/2.36-1/2.36	7.08
HARE	6/4.72-1/4.72	14.17
HYENA	7/4.39-7/1.93	14.60
JAGUAR	18/3.86-1/3.86	19.30
MAGPIE	3/2.11-4/2.11	6.33
MINK	6/3.66-1/3.66	10.98
MOA	76/3.72-7/2.89	38.40
PETREL	12/2.34-7/2.34	11.71
RABBIT	6/3.35-1/3.35	10.00
RACCOON	6/4.09-1/4.09	12.30
SQUIRREL	6/2.10-1/2.10	6.33
SWAN	6/2.12-1/2.12	6.35
TIGER	30/2.36-7/2.36	16.50
WAXWING	18/3.10-1/3.10	15.47
WOLF	30/2.60-7/2.60	18.13
ZEBRA	54/3.18-7/3.18	28.62



## STRANDED HARD DRAWN COPPER CONDUCTOR SIZES - METRIC &amp; IMPERIAL

Metric			Imperial		
Conductor Stranding	Conductor O.D.		Conductor Stranding	Conductor O.D.	
	mm	Inch		mm	Inch
7/1.00	3.00	.118	7/036	2.7	.108
7/1.25	3.75	.148	7/048	3.7	.144
7/1.75	5.25	.207	7/064	4.9	1.92
7/2.0	6.00	.236	7/080	6.1	.240
7/2.75	8.25	.325	19/064	8.1	.320
19/1.75	8.75	.345	7/118	9.0	.354
19/2.0	10.0	.394	7/136	10.3	.408
7/3.50	10.5	.413	19/083	10.5	.415
37/1.75	12.25	.484	37/072	12.8	.504
19/2.75	13.75	.541	-	-	-
19/3.00	15.0	.591	19/116	14.7	.580
37/2.50	17.5	.689	37/093	16.5	.651
37/2.75	19.25	.758	37/103	18.3	.721
37/3.00	21.0	.827	37/118	21.0	.826
61/2.75	24.75	.974	91/093	26.0	1.023

CROSS SECTIONAL AREA MM<sup>2</sup>

Nominal Cross Sectional Area (mm <sup>2</sup> )	Conductor O.D.	
	mm	Inch
0.5	0.80	.031
1.0	1.13	.044
1.5	1.38	.054
	1.50	.059
2.5	2.01	.079
4	2.55	.100
6	3.12	.122
10	4.05	.159
16	5.10	.200
25	6.42	.252
	6.75	.265
35	7.65	.301
50	8.90	.350
70	10.70	.421
95	12.46	.490
	12.60	.496
120	14.20	.559
150	15.75	.620
185	17.64	.694
240	20.25	.797
300	22.68	.892
400	25.65	1.009
500	28.80	1.133
630	32.76	1.289
800	37.05	1.458
1000	41.60	1.637





## ALUMINIUM CONDUCTOR (GALVANISED) STEEL REINFORCED ACSR/GZ/1350 AUS. STANDARD - AS 3607

Code Name	Strands/Wire Diameter (mm)	Approx. Overall Diameter (mm)	Nominated Minimum Breaking Load (kN)	Nominated Mass (kg per km)
ALMOND	6/1/2.50	7.50	10.5	119.0
APPLE	6/1/3.00	9.00	14.9	171.0
BANANA	6/1/3.75	11.25	22.7	268.0
CHERRY	6/4.75+7/1.60	14.30	33.4	402.0
GRAPE	30/7/2.50	17.50	63.5	677.0
LEMON	30/7/3.00	21.00	90.4	973.0
LIME	30/7/3.50	24.50	122.0	1320.0
MANGO	54/7/3.00	27.00	119.0	1440.0
ORANGE	54/7/3.25	29.25	137.0	1690.0
OLIVE	54/7/3.50	31.50	159.0	1960.0
PAWPAW	54/3.75+19/2.25	33.75	178.0	2240.0
PEACH	54/4.75+19/2.85	42.75	284.0	3600.0

## ALUMINIUM CONDUCTOR (ALUMINISED) STEEL REINFORCED ACSR/AZ/1350 AUS. STANDARD - AS 3607

Code Name	Strands/Wire Diameter (mm)	Approx. Overall Diameter (mm)	Nominated Minimum Breaking Load (kN)	Nominated Mass (kg per km)
BARLEY	6/1/2.50	7.50	7.50	118.0
BEAN	6/1/3.00	9.00	9.00	170.0
CABBAGE	6/1/3.75	11.25	11.25	265.0
CARROT	6/4.75+7/1.60	14.30	14.30	399.0
CORN	30/7/2.50	17.50	17.50	675.0
GARLIC	30/7/3.00	21.00	21.00	973.0
MILLET	30/7/3.50	24.50	24.50	1320.0
OATS	54/7/3.00	27.00	27.00	1440.0
ONION	54/7/3.25	29.25	29.25	1690.0
PARSNIP	54/7/3.50	31.50	31.50	1960.0
POTATO	54/3.75+19/2.25	33.75	33.75	2250.0
RICE	54/4.75+19/2.85	42.75	42.75	3600.0

## ALUMINIUM CONDUCTOR (ALUMINISED) STEEL REINFORCED ACSR/AC/1350 AUS. STANDARD - AS 3607 EXTRA HIGH STRENGTH

Code Name	Strands/Wire Diameter (mm)	Approx. Overall Diameter (mm)	Nominated Minimum Breaking Load (kN)	Nominated Mass (kg per km)
QUINCE	3/4/1.75	5.25	12.7	95.9
RAISIN	3/4/2.50	7.50	24.4	193.0
SULTANA	4/3/3.00	9.00	28.3	242.0
WALNUT	4/3/3.75	11.25	43.9	379.0



## ALUMINIUM CONDUCTOR (ALUMINIUM CLAD) STEEL REINFORCED ACSR/AC/1350 AUS. STANDARD - AS 3607

Code Name	Strands/Wire Diameter (mm)	Approx. Overall Diameter (mm)	Nominated Minimum Breaking Load (kN)	Nominated Mass (kg per km)
ANGLING	6/1/2.50	7.50	10.6	113.0
ARCHERY	6/1/3.00	9.00	15.1	163.0
BASEBALL	6/1/3.75	11.25	22.3	254.0
BOWLS	6/4.75+7/1.60	14.30	32.7	385.0
CRICKET	30/7/2.50	17.50	64.4	636.0
DARTS	30/7/3.00	21.00	91.6	913.0
DIVING	30/7/3.50	24.50	122.0	1240.0
GOLF	54/7/3.00	27.00	120.0	1380.0
GYMNASTICS	54/7/3.25	29.25	139.0	1620.0
HURDLES	54/7/3.50	31.50	159.0	1880.0
LACROSSE	54/3.75+19/2.25	33.75	180.0	2150.0
RUGBY	54/4.75+19/2.85	42.75	287.0	3450.0

## ALUMINIUM CONDUCTOR AAC/1350 AUST. STANDARD - AS 1531

Code Name	Strands/Wire Diameter (mm)	Approx. Overall Diameter (mm)	Nominated Minimum Breaking Load (kN)	Nominated Mass (kg per km)
LEO	7/2.50	7.50	5.7	94.3
LIBRA	7/3.00	9.00	7.9	135.0
MARS	7/3.75	11.25	11.8	211.0
MERCURY	7/4.50	13.50	16.9	304.0
MOON	7/4.75	14.25	18.9	339.0
NEPTUNE	19/3.25	16.25	24.7	433.0
PLUTO	19/3.75	18.75	31.9	576.0
SATURN	37/3.00	21.00	42.2	721.0
TAURUS	19/4.75	23.75	51.3	924.0
TRITON	37/3.75	26.25	62.2	1120.0
URANUS	61/3.25	29.25	75.2	1400.0
VENUS	61/3.75	33.75	97.2	1860.0
VIRGO	91/4.50	49.50	207.0	4010.0



## ALL ALUMINIUM ALLOY CONDUCTOR AAAC 6201 AUST. STANDARD - AS 1531

Code Name	Strands/Wire Diameter (mm)	Approx. Overall Diameter (mm)	Nominated Minimum Breaking Load (kN)	Nominated Mass (kg per km)
DIAMOND	7/2.50	7.50	9.6	94.3
DOLOMITE	7/2.75	8.25	11.6	113.0
EMERALD	7/3.00	9.00	13.9	135.0
GARNET	7/3.75	11.25	21.7	211.0
JADE	7/4.50	13.50	31.2	304.0
JASPER	7/4.75	14.25	34.8	339.0
OPAL	19/3.25	16.25	44.2	433.0
PATRONITE	19/3.50	17.50	51.3	503.0
PEARL	19/3.75	18.75	58.8	576.0
RUBY	37/3.00	21.00	73.5	721.0
RUTHENIUM	37/3.25	22.75	86.1	845.0
RUTILE	19/4.75	23.75	94.4	924.0
SAPPHIRE	37/3.75	26.25	115.0	1120.0
SPINEL	61/3.25	29.25	135.0	1400.0
TANTALUM	61/3.50	31.50	156.0	1620.0
TOPAZ	61/3.75	33.75	179.0	1860.0
ZIRCON	91/4.50	49.50	384.0	4000.0

## ALL ALUMINIUM ALLOY CONDUCTOR AAAC 1120 AUST. STANDARD - AS 1531

Code Name	Strands/Wire Diameter (mm)	Approx. Overall Diameter (mm)	Nominated Minimum Breaking Load (kN)	Nominated Mass (kg per km)
CHLORINE	7/2.50	7.50	8.1	94.3
CHROMIUM	7/2.75	8.25	9.9	113.0
FLUORINE	7/3.00	9.00	11.8	135.0
HELIUM	7/3.75	11.25	17.6	211.0
HYDROGEN	7/4.50	13.50	24.3	304.0
IODINE	7/4.75	14.25	27.1	339.0
KRYPTON	19/3.25	16.25	37.4	433.0
LUTETIUM	19/3.50	17.50	41.7	503.0
NEON	19/3.75	18.75	47.8	576.0
NITROGEN	37/3.00	21.00	62.2	721.0
NOBELIUM	37/3.25	22.75	72.8	845.0
OXYGEN	19/4.75	23.75	73.6	924.0
PHOSPHORUS	37/3.75	26.25	93.1	1120.0
SELENIUM	61/3.25	29.25	114.0	1400.0
SILICON	61/3.50	31.50	127.0	1620.0
SULPHUR	61/3.75	33.75	145.0	1860.0

**STEEL CONDUCTOR/GALVANISED SC/GZ AUST. STANDARD - AS 1222 PART 1**

Strands/Wire Diameter (mm)	Approx. Overall Diameter (mm)	Nominated Minimum Breaking Load (kN)	Nominated Mass (kg per km)
3/2.00	4.31	11.7	74
3/2.75	5.93	22.2	140.0
7/2.00	6.00	26.0	173.0
7/2.75	8.25	49.0	328.0
7/3.25	9.75	68.7	458.0
19/2.00	10.00	70.5	473.0
7/3.75	11.25	91.3	609.0
19/2.75	13.75	133.0	894.0
19/3.25	16.25	186.0	1250.0

**HARD DRAWN COPPER CONDUCTOR HDC AUST. STANDARD - AS 1746**

37/1.75 Strands/Wire Dia 37/2.50 Meter (mm)	Approx. Overall Diameter (mm)	Nominated Minimum Breaking Load (kN)	Nominated Mass (kg per km)
7/1.00	3.00	2.3	49.3
7/1.25	3.75	3.5	76.9
7/1.75	5.25	6.8	151.0
7/2.00	6.00	8.8	197.0
7/2.75	8.25	16.2	375.0
7/3.50	10.50	25.4	607.0
19/2.00	10.00	23.6	538.0
19/2.75	13.75	43.1	1020.0
19/3.00	15.00	50.8	1210.0
37/1.75	12.25	35.6	806.0
37/2.50	17.50	70.3	1640.0
37/2.75	19.25	83.9	1990.0
37/3.00	21.00	98.9	2370.0
61/2.75	24.75	138.0	3290.0

# CADWELD MOLD RENTAL

1. Tick a box to identify the mold size you require
2. Enter number of connections to be made (10 weld metals will be charged for & supplied with each rental)
3. Complete the customer details
4. Complete the end user details
5. Fax or email to TransNet

## 1. CONNECTION SECTION

**NOTE: All rental molds are for GT type connection style, Kit contains all parts required to make 10 connections**

Hire Molds for 13mm Ground Rods

☐ 35mm<sup>2</sup>

☐ 50mm<sup>2</sup>

☐ 70mm<sup>2</sup>

☐ 95mm<sup>2</sup>

☐ 120mm<sup>2</sup>

Hire Molds for 15mm Ground Rods

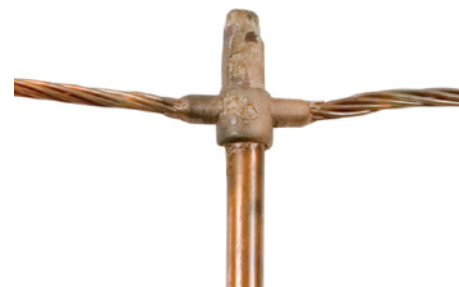
☐ 35mm<sup>2</sup>

☐ 50mm<sup>2</sup>

☐ 70mm<sup>2</sup>

☐ 95mm<sup>2</sup>

☐ 120mm<sup>2</sup>



Rental Molds offer GT Style Connection Only (cable to ground rod)

## 2. NUMBER OF CONNECTIONS

**NOTE: Minimum of 10 connections catered for in each rental**

Quantity:

## 3. CUSTOMER/WHOLESALE DETAIL

Company:

Contact Person:

Contact No.

Order No:

Date:

## 4. END USER/CONTRACTOR DETAIL

Company:

Contact Person:

Contact No.

Date Required:

Delivery Address (Customer Can Collect):

Estimated Rental Days (No half days):

## 5. FAX OR EMAIL THIS FORM

For assistance call TransNet on 0800 442 182 or +649 274 3340

### TransNet Purchasing Use Only

Purchase Order No.

Requested By:

Date:

### Contract Connections Ltd Use Only

Ship Date:

Actual Return Date:

Total Number of Days' Hire:

Return Condition of Goods:

Entered By:

**0800 442 183**

**+649 274 5940**

**sales@transnet.co.nz**

## RETURN MOLD KIT TO:

**CONTRACT CONNECTIONS**

**19A ZELANIAN DRIVE**

**EAST TAMAKI**

Additional costs will be incurred if goods are damaged



**0-9**65U **265****A**ABC CONNECTORS **184-185**

AB CHANCE — SEE FUSES

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AIRFLOW HOOD SYSTEM & COMPACT PRO-AIR™ ACAIR102 **390**AS1000/AS1500 PROTECTIVE FACE SHIELDS **386**AS1000HAT & AFHOOD KIT **389**AS1200 UNIVERSAL FIT PROTECTIVE FACE SHIELD **384**AS2000 & AS1200 SERIES **384**BIB OVERALLS **393**CLOTHING KITS - MATERIAL WEIGHTS **391**CLOTHING KITS - SIZING **391**COATS **393**HOODS **392**HOODS - AFHOODS **389**PERSONAL PROTECTION EQUIPMENT KITS **395, 396**PREMIUM COVERALL KITS **394**PREMIUM COVERALLS **394**PREMIUM LIGHT WEIGHT **395**PREMIUM OVERPANTS **394**PROTECTIVE FACE SHIELD OPTIONAL ACCESSORIES **385**REPLACEMENT ARC FLASH PROTECTION LENSES **387**

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ARS VERTICAL FUSE SWITCH DISCONNECT — SEE VERTICAL DISCONNECTS

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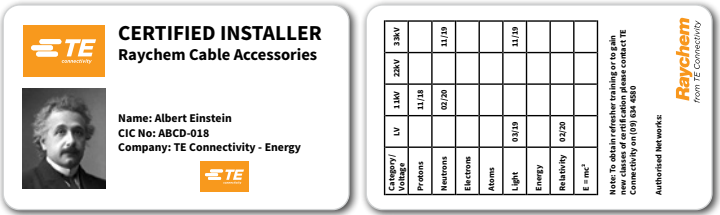
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# RAYCHEM CIC & INSTALLATION APP

An industry Licence identifying those who have proven their competency in the installation of Raychem Cable Accessories. A live qualification on which is updated as the installer progresses through the competencies outlined around voltage classes and type of installation.



### Front of Card

1. Installer's Name
2. Installer's Photo
3. Unique ID Number

### Back of Card

1. Easy to read endorsements
2. Expiry dates of current endorsements
3. Contact details for TE Connectivity

## RAYCHEM CERTIFIED INSTALLER CERTIFICATE

TE has taken the lead and are offering training around the installation of Raychem joints and terminations. The Raychem CIC as it's commonly referred to, offers the installer not only access to the correct installation procedures for the cable accessory at hand but also a recognised approval of competency to install to these exacted standards.

For the network and the contractor alike this means peace of mind about quality and training. The TE team area available to assist with onsite training or a workshop based session then they will come back and observe an actual installation to ensure the install is conducted correctly with regards to the product installation instruction.

The installer gets a cards which shows exactly which cable accessories, the types of cables and the voltages worked on and observed by TE making it easy to identify any areas that need to be observed.

### TE Toolbox App

#### The Future of Installer's Tools

- Android & Apple app designed to map and record all Raychem kits installed
- Quick and easy to use on site
- Developed in conjunction with our customers
- This is the future of installing cable accessories in NZ

**Raychem**  
from TE Connectivity

Every Connection Counts

The image shows a smartphone displaying the TE Toolbox App interface. The app has a map view and a list view. The list view shows a table with columns for 'Kit', 'Location', 'Date', and 'Status'. The map view shows a location pin on a map. The app is designed to be used on-site for recording installations.

## RAYCHEM INSTALLATION APP

The perfect accessory for accurately recording installations on any network around the country. TE has taken the time to consider and include industry feedback to make this an easy to use and fundamentally essential tool to accurately record installations.

The app is fast and easy to use, enabling the installer to quickly input all the relevant information pertaining to the network and the cable accessories present in the installation.

The app offers easy reporting of any installation that is uploaded to it. There are many ways to drill down into the information to confirm information such as cable type and size.

The app is available to all cable jointers, contractors and networks around the country, for more information please contact TE Connectivity at [nzenergy@te.com](mailto:nzenergy@te.com).

## TE CONNECTIVITY

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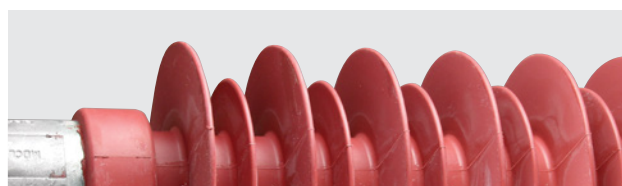
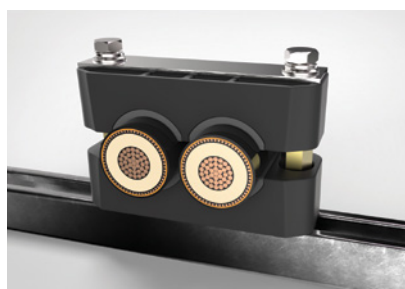
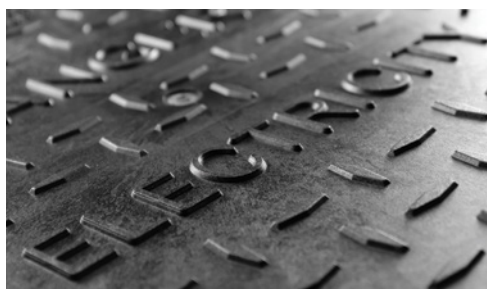
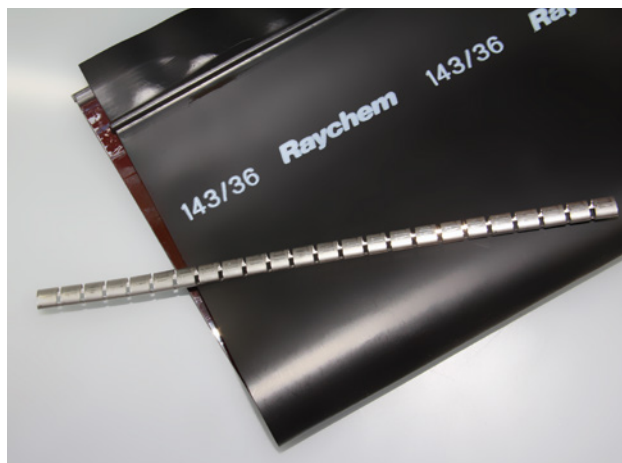
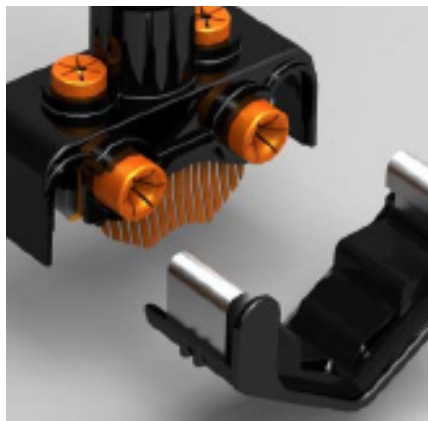
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