

TE CONNECTIVITY ENERGY ASIA

Ready Reference Guide

Generation • Distribution • Transmission • Industry

Raychem Cable Accessories, Connectors, Fittings, Surge Arrestors, Insulators, Crompton Power Measurement Control

ABOUT TE CONNECTIVITY

TE Connectivity (NYSE: TEL) is a \$13 billion world leader in connectivity. The company designs and manufactures products at the heart of electronic connections for the world's leading industries including automotive, energy and industrial, broadband communications, consumer devices, healthcare, and aerospace and defense. TE Connectivity's long-standing commitment to innovation and engineering excellence helps its customers solve the need for more energy efficiency, always-on communications and ever-increasing productivity. With nearly 90,000 employees in over 50 countries, TE Connectivity makes connections the world relies on to work flawlessly every day. To connect with the company, visit: www.TE.com.

Raychem Products

Raychem products, from TE Connectivity, are known for their high quality, reliability, and breadth of industry-leading electrical products including cable accessories, insulators, surge arresters, and insulation and animal protection products.

However, to connect and protect the power grid, it takes more than a great set of products. Raychem product's decades -long dedication to innovation, a desire to create products that endure, and a global network of dedicated TE Connectivity professionals willing to do what it takes to keep your grid operating efficiently is also at the core of what Raychem product represent. Raychem products from TE Connectivity - connecting and protecting your power grid.



Cable Accessories

The most innovative utilities and industries around the world use Raychem cable accessories. Designed to withstand environmental extremes and high pollution levels over long operating lifetimes, our products help maintain service reliability in both overhead and underground installations.

- Low Voltage Accessories
- Medium Voltage Joints and Terminations
- Medium Voltage Switchgear Connection Systems
- High Voltage Terminations, Joints and Link Boxes
- Nuclear Qualified Products
- Tooling
- Sealing Systems



Raysulate

Raychem insulation systems for substations and overhead lines are used in transmission, distribution networks, HV substations, railway, and OEM applications.

- Busbar Insulation Tubing and Tapes
- Insulating Sheets
- Preformed Covers
- Squirrel Guards
- Bird Protection Caps
- Overhead Line Insulation Sleeves
- Creepage Extenders

Raychem
from TE Connectivity



Surge Arresters

Raychem surge arresters protect the power grid from unexpected overvoltage conditions, such as a lightning strike, and are built for maximum reliability. Our extensive range of polymeric and porcelain surge arresters include:

- Low Voltage Surge Arresters
- Medium Voltage Surge Arresters
- High Voltage Surge Arresters
- Surge Monitoring Systems



Insulators

Raychem insulators have earned a global reputation for innovation, quality, service and technical expertise for an array of applications in power networks.

- Porcelain Insulators
- Polymeric Insulators
- Hybrid Insulators

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RDSS

Rayplate duct sealing system for power cables

General Description

Rayplate Rayplate RDSS system is designed for use on power cables to provide a water tight seal when used with plastic, concrete or steel ducting systems.

The Rayplate seal consists of an inflatable bladder of flexible metallic laminate, coated on both sides with a sealant strip. After lubricating the sealant strip, wrapping the RDSS around the cables and inserting into the duct, the product is inflated using a gas pressure tool. The sealant is pressed against the duct forming an excellent water seal. RDSS system can be used to seal ducts with no cable, single cable or multiple cables, and can be installed even when water is flowing in the duct.



Features & Benefits

- Quick and easy installation even in congested enclosures.
- No installer sensitive mixing and filling.
- Reliable, long lasting seals keep manholes dry.
- Eliminates pumping and provides operators immediate access to a dry manhole.
- Use of an RDSS-Clip enables sealing of three or more cables in a duct.
- Each Rayplate seal covers a large range of cables and duct diameters. It is very versatile, adapting to most configurations and is independent of duct ovality.
- Rayplate can be easily removed with no damage to the duct.
- The RDSS-IT-16 inflation tool, used in conjunction with the CO2 cartridge, coupled with an automatic pressure monitoring system ensures easy, consistent filling.
- Sealing ducts with diameter >180 mm requires the RDSS-AD adaptor which can be ordered separately.
- RDSS system is environmentally safe.

Selection Information: dimensions shown in millimeters

Each RDSS seals empty ducts (except for size 150) and ducts containing up to 2 cables. The table below shows the minimum and maximum diameter of the cable or of the sum of 2 cables depending on the duct size. Dimensions in mm.

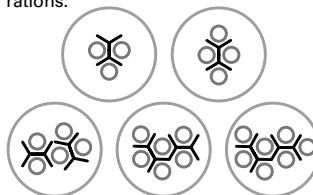
Product description						
Duct inside dia.	RDSS-45 cable dia.	RDSS-60 cable dia.	RDSS-75 cable dia.	RDSS-100 cable dia.	RDSS-125 cable dia.	RDSS-150 cable dia.
32.5	0 – 14					
35	0 – 18					
40	0 – 27					
45	0 – 32	0 – 18				
50		0 – 30				
55		0 – 38	0 – 28			
60		0 – 45	0 – 30			
65			0 – 40			
70			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				55 – 95*	0 – 91	
120				60 – 100*	0 – 95	
125					0 – 103	60 – 100
130					70 – 110*	60 – 107
135					75 – 115*	60 – 112
140					80 – 120*	60 – 118
145					85 – 125*	60 – 123
150					90 – 130*	60 – 129
155						60 – 134*
160						60 – 139*
165						105 – 145*
170						110 – 150*
175						115 – 155*
180						120 – 160*
>180**						
Clip Selection	RDSS- Clip-45	RDSS- Clip-75	RDSS- Clip-75	RDSS- Clip-100	RDSS- Clip-125	RDSS- Clip-150

■ Suitable also for empty ducts
■ Only with cables

*RDSS-Clips must also be used for 2-cable configurations

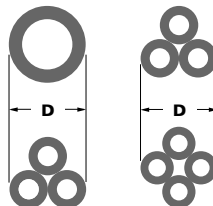
When three or more cables have to be sealed, an RDSS sealing clip is used in combination with the RDSS inflatable duct seal.

One RDSS-Clip seals up to 4 cables. If more cables are to be sealed, use one extra clip per three additional cables as shown in the following examples for different multi-cable configurations:



For each clip used, subtract 5 mm from the maximum cable diameter shown in the table to determine the maximum cable bundle diameter.

Cable or cable bundle diameters:



RDSS-IT-16: Inflation tool complete with an ON/OFF switch and an automatic pressure monitoring system. The required CO₂ gas cylinders (E7512-0160) must be ordered separately. The standard package includes 1 tool per box plus operating manual and a 3-year warranty.



E7512-0160: 16 gr. CO₂ gas cylinders for RDSS-IT-16 tool. Each gas cylinder inflates approx. 5 pcs of RDSS-100 duct seals. Each box contains 10 gas cylinders.



For use with customer's compressed air system, please contact local sales representative.

All RDSS sizes are packed in boxes of 10 pieces with 1 lubricant dispenser and an installation nstruction.

RDSS-Clips are packed in boxes of 5 pieces. RDSS-Clips must be ordered as a separate item.

** For more specific information on cable diameter ranges and for duct sizes > 180 mm contact your local sales representative.



RVS

Rayvolve low voltage cable connection kits

General Description

Rayvolve RVS kits are the easy, “roll-on” way to insulate and seal cable connections up to 1kV. The gripping force of the specially formulated EPDM elastomer combines with a high-performance sealant to form a reliable, water-resistant, insulating sleeve that is UL listed and CSA certified for direct burial applications over in-line compression connectors.

Features & Benefits

- Pre-engineered wall thickness of the Rayvolve sleeve ensures consistent field installation.
- Compression force of the elastomeric sleeve on the sealant forms an excellent moisture seal, even on grooved and out-of-round cables.
- The stabilized EPDM elastomer resists aging and damage from exposure to moisture, ozone, fungus, and temperature extremes of -40°C to 130°C resulting in long service life.
- Easy, tool free installation.
- Meets the requirements of UL486D and CSA22.2 No 198.2. Tested to ANSI C119.1-1986

Selection Information: dimensions shown in millimeters

Recommended range for up to 1 kV single-conductor cable jointing.

	Nominal	Cable O.D.	Max. Connector Dim.		Sleeve
	Cable size	Min-Max	Diameter	Length	Length
RVS-11	#8-2/0 AWG	0.-0.68 in	0.68 in	5.0 in	8.0 in
	10-70 sqmm	9-17 mm	17 mm	127 mm	205 mm
RVS-12	1/0-250 AWG	0.48-0.90 in	1.00 in	4.50 in	9.5 in
	50-120 sqmm	12-23 mm	25 mm	114 mm	240 mm
RVS-13	250-600 AWG	0.69-1.20 in	1.48 in	7.00 in	12.0 in
	120-300 sqmm	18-30 mm	38 mm	178 mm	305 mm
RVS-14	600-1000 AWG	0.96-1.50 in	1.88 in	9.00 in	14.0 in
	300-500 sqmm	25-38 mm	48 mm	229 mm	355 mm

Test report: EDR-5167 in accordance to ANSI C119.1-1986 (Part 4.3, Integrity of Seal and Connector Insulation).



Raychem heat-shrinkable halogen-free cable caps for the electrical power industry

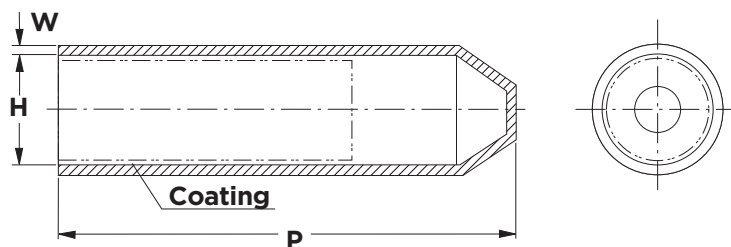
General Description

Cable on a drum often need to be cut and re-sealed. Raychem heat shrinkable Cable End Caps provide a quick, simple and reliable method to seal the ends of cables. Raychem End Caps shrink when heated to tightly fit a range of cable sizes and constructions. A specially formulated heat activated adhesive, coated on the inner surface of the end cap, melts and flows under the shrinking action, creating a high integrity moisture seal. Made from a cross-linked halogen free polymer, they also provide excellent electrical insulation, at the same time resisting abrasion, weathering and chemical action.

Features & Benefits

- Suitable for use on all power and telecommunication cables
- A high shrink ratio enables perfect fit on a wide range of cables sizes.
- Hot melt adhesive provides a positive moisture seal
- Abrasion, UV and chemical resistant. Suitable for use in all climates
- Excellent mechanical strength enables immediate back fill, if used to seal buried cables.

Selection Information: dimensions shown in millimeters



Notes:

1. Dimensions in millimeters
a = as supplied
b = after free recovery
2. Drawing depicts typical part.

Product/Size	H a min	b max	P b +15/-10%	W b ±20%
102L011/S	10	4	38	2.0
102L022/S	20	7.5	55	2.8
102L027/S	29	13	93	2.5
102L033/S	35	15	90	3.2
102L044/S	55	25	143	3.9
102L048/S	75	32	150	3.3
102L050/S	93	38	142	4.4
102L055/S	100	45	162	3.8
102L066/S	120	70	145	3.8



FCSM

Heat-shrinkable flame-retarded heavy-wall tubing

General Description

Raychem FCSM heat shrinkable, heavy wall, flame retarded, flexible, insulating tubing for use in re-jacketing cable joints, cable jacket repairs on cables with flame-retarded jacket available with or without sealant. Excellent for use on flexible cable.

Features & Benefits

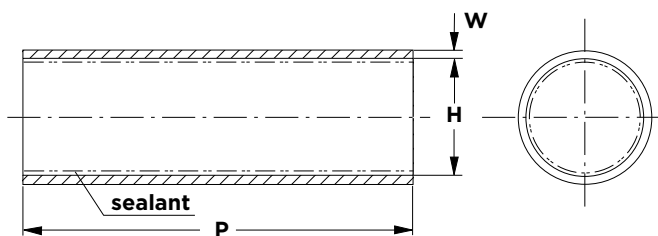
High shrink ratio enables perfect fit on a wide range of cables. Heat shrink hot melt provides an excellent moisture seal. High mechanical strength enables immediate back feeling.

Selection Information: dimensions shown in millimeters

Properties		Test method	Material requirements
Tensile strength		ISO 37	12 MPa min.
Ultimate elongation		ISO 37	350% min.
Density		ISO/R 1138 Method A	1.1-1.3. g/cm ³
Hardness		ISO 868	30-50 shore D
Accelerated ageing	168 hrs at 150°±2°C	ISO 188	
	Tensile Strength	ISO 37	11 MPa min.
	Ultimate Elongation	ISO 37	200% min.
Thermal endurance*		IEC 60216	130°C
Low temperature flexibility	4 hrs at -40°C±3°C	ASTM D 2671	No cracking
Dielectric strength		IEC 60243	130 kV/cm min.
Volume resistivity		IEC 60093	1x10 ¹³ Ω cm min.
Comparative tracking index		VDE 0303/1	KA 1
Corrosion		ASTM D 2671 Proc. A	No corrosion after 16 hrs at 150°C
Flammability		ICEA-S-19-81	Self-extinguishing 60 sec. max
Flame propagation		IEC 60332-1	Pass
Water absorption		ISO 62 Proc. A	0.5% after 14 days at 23°C max.
Resistance to liquids	168 hrs at 23°±2°C	ISO 1817	Transformer oil to VDE 0370
	Tensile Strength	ISO 37	11 MPa min.
	Ultimate Elongation	ISO 37	300% min.
Resistance to fungi		ASTM G 21	Pass rating 1
Weathering		The material from which FCSM is manufactured contains carbon black to protect it from ultraviolet light.	
Additional properties		More detailed product specification data available on request.	

* based on ultimate elongation

Dimensions



Notes:

- Dimensions in millimeters
a= as supplied
b= after free recovery
*= at minimum supplied diameter
- Max. longitudinal change after free recovery: +5% to -15%

Product/ size	Application range	H a min	b max	W a* min	b min	P Cut length
FCSM 9/3	3.5-8.0	9	3	0.6	2.0	See standard lengths
FCSM 19/6	6.5-17.0	19	6	0.7	2.4	
FCSM 28/9	10.0-25.0	28	9	0.8	3.2	
FCSM 38/12	13.0-34.0	38	12	1.0	4.1	
FCSM 51/16	17.5-46.0	51	16	1.0	4.1	
FCSM 68/22	24.0-61.0	68	22	1.0	4.1	
FCSM 90/30	33.0-81.0	90	30	1.0	4.1	
FCSM 120/40	44.0-108.0	120	40	1.0	4.1	
FCSM 177/63	96.0-159.0	177	63	1.0	4.1	

Standard lengths and sealant

Lengths

All sizes are available in the standard lengths: 1000 mm and 1500 mm.

On request: other lengths and on spools.

All lengths subject to standard cutting tolerances.

Sealant

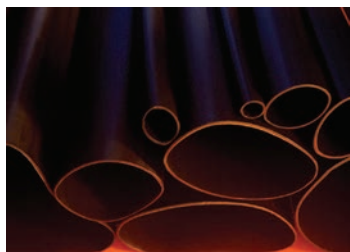
FCSM tubing is available with or without an inner sealant wall. The sealant exhibits excellent bonding and sealing characteristics to all materials commonly used in the various cable insulation and sheath constructions, such as plastic, rubber, lead and aluminium.

Ordering example

Part number

FCSM 68/22-1000/U

Product Type _____
Size _____
Length/Spool (A) _____
/S = sealant _____
/U = without sealant _____



MWTM

Heat-shrinkable medium wall insulation tubing

General Description

Raychem heat shrinkable medium wall tubing for use in re-jacketing cable joint, cable jacket, repairs and core protection in terminations.

Features & Benefits

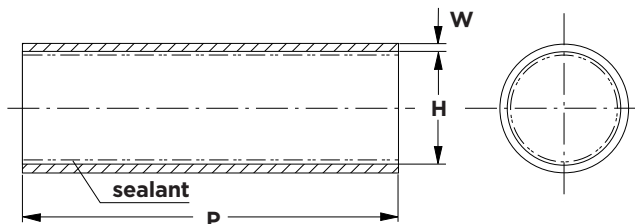
High shrink ratio enables perfect fit on a wide range of cables. Hot melt sealant provides an excellent moisture seal. High mechanical strength enables immediate back feeling.

Selection Information: dimensions shown in millimeters

Material properties		Test method	Material requirements
Tensile strength		ISO 37	14 MPa min.
Ultimate elongation		ISO 37	350 % min.
Density		ISO 1183 Method A	0.9 – 1.1 g/cm ³
Hardness		ISO 868	50 shore D
Accelerated ageing	7 days at 150°C ± 2°C	ISO 188	
	Tensile strength	ISO 37	14 MPa min.
	Ultimate elongation	ISO 37	300 % min.
Thermal endurance*		IEC 60216	120°C min.
Low temperature flexibility	4 hrs at -40°C ± 3°C	ASTM D 2671 Procedure C	No cracking
Dielectric strength	1 mm wall	IEC 60243	200 kV/cm
Volume resistivity		IEC 60093	1 × 10 ¹² Ω cm min.
Water absorption		ISO 62 Method 1	0.25 % max after 14 days at 23°C ± 2°C
Resistance to liquids	7 days in transformer oil VDE 0370 at 23°C ± 2°C	ISO 1817	
	Tensile strength	ISO 37	14 MPa min.
	Ultimate elongation	ISO 37	300 % min.
Weathering		The material from which MWTM tubing is manufactured contains carbon black to protect it from ultra-violet light.	
Additional properties		Further details are given in Raychem specification PPS 3010/19 (A) [1326].	

* based on ultimate elongation

Dimensions



Notes:

- Dimensions in millimeters
a = as supplied
b = after free recovery
- Max. longitudinal change after free recovery:
+5% / -10%

Raychem MWTM is supplied complete with installation instructions.

Product Size	Application range		H		W	
	from mm	to mm	a min	b max	a nom	b min
MWTM 10/3	3.5	9.0	10	3	0.3	1.0
MWTM 16/5	5.5	14.5	16	5	0.3	1.4
MWTM 25/8	9.0	22.5	25	8	0.4	2.0
MWTM 35/12	13.0	31.5	35	12	0.4	2.0
MWTM 50/16	18	45	50	16	0.5	2.0
MWTM 63/19	21	57	63	19	0.6	2.4
MWTM 75/22	24	68	75	22	0.6	2.7
MWTM 85/25	28	77	85	25	0.6	2.8
MWTM 95/29	32	86	95	29	0.7	3.1
MWTM 115/34	37	104	115	34	0.7	3.1
MWTM 140/42	46	126	140	42	0.7	3.1
MWTM 160/50	55	144	160	50	0.7	3.2
MWTM 180/60	66	162	180	60	0.7	3.2
MWTM 245/80 *	88	220	245	80	n.a.	2.4
MWTM 285/135 *	149	255	285	135	n.a.	1.4

* uncoated only

Standard lengths and coatings

Lengths

All sizes types are available in the standard lengths: 1000 mm and 1500 mm.

Spools and other lengths on request. All lengths subject to standard cutting tolerances.

Coatings

Raychem MWTM is available with or without an inner sealant wall. The sealant exhibits excellent bonding and sealing characteristics to all materials commonly used in the various cable insulation and sheath constructions, such as plastic, rubber, lead and aluminium.

Sealant /S (equivalent /243 and S1323) meets Raychem specification PPS 3012/76

Ordering example

Part number

MWTM 25/8-1000/S

Product type _____
Size _____
Standard length _____
/S = sealant _____
/U = without sealant _____



WCSM

Heat-shrinkable heavy-wall insulation and outer sealing sleeve

General Description

Raychem WCSM heat-shrinkable heavy-wall tubing WCSM for insulating and sealing power cables and accessories. The UV stable and halogen free specially formulated to match the electrical and mechanical properties of cable jackets.

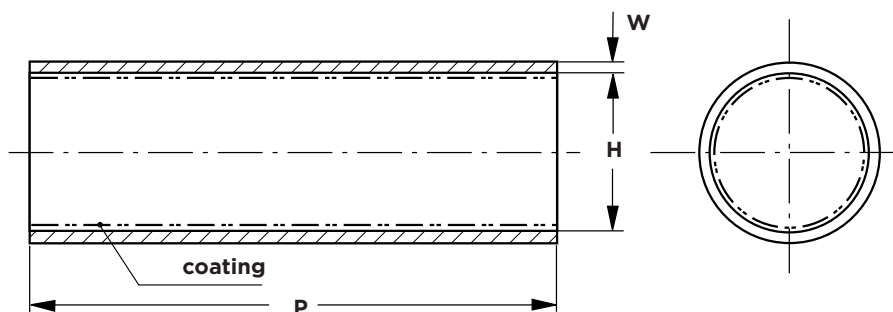
Features & Benefits

UV stable and pollution resistant unlimited shelf life when stored under normal condition. High shrink ratio enables perfect fit on a wide range of cables. Hot melt sealant provides an excellent moisture seal. High mechanical strength enables immediate back feeling.

Selection Information: dimensions shown in millimeters

WCSM Properties		Test Method	Material Requirements
Tensile Strength		ISO 37	12 MPa min
Ultimate Elongation		ISO 37	350% min
Density		ISO 1183 Method A	0.8-1.0 g/cm ³
Hardness		ISO 868	40-50 shore D
Accelerated Ageing	7 days at 150 °C ± 2 °C	ISO 188	
	Tensile Strength	ISO 37	12 MPa min
	Ultimate Elongation	ISO 37	350% min
Low Temperature Flexibility	4 hours at -40 °C ± 3 °C	ASTM D2671 Procedure C	No cracking
Dielectric Strength		IEC 60243 Part 1 and 2	170 kV/cm min (1 mm wall) 120 kV/cm min (2 mm wall)
Volume Resistivity		IEC 60093	1 x 10 ¹² Ω cm min
Dielectric Constant		IEC 60250	5.0 max
Water Absorption		ISO 62 Method 1	0.2% max after 14 days at 23 °C ± 2 °C
Weathering		The material from which WCSM tubing is manufactured contains carbon black to protect it from ultra-violet light.	
Additional Properties		Further details are given in Raychem specification PPS 3010/10 (A) [1326]. Sealant characteristics are detailed in Raychem specification PPS 3012/76.	

Dimensions



Notes:

1. Dimensions in millimeters

a = as supplied

b = after free recovery

1. Max. longitudinal change after free recovery: +5% / -10%

Raychem WCSM is supplied complete with installation instructions.

Product Size	Application range		H		W	
	from mm	to mm	a min	b max	a nom	b min
WCSM 12/3	3.5	10	12	3	0.8	2.0
WCSM 16/4	4.5	14	16	4	0.9	2.4
WCSM 24/6	6.5	22	24	6	1.0	2.7
WCSM 34/8	9	31	33	8	1.3	4.0
WCSM 48/12	13	44	48	12	1.5	4.5
WCSM 56/16	17.5	50	56	16	1.5	4.4
WCSM 70/20	22	63	70	20	1.4	4.4
WCSM 90/25	27	81	90	25	1.3	4.3
WCSM 110/30	33	100	110	30	1.2	4.3
WCSM 130/35	38	118	130	35	1.2	4.3
WCSM 160/50	55	144	160	50	1.0	4.3
WCSM 180/50	55	162	180	50	1.0	4.3
WCSM 200/50	55	180	200	50	n.a.	4.3
WCSM 250/65	70	225	250	65	n.a.	4.3
WCSM 320/95	105	295	320	95	n.a.	4.3
WCSM 390/110	125	350	390	110	n.a.	4.3

Standard Lengths and Sealant

Lengths

All sizes are available in the standard lengths: 1000 mm and 1500 mm.

On request: other lengths and on spools.

All lengths subject to standard cutting tolerances.

Sealant

Raychem WCSM are coated with an inner sealant wall. The sealant exhibits excellent bonding and sealing characteristics to all materials commonly used in the various cable insulation and sheath constructions, such as plastic, rubber, lead, and aluminium. Sealant /S (equivalent /243 and S1323) meets Raychem specification PPS 3012/76.

Ordering Example Part Number

WCSM 9/3-1500/S

Product Type _____
Size _____
Standard Length _____
/S = Sealant _____



CRSM

Heat-shrinkable wraparound system for plastic or sheathed cable repair up to 36 kV

General Description

Raychem CRSM wraparound sleeves are a fast and permanent cable repair sealing system. The sleeve is quickly fitted in place by means of its rail and channel closure. The sleeve is heated using a regular gas torch causing it to shrink in diameter conforming tightly to the substrate. The heat activated sealant coating inside the sleeve melts and flows into the interstices and bonds to the various cable jackets - plastic, rubber, lead, aluminium - to create an excellent moisture seal. If desired, the channel can be cut after the sleeve has cooled to ambient temperature.

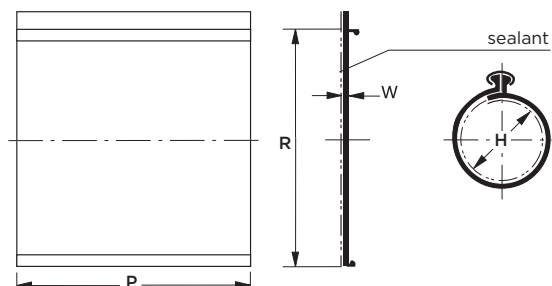
CRSM is semi-rigid and exhibits excellent abrasion and corrosion properties.

Features & Benefits

- Wraparound rail and closure system enables repair any where along the length of the cable.
- The stainless steel channel converts the Wraparound to a tubular configuration.
- Pre-coated sealant eliminates the need for any additional sealing material.
- Heat-shrink property enable tight conformity to irregular substrates and provides a wide use range.
- CRSM can also be used as primary insulation restoration for low voltage cable joints.

Selection Information: dimensions shown in millimeters

Dimensions



Product/Size	Application Range	H		R		W		P
		a min.	b max.	a min.	b max.	a min.*	b min.	
CRSM 34/10	11-21	35	9	110	35	0.3	2.4	all sizes are available in lengths of 250, 500, 750, 1000 and 1500 mm
CRSM 53/13	17-32	54	15	170	49	0.3	2.0	
CRSM 84/20	24-50	86	21	270	69	0.3	2.0	
CRSM 107/29	31-65	108	27	340	90	0.3	2.0	
CRSM 143/36	33-86	144	28	455	119	0.3	1.8	
CRSM 198/55	56-120	203	50	640	172	0.3	2.1	
CRSM 250/98	103-150	257	91	810	314	0.4	1.7	

Notes:

1. Dimensions in millimetres

a=as supplied

b=after free recovery

*=at minimum supplied width

2. Max. longitudinal change after free

recovery: -0-+10%



EPKT

Heat-shrinkable termination systems for MI/MIND paper and plastic insulated cables for up to 1 kV

General Description

With millions of installations throughout the world, Raychem cable terminations for up to 1 kV are acknowledged to be more reliable and quicker to install than conventional systems.

A proven system

Consistent performance in extreme temperatures, atmospheric pollution and ultra-violet light has proven the insulating and sealing ability of Raychem terminations for more than 35 years.

Ease of installation

Installed by way of heat-shrinking, the Raychem system saves time, eliminates special equipment and simplifies work overhead and work in confined spaces.

Varying cable constructions can be easily accommodated, and every kit typically covers three to four cable sizes. Thus inventories are reduced and stockkeeping minimized.

Performance

Raychem terminations meet our Specification PPS 3013, which includes the requirements of the major national standards and international norms, such as IEC, CENELEC, etc.

High performance and efficiency are the results of Raychem's expertise in materials science and electrical power engineering, gained through a sustained research effort and extensive experience as one of the largest cable accessory makers.

Selection Information: dimensions shown in millimeters

Termination for Plastic Cable, Um=1 kV, 2-core with Wire Armour, Indoor/Outdoor

Size of Conductor (mm ²)	Cable Core Diameter (mm)	Dia. over Armour (mm)	Overall Diameter (mm)	Kit Number
4-16	4-9	19	15-20	EPKT-0001(S10)
25-50	8-13	31	19-27	EPKT-0017(S5)

Termination for Plastic Cable, Um=1 kV, 3-core with Wire Armour, Indoor/Outdoor

Size of Conductor (mm ²)	Cable Core Diameter (mm)	Dia. over Armour (mm)	Overall Diameter (mm)	Kit Number
4-16	4-9	19	15-26	EPKT-0002(S10)
25-50	8-13	31	22-36	EPKT-0018(S5)
70-150	12-25	49	30-59	EPKT-0034(S5)
185-300	18-34	66	41-79	EPKT-0050(S5)

Termination for Plastic Cable, Um=1 kV, 4-core with Wire Armour, Indoor/Outdoor

Size of Conductor (mm ²)	Cable Core Diameter (mm)	Dia. over Armour (mm)	Overall Diameter (mm)	Kit Number
4-16	4-9	19	15-26	EPKT-0003(S10)
25-50	8-15	31	22-39	EPKT-0019(S5)
70-150	12-23	49	36-59	EPKT-0035(S5)
185-300	18-31	66	41-79	EPKT-0051(S5)
500	25-38	82	65-90	EPKT-0067(S5)

Termination for Plastic Cable, Um=1 kV, 2-core without Armour, Indoor/Outdoor

Size of Conductor (mm ²)	Cable Core Diameter (mm)	Dia. over Armour (mm)	Overall Diameter (mm)	Kit Number
4-16	4-9		14-18	EPKT-0013(S20)
25-50	8-13		16-27	EPKT-0029

Termination for Plastic Cable, Um=1 kV, 3-core without Armour, Indoor/Outdoor

Size of Conductor (mm ²)	Cable Core Diameter (mm)	Dia.over Armour (mm)	Overall Diameter (mm)	Kit Number
4-16	4-9		15-20	EPKT-0014(S10)
25-50	8-13		16-34	EPKT-0030(S10)
70-150	13-23		28-41	EPKT-0046(S10)
185-300	19-30		40-55	EPKT-0062(S10)

Termination for Plastic Cable, Um=1 kV, 4-core without Armour, Indoor/Outdoor

Size of Conductor (mm ²)	Cable Core Diameter (mm)	Dia.over Armour (mm)	Overall Diameter (mm)	Kit Number
4-35	4-9		17-43	EPKT-0015(S20)
25-70	8-18		20-43	EPKT-0031(S10)
70-150	10-23		26-68	EPKT-0047(S10)
185-400	15-38		33-90	EPKT-0063(S10)

Termination for Plastic Cable or Paper Cable, Um=1 kV, 4-core MI/MIND, Indoor/Outdoor

Size of Conductor (mm ²)	Cable Core Diameter (mm)	Dia.over Armour (mm)	Overall Diameter (mm)	Kit Number
4-16	4-7		13-17	EPKT-0453(S20)
16-35	6-9		16-23	EPKT-0461(S20)
35-70	8-13		22-30	EPKT-0469(S10)
70-150	12-18		29-42	EPKT-0477(S10)
150-300	18-25		41-57	EPKT-0485(S10)

Note:

Master Kits do not include insulating tubing for the concentric neutral or cores. In cases where kits with standard lengths of insulating tubing are not applicable, the Master Kit should be ordered together with the required length of tubing. For detail, please contact our sales representative.

Technical reports (Others information can be provided as request.)

PPR-1785 Test report for LV termination EPKT(up to 1kV) in according with CENELEC HD623



EPKJ

Heat-shrinkable joint system for polymeric and MIND paper insulated cables for up to 1 kV

General Description

Raychem EPKJ series of heat shrinkable joints is based on well established, highly reliable, radiation cross linked polymeric tubes which are easy to install, eliminates shelf life limitations even in severe climates and permits immediate back filling of trenches and quick energization.

The insulating and sealing performance of Raychem heat-shrinkable materials has been demonstrated in the course of over 35 years' use in power engineering. These proven materials form the basis for Raychem inline joints for cables up to 1 kV.

Features & Benefits

- All applications for polymeric and MIND paper on 1-core, 3-core, armoured and unarmoured cables.
- Applying equally well to both armoured and unarmoured cables, the Raychem technique achieves insulating and sealing in one step by heating.
- A galvanized steel grid flexible enough to be easily wrapped round the joint, but rigid when clamped to the cable armour.
- Enhanced range-taking ability means that one kit fits more conductor sizes, reducing stocking requirements.
- Unlimited shelf life allows stocking of economic quantities without product spoilage.
- Simplified cable.
- Factory engineered kit permits rapid on-site installation.
- No mechanical stress at insulation screen cutback.
- Unsurpassed performance in polluted environments, proven over three decades.

Selection Information: dimensions shown in millimeters

EPKJ Joints for Plastic and Rubber Cable, Um=1 kV, without Armour

Size of Conductor(mm ²)	Number of Cores	Part Number(for Cable without Armour)	Part Number(for Cable with Concentric Neutrals)
1.5-6	2	EPKJ0226	EPKJ0226-01
1.5-6	3	EPKJ0227	EPKJ0227-01
1.5-6	4	EPKJ0228	EPKJ0228-01
6-16	2	EPKJ0233	EPKJ0233-02
6-16	3	EPKJ0234	EPKJ0234-02
6-16	4	EPKJ0235	EPKJ0235-02
16-35	2	EPKJ0240	EPKJ0240-03
16-35	3	EPKJ0241	EPKJ0241-03
16-35	4	EPKJ0242	EPKJ0242-03
50-70	2	EPKJ0247	EPKJ0247-04
50-70	3	EPKJ0248	EPKJ0248-04
50-70	4	EPKJ0249	EPKJ0249-04
70-150	2	EPKJ0254	EPKJ0254-05
70-150	3	EPKJ0255	EPKJ0255-05
70-150	4	EPKJ0256	EPKJ0256-05
150-300	2	EPKJ0261	EPKJ0261-06
150-300	3	EPKJ0262	EPKJ0262-06
150-300	4	EPKJ0263	EPKJ0263-06

EPKJ Joints for 4-Core Plastic and Rubber Cable, Um=1 kV, with Armour

Size of Conductor(mm ²)	Part Number(for Cable with Tape Armour)	Part Number(for Cable with Wire Armour)
1.5-6	-	EPKJ0081
6-16	EPKJ0122	EPKJ0123
25-50	EPKJ0129	EPKJ0130
70-150	EPKJ0136	EPKJ0137
185-300	EPKJ0143	EPKJ0144

EPKJ Joints for MI/MIND Paper Cable, Um=1 kV, with Armour

Size of Conductor(mm ²)	Number of Cores	Part Number
16-25	4	EPKJ0528
	5	EPKJ0529
35-50	4	EPKJ0535
	5	EPKJ0536
70-150	4	EPKJ0542
	5	EPKJ0543
185-300	4	EPKJ0549
	5	EPKJ0550

Note: For other cable application, please contact your local sales representative.

Technical reports (Others information can be provided as request.)

PPR-2407 Test report for EPKJ (up to 1 kV) according to DIN EN 50393-2006

PPR-2856 Approval Certificate of EPKJ (up to 1 kV) by DNV

Low Voltage Cable Accessories

**ALK****Joint sealing kit for airport lighting****General Description**

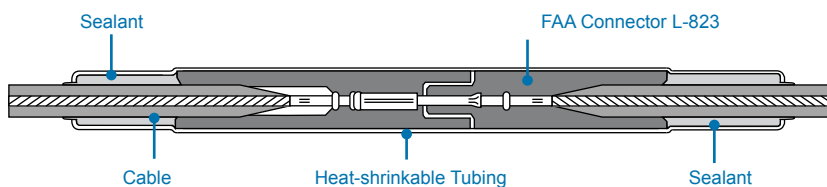
These environmental sealing kits enhance the ability "f" type L-823 plug and receptacle connectors to meet FAA specifications.

Selection Information: dimensions shown in millimeters

Catalog Number	Cable/Connector Diameter (Min. – Max.)	Std. Pack (Kits/Box)
ALK-L823	0.50-1.50 (13-38)	10

Kits do not contain connectors.

Suitable for use on FAA-type L-823 connectors.





Resin-filled joints type UK/PXE for armoured and unarmoured power and control cables up to 1 kV

General Description

Raychem resin filled joints are designed for simplicity and ease of installation. Clear rigid high-impact polystyrene joint shells provide generous jointing dimensions and allow easy viewing to check connector positioning and resin filling. The joint shells are supplied complete with pre-applied foam sealing strips, fixing clips and sealing tape. Joints are suitable for mechanical and crimp connectors, armoured and unarmoured cable. The kit contains joint shells, foam sealing strips, fixing clips, sealing tape, core separator and polyurethane resin in a convenient dual chamber pack for enclosed mixing. Armoured cable joints include a flexible conductor and roll springs.

Features & Benefits

- Range-taking joint kit with few components for quick and simple installation
- Clear, robust, snap-together joint shells for easy positioning and filling
- Joint insulation, sealing and mechanical protection provided by proven two-part filler materials supplied in convenient foil packs
- Core separator to ensure adequate clearance between conductor connectors
- Easy-to-follow pictorial installation instruction
- Earth bonding components included in kit for armoured cables
- Abrasive cloth, sealing tape and protective gloves included in the kit
- Performance tested to European standard EN 50393 (UK utility standard C81)

Selection Information: dimensions shown in millimeters

Straight joints for unarmoured cables
(Connectors not included)

Kit reference	Cable conductor size-maximum (mm ²)		Cable entry diameter (mm)
	2 & 3 core	4core	
UK/PXE-SU1	10	6	6-19
UK/PXE-SU2	25	10	6-27
UK/PXE-SU3	35	16	14-34
UK/PXE-SU4	50	25	16-37
UK/PXE-SU5	70	50	20-44
UK/PXE-SU6	120	95	26-52
UK/PXE-SU7	185	150	35-67

Straight joints for armoured cables
(Connectors not included)

Kit reference	Cable conductor size (mm ²)		Cable entry diameter (mm)
	2 & 3 core	4core	
UK/PXE-SW1	1.5-6	1.5-2.5	6-19
UK/PXE-SW2	1.5-10	1.5-6	6-27
UK/PXE-SW3	6-25	4-10	14-34
UK/PXE-SW4	25-35	10-16	16-37
UK/PXE-SW5	25-70	16-35	20-44
UK/PXE-SW6	95-150	35-70	26-52
UK/PXE-SW7	185	95-120	35-67

For larger sizes and branch joints please contact our local Sales representative.



GelWrap

Water resistant wraparound splice closures (1000 V)

General Description

Raychem GelWrap splice closures quickly and conveniently insulate and seal buried electrical connections rated up to 1000 volts. The robust, yet compact, design is engineered to handle the harsh environments of direct burial and manhole applications. GelWrap splice closures are equally well suited for insulation and jacket repair. GelWrap UF splices include the UF connector.

Selection Information: dimensions shown in millimeters

Catalog Number	Sleeve Length	Conductor Size	Connector Opening	Max. General Use Diameter Range	Std. Pack
GelWrap-18/4-100	4.0 (100)	#12-4/0 (4-95)	1.0 (25)	0.15-0.70 (4-18)	6
GelWrap-18/4-150	6.0 (150)	#12-4/0 (4-95)	3.0 (75)	0.15-0.70 (4-18)	6
GelWrap-18/4-200	8.0 (200)	#12-4/0 (4-95)	5.0 (125)	0.15-0.70 (4-18)	6
GelWrap-18/4-250	10.0 (250)	#12-4/0 (4-95)	7.0 (175)	0.15-0.70 (4-18)	6
GelWrap-18/4-300	12.0 (300)	#12-4/0 (4-95)	9.0 (225)	0.15-0.70 (4-18)	6
GelWrap-33/10-150	6.0 (150)	#2-500 (35-240)	2.0 (50)	0.40-1.30 (10-33)	6
GelWrap-33/10-200	8.0 (200)	#2-500 (35-240)	4.0 (100)	0.40-1.30 (10-33)	6
GelWrap-33/10-250	10.0 (250)	#2-500 (35-240)	6.0 (150)	0.40-1.30 (10-33)	6
GelWrap-33/10-250-I350M4*	10.0 (250)	#6-350 (16-180)	5 (125)	0.40-1.30 (10-33)	12
GelWrap-33/10-300	12.0 (300)	#2-500 (35-240)	8.0 (200)	0.40-1.30 (10-33)	12
GelWrap-33/10-350	14.0 (350)	#2-500 (35-240)	10.0 (250)	0.40-1.30 (10-33)	10
GelWrap-50/20-200	8.0 (200)	250-750	2.0 (50)	0.80-1.50 (20-38)	12
GelWrap-50/20-250	10.0 (250)	250-750	4.0 (100)	0.80-1.50 (20-38)	12
GelWrap-50/20-300	12.0 (300)	250-750	6.0 (150)	0.80-1.50 (20-38)	12
GelWrap-50/20-350	14.0 (350)	250-750	8.0 (200)	0.80-1.50 (20-38)	12
GelWrap-50/20-400	16.0 (400)	250-750	10.0 (250)	0.80-1.50 (20-38)	12
GelWrap-UF-200	8.0 (200)	14/2-8/3 w/ground	N/A	N/A	10

Notes: UL denotes UL & cUL for submersible applications

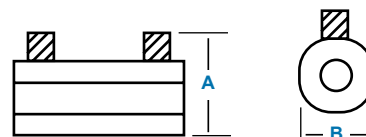
For other sizes or applications, a minimum seal length is required on each side of connector opening or jacket damage:

GelWrap closure 18/4 series 1.5 (38)

GelWrap closure 33/10 series 2.0 (51)

GelWrap closure 50/20 series 3.0 (75)

*Includes four screw mechanical connector



UL Listed

Catalog Number	Sleeve Length	1000V Cable Range	Maximum Connector Opening	Maximum Compression Connector Dia.	Maximum Mechanical Connector Dimensions Height* (A)	Width (B)
GelWrap-18/4-150UL	6.0 (150)	#14-4/0 AWG	2.0 (50)	0.85 (22)	1.2 (30)	1.1 (28)
GelWrap-18/4-200UL	8.0 (200)	#14-4/0 AWG	4.0 (100)	0.85 (22)	1.2 (30)	1.1 (28)
GelWrap-18/4-250UL	10.0 (250)	#14-4/0 AWG	6.0 (150)	0.85 (22)	1.2 (30)	1.1 (28)
GelWrap-18/4-300UL	12.0 (300)	#14-4/0 AWG	8.0 (200)	0.85 (22)	1.2 (30)	1.1 (28)
GelWrap-18/4-350UL	14.0 (350)	#14-4/0 AWG	10.0 (250)	0.85 (22)	1.2 (30)	1.1 (28)
GelWrap-18/4-400UL	16.0 (400)	#14-4/0 AWG	12.0 (300)	0.85 (22)	1.2 (30)	1.1 (28)
GelWrap-18/4-450UL	18.0 (450)	#14-4/0 AWG	14.0 (350)	0.85 (22)	1.2 (30)	1.1 (28)
GelWrap-18/4-500UL	20.0 (500)	#14-4/0 AWG	16.0 (400)	0.85 (22)	1.2 (30)	1.1 (28)
GelWrap-18/4-550UL	22.0 (550)	#14-4/0 AWG	18.0 (450)	0.85 (22)	1.2 (30)	1.1 (28)
GelWrap-18/4-600UL	24.0 (600)	#14-4/0 AWG	20.0 (500)	0.85 (22)	1.2 (30)	1.1 (28)
GelWrap-UF-250UL	10.0 (250)	14/2-8/3 w/ground	N/A	N/A	N/A	

*Height includes screws with cable installed.

Product Performance

Testing	Test Conditions
ANSI C119.1	600 V insulated underground
Chemical Resistance	Fluid immersion, 168 hours @ 23°C, 75% elongation retention minimum - 10W-40 motor oil - 10% hydrochloric acid - 15% sodium chloride - 20% sodium hydroxide - ETX 60280 antifreeze (1000 hours)
Accelerated Aging	1000 hours @ 135°C - 93% retention tensile strength - 82% retention elongation at break

Ordering Information

- Selection is based on typical dimensions for low-voltage insulated cables.
- Related test reports: EDR-5343-18/4, EDR-5356-33/10, EDR-5367 for 50/20, EDR-5356 for GelWrap-33/10-250-I350M4 (A four screw connector is included). EDR-5356-GelWrap-UF

For connector information refer to the Connectors and Terminals section of this catalog.



GILS

Gel in-line water resistant splice kit for power cable (1000 V)

General Description

Raychem Gel in-line splice (GILS) kits offer a state-of-the-art sealed splice for underground, buried, and overhead applications. GILS closures offer a fast and simple method for splicing, insulating, and environmentally sealing low-voltage cable splices.

The GILS closure, with its revolutionary PowerGel sealant, covers and seals the splice quickly and easily, saving both time and effort.

Simply install the connector, place on the closure, and snap closed. It's that easy—no tapes, mastic, tools or mixing are required. The splice is ready to bury—no waiting to cure.

Features & Benefits

- Connector accommodates copper and/or aluminum cables
- Qualified to ANSI C119 for underground splicing
- UV resistant
- Qualified for temperatures from -40°C to 90°C
- Connector included
- RUS accepted connector blocks and splices for secondary.
- Water-tight for use in all locations

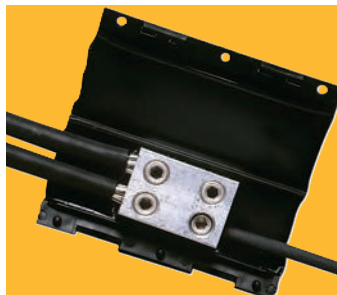
Selection Information: dimensions shown in millimeters

Catalog Number	Conductor Size (AWG/kcmil)	Std. Pack
GILS-4/0	#2-4/0	18 or 72 each
GILS-350	1/0-350	18

Ordering Information

1. Based on typical dimensions for low-voltage insulated cables.
2. Related test reports: EDR-5298, EDR-5394

Low Voltage Cable Accessories



GTAP

Water resistant splice (1000 V)

General Description

The Raychem GTAP gel tap splice kit provides a fast and simple method for connecting, insulating, and environmentally sealing low-voltage splices. The GTAP splice kit is designed for underground as well as overhead environments. It is especially useful for street lighting applications.

Features & Benefits

- Range-taking mechanical connectors splice a wide range of cables, including copper and aluminum
- Connector's four port design allows maximum inventory flexibility
- Hinged closure allows for one-step installation
- Can be installed over the connector in seconds by simply snapping the cover shut
- Utilizes TE Connectivity's innovative PowerGel sealant to protect the connection from moisture ingress, corrosion, and pollution
- PowerGel sealant provides additional insulation

Selection Information: dimensions shown in millimeters

Catalog Number	Conductor Size (All Outlets)	Length	Width	Height	Std. Pack
	AWG (mm ²)				
GTAP-1	#14-#2 (2-35)	2.75 (70)	1.625 (41)	1.0625 (27)	18 or 72
GTAP-2	#14-2/0 (2-70)	4.25 (108)	2 (51)	1.1875 (30)	18 or 72

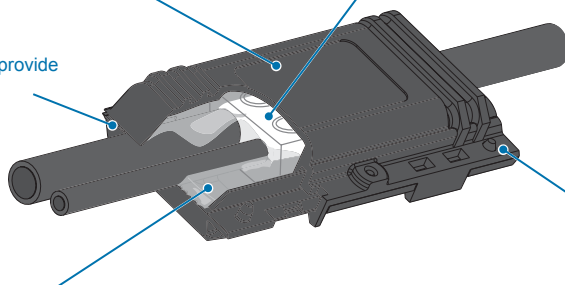
Ordering Information

1. Selection based on typical dimensions of low-voltage insulated cables.

Molded cover of UV stable, impact resistant polypropylene provides rugged protection for underground or overhead applications.

Range-taking mechanical connector made of aluminum. Accepts both copper and aluminum conductors.

Frangible fingers provide wide cable range.



Snap-lock ensures that cover remains closed.

Silicone gel is high dielectric insulation and provides constant pressure on cable and connector to provide waterseal. PowerGel sealant is specially formulated for high temperature environments.



GHFC

Water resistance H-frame closure for power cable (1000 V)

General Description

TE Connectivity's Raychem low-voltage H-frame closures provide a fast, simple method for insulating and environmentally sealing low-voltage cable-taps and splices made with H-frame compression connectors.

Features & Benefits

- Utilizes TE Connectivity's PowerGel sealant material to seal and protect the connection from moisture ingress, corrosion, and pollution
- Ideal for both underground and overhead applications and is especially useful for street lighting applications
- Qualified to ANSI C119.1 for underground splicing.
- UV resistant.
- Qualified for temperatures from -40°C to 90°C.

Selection Information: dimensions shown in millimeters

Catalog Number	Main	Std. Tap	Die	Conductor Size (AWG/kcmil)			Std. Pack
				Length	Width	Height	
GHFC-1-90	#6-#2	#14-#8	BG	2.75 (70)	1.625 (41)	1.0625 (27)	10 or 100
GHFC-2-90	#2-2/0	#14-#6	O	4.25 (108)	2.0 (51)	1.1875 (30)	10 or 100
GHFC-2.5-90	1/0-4/0	#6-3/0	D	7.032 (179)	2.75 (70)	1.560 (40)	30 each
GHFC-3-90	350	4/0	N	6.25 (159)	3.250 (83)	1.90 (49)	6 or 18

Ordering Information

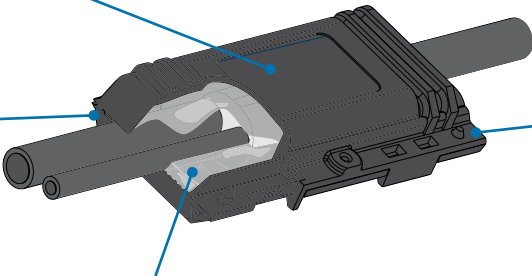
1. Select the appropriate catalog number. Selections are based on typical dimensions for low-voltage, insulated cables and connectors.
2. Approved connectors (supplied by others) include, but are not limited to:

Product	Approved Connectors
GHFC-1-90	Homac UB214; T&B 63105; Blackburn WR9; Burndy YPC2A8U
GHFC-2-90	Homac OB22, OB44, OB102, OB103; Burndy YHO-1, YHO-2, YHO100, YHO125, YHO150; Blackburn WR139, WR159, WR179, WR199; ILSCO AH1; T&B 63110; UTILCO HT1, HT2

3. Standard packs of 100 ea. are also available. Substitute a (B100) in place of the (B10) in the catalog number.
4. Related test report: GHFC-1-90 and GHFC-2-90,EDR-5264, GHFC-3-90,EDR-5326.

Molded cover of UV stable, impact resistant polypropylene provides rugged protection for underground or overhead applications.

Frangible fingers provide wide cable range.



Snap-lock ensures that cover remains closed.

Silicone gel is high dielectric insulation and provides constant pressure on cable and connector to provide waterseal. PowerGel sealant is specially formulated for high temperature environments.



GelPort

Submersible connectors for URD distribution (1000 V)

Features & Benefits

- Corrosion resistance
- No loose parts due to one piece housing
- Gel-filled cable entry ports provide a reliable cable seal
- PowerGel sealing gel seals out harsh environments
- Rugged, impact-resistant housing stands up to rough installations
- Clear view back allows for easy positive visual indication of wire position in connector

Selection Information: dimensions shown in millimeters

GelPort 350/500

Catalog Number*	Number of Wire Ports	Conductor Use Range (mm ²)	Length	Width	Height	Std. Pack
GPRT-350-3P	3	14-350 (2-150)	4.60 (117)	3.825 (97)	3.50 (89)	6
GPRT-350-4P	4	14-350 (2-150)	5.85 (149)	3.825 (97)	3.50 (89)	6
GPRT-350-5P	5	14-350 (2-150)	7.10 (180)	3.825 (97)	3.50 (89)	6
GPRT-350-6P	6	14-350 (2-150)	8.35 (212)	3.825 (97)	3.50 (89)	6
GPRT-350-8P	8	14-350 (2-150)	10.85 (276)	3.825 (97)	3.50 (89)	6
GPRT-350/4P-500/1P	5 Hybrid		7.10 (180)	3.825 (97)	3.50 (89)	6
	4	14-350 (2-150)				
	1	6-500 (16-250)				
GPRT-350/6P-500/2P	8 Hybrid		10.85 (276)	3.825 (97)	3.50 (89)	6
	6	14-350 (2-150)				
	2	6-500 (16-250)				

GelPort 500 Hybrid

Catalog Number*	Clear View	Number of Wire Ports	Max. Cable O.D.	Max. Number 500 kcmil Cables	Length	Width	Height
GPRT-500-3P	C	3	.96	1 (#6-500 kcmil)	4.6 (117)	3.825 (97)	3.50 (89)
GPRT-500-4P	C	4	.96	2 (#6-500 kcmil)	5.85 (149)	3.825 (97)	3.50 (89)
GPRT-500-5P	C	5	.96	3 (#6-500 kcmil)	7.1 (180)	3.825 (97)	3.50 (89)
GPRT-500-6P	C	6	.96	4 (#6-500 kcmil)	8.35 (212)	3.825 (97)	3.50 (89)
GPRT-500-8P	C	8	.96	6 (#6-500 kcmil)	10.85 (276)	3.825 (97)	3.50 (89)

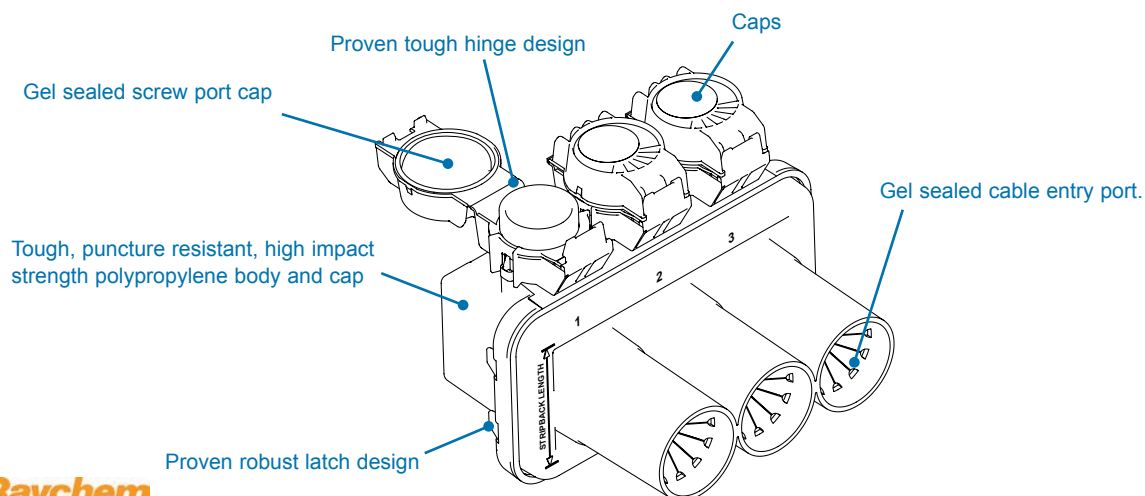
*For Clear view back add "-C" to catalog number. Standard back view is black

Ordering Information

1. Selection based on typical dimensions of low voltage cables.
2. Standard package is 6/box.

Product Performance

Testing	Test Condition
Complete unit	ANSI C119.1, Report: EDR-5379, EDR-5409, EDR-5427, EDR 5463
Connector	ANSI C119.4, Report: 502-47264, 502-47302, 502-47308
Chemical Resistance	ASTM D543 to the following liquids: Sulfuric Acid, Sodium Sulfate, Sodium Chloride, Sodium Hydroxide, Ethylene Glycol
UV Resistance	ASTM G-53-95, ASTM-D-638-95



Low Voltage Cable Accessories



GelCap

Water resistant stub splice cover kit (1000 V)

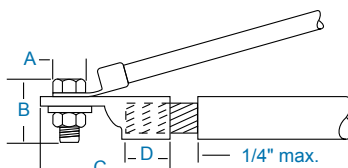
General Description

Raychem GelCap splice cover kits quickly and conveniently insulate, seal, and protect stub splice connections up to 1000 volts. The robust, yet compact, design was engineered to handle the harsh environments of motor connections. GelCap splice cover kits are equally well suited for many other connection applications including street light connections. The specially formulated material provides excellent abrasion resistance and insulation value.

Each cap size is designed to fit a wide range of cable sizes. The expandable design keeps the cap as small as possible and allows it to expand only as much as needed to fit on large cable.

GelCap splice cover kits provide the fastest installation. Simply push the cover down over the connection and snap the clamp closed. No extra materials or greases are required. The PowerGel sealant is already in the cap. Removal is just as quick and easy as installation.

Selection Information: dimensions shown in millimeters



Catalog Number	Feeder Conductor Size (mm-)	Max. Bolt Dimensions		Max. Lug Dimensions	Barrel Length	Cap length (Nominal)	Std. Pack
		Width	Length	Total Length			
		A	B	C	D		
GelCap 1*	#16-#10 AWG (1.5-5)	.375 (10)	.500 (13)	1.00 (25)	0.5 (13)	2.8 (71)	5
GelCap 2	#8-#2 AWG (8-35)	.625 (16)	1.00 (25)	2.00 (51)	1.0 (25)	3.5 (89)	5
GelCap 3	#2-#4/0 AWG (35-105)	.850 (22)	1.30 (33)	3.00 (76)	1.5 (38)	6.0 (152)	5
GelCap 4	250-500 kcmil (125-250)	1.100 (28)	1.85 (47)	5.00 (127)	2.0 (51)	8.0 (203)	5

* For wire sizes #16 – #10, the unique design of the GelCap 1 splice kit saves space by allowing all three phase connections to be installed in one cover.
Note: GelCap 1 kit contains one GelCap cover only. For GelCap splice kits sizes 2-4, one cap per phase is provided.

Product Performance

Testing	Test Conditions
Chemical Resistance	ASTM D543, Sulfuric acid, Sodium hydroxide and motor oil
Ozone Resistance	ASTM D1149, 168 hours @40°C, 50pphm
Accelerated Aging	ASTM D2671
Abrasion Resistance	2040 gm wt., 4000 cycles, 2% max thickness loss

Ordering Information

- Selection based on typical dimensions of low-voltage insulated cables.
- Kits do not contain connectors.

- Related test report: EDR-5435.
- ANSI C119.1

For connector information refer to the [Connectors and Terminals](#) section of this catalog.

Silicone gel is high dielectric insulation and provides constant pressure on cable and connector to provide waterseal. PowerGel sealant is specially formulated for high temperature environments.

Snap-lock feature provides quick installation and removal.

Molded clamp of UV stable, impact resistant polypropylene secures cover in place.

Molded cover is abrasion and impact resistant. Elastomer provides rugged protection for electrical connection.





GelCap SL

Water resistant cover kit with connector (1000 V)

General Description

TE Connectivity's Raychem GelCap SL splice cover kits provide quick installation, dependable performance, and easy reentry for street lighting connections, but they have many other uses.

GelCap SL splice cover kits quickly and conveniently insulate and protect stub splice connections up to 1000 volts.

PowerGel Sealant Technology

The GelCap SL splice cover kits feature revolutionary PowerGel sealant which provides an excellent moisture seal over a wide temperature range (-40°C to 105°C).

Innovative Cap Design and Material

The specially formulated material provides abrasion resistance and insulation.

Range Taking Connector

The special three wire connector is perfect for street light connections. There are two ports that accept wires from #14-2/0 AWG. Use these for the feeder cable. There is a single port that accepts #14-6 AWG. Use this port to power the light.

Fast and Easy Installation

GelCap SL splice cover kits provide the fastest installation. Simply push the cover down over the connection and snap the clamp closed. No extra materials or greases are required. The PowerGel sealant is already in the cap.

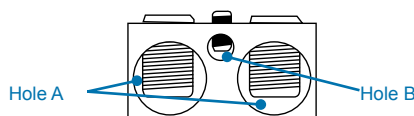
Easy to Reenter

The GelCap SL splice cover is easy to re-enter because the PowerGel sealant pulls away leaving a clean connection. Re-entry is also safer than other methods because no sharp objects or cutting tools are required for removal of the cap.

Other Common Uses for GelCap Splice Cover Kits

- Irrigation systems
- HVAC
- Outdoor lighting
- Motor connections

Selection Information: dimensions shown in millimeters



Catalog Number	Hole A		Hole B		Std. Pack
	Wire Range	Recommended Torque Values	Wire Range	Recommended Torque Values	
GelCap-SL-2/0-3 Hole	#14-2/0 AWG	120-180 in-lbs	#14-6 AWG	120-150 in-lbs	10
GelCap-SL-2/0-3 Hole-B100	#14-2/0 AWG	120-180 in-lbs	#14-6 AWG	120-150 in-lbs	100

Product Performance

Testing	Test Conditions
Chemical Resistance	ASTM D543, Sulfuric acid, Sodium Hydroxide and motor oil
Ozone Resistance	ASTM D1149, 168 hours @ 40°C, 50 pphm
Accelerated Aging	ASTM D2671
Abrasion Resistance	2040 gm wt., 4000 cycles, 2% max thickness loss

Ordering Information

1. Selections are based on typical dimensions of low-voltage insulated cables.
2. Kits include UL Listed connectors for use with copper and/or aluminum conductors.
3. Each kit contains a gel filled cap, cap clamp, and connector.
4. Related test reports: EDR-5334.
5. Qualified to ANSI C 119.1.





RVC

Rayvolve "roll-on" stub connection insulation kits (1000 V)

General Description

Raychem RVC splice cover kits offer the quick and easy "roll-on" way to insulate and seal stub connections in motors and street lights up to 1000 volts. The elastomeric RVC cap splice cover provides the required insulation thickness, withstands abrasion, and forms a water-resistant seal. The tool-free RVC cap is ideal for installation in cramped motor boxes. It slides on easily and will not leak, unravel, or slip off.

Selection Information: dimensions shown in millimeters

Catalog Number	Feeder Size (AWG/kcmil)	Bolt Dimensions		Lug Length (Max.)	Cap Length (Nominal)	Std. Pack
		Size (Max.)	Length (Max.)			
Motor connections or two-wire stub splices						
RVC-1V	#14-#4	.375 (8)	.625 (15)	1.75 (45)	3.00 (75)	5
RVC-2V	#8-2/0	.375 (8)	.750 (20)	2.75 (70)	4.00 (100)	5
RVC-3V	#2-4/0	.500 (12)	1.00 (25)	3.00 (75)	5.25 (130)	5
RVC-4V	250-500	.625 (16)	1.50 (35)	5.00 (125)	7.50 (190)	5



LISTED 96J4
Direct burial insulation
covered for listed
pressure connectors



Certified C22.2
No. 198.2

Qualified to ANSI
C119.1-1986. CSA
certified to C22.2 No.
198.2. UL listed per
96J4 (file E91151).

Catalog Number	Conductor Size (AWG/kcmil)	Insulation Cut-Back (Max.)
Three-wire stub splices		
RVC-1V	#14-#8	1.75 (44)
RVC-2V	#6-#2	2.75 (70)

Ordering Information

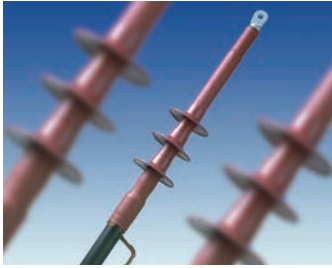
1. Select the appropriate catalog number. Selections are based on typical dimensions of low-voltage insulated cable. Confirm selection with dimensions to assure proper sizing.
2. Kits do not contain connectors. The RVS splice cover selection information above covers copper and aluminum in-line compression connections.
3. Each kit contains one Rayvolve RVS splice cover sleeve and sealant strips.
4. Standard package: 5 kits/box.
5. Related test report: EDR-5167.

For connector information refer to the Connectors and Terminals section of this catalog.



MEDIUM VOLTAGE CABLE ACCESSORIES

APKT heat-shrinkable termination system for cables up to 36 kV	27
EPKT terminations for polymeric and MIND paper insulated cables from 7.2 kV up to 36 kV	30
IXSU-F/OXSU-F heat-shrinkable termination system with non-linear, zinc oxide stress control for polymeric cables up to 24 kV	33
EPKJ joints for screened plastic and rubber insulated cables upto 36 kV	36
MXSU/MXST/MXSW/MXAW jointing system up to 36 kV complete with mechanical connectors	38
SXSU/SXST/SXSW/SXAW joints for polymeric insulated cables from 12 kV up to 36 kV	40
RICS insulated adapter termination system for SF6-insulated switchgear up to 24 kV	42
RSRB heat shrinkable insulating bushing boots up to 36 kV	44
CSJT silicone cold-shrink joint with integrated stress control for XLPE cables up to 36 kV	46
CSTI/CSTO silicone cold-shrink termination with integrated stress control for XLPE cables up to 24 kV	47
ELBC - 810 screened separable connector up to 17.5 kV, 800 A	49
ELBC - 824 screened separable connector up to 24 kV, 800 A	51
RSTI-58 screened separable connector system, 800 A up to 24 kV	53
RSTI-68 screened separable connector system, 1250 A up to 42 kV	55
RSTI-x9 large screened separable connector system, 1250 A up to 42 kV	57
RSES 400 A screened, separable elbow connection system 400 A for 24 kV and 36 kV	59
RSES / RSSS 250 A screened adaptor system 250 A, up to 24 kV	61
RCAB elastomeric insulating bushing boot for bushings up to 630 A, 24 kV	63
RPIT plug in termination system up to 52 kV	65



APKT

Heat-shrinkable termination system for cables up to 36 kV

General Description

Over the last three decades, engineers in utilities and industry around the world have specified million's of Raychem cable terminations at distribution voltages up to 36 kV. Raychem terminations have become identified with reliability because of their unparalleled long-term performance – where it really counts – in the field. Today there are many changes influencing the distribution of power at medium voltages.

Features & Benefits

- All applications for polymeric and MIND paper on 1-core, 3-core, armoured and unarmoured cables
- Red non-tracking Raychem HVOT tubing provides excellent environmental protection
- Can be used in combination with Raychem RICS / RCAB / RSRB terminations
- Enhanced range-taking ability means that one kit fits more conductor sizes, reducing stocking requirements
- Unlimited shelf life allows stocking of economic quantities without product spoilage
- Simplified cable
- Components are lightweight and non-shattering
- Clear instruction sheets
- Fully sealed against water ingress from the environment or from within the conductor strands
- Compatible with all state of the art screen removal techniques
- No tapering of insulation required
- No polishing of polymeric insulation surface
- Factory engineered kit permits rapid on-site installation
- No mechanical stress at insulation screen cutback
- Termination accommodates same bending radius as cable
- Visual confirmation of correct assembly sequence possible after installation
- Rain skirts can be installed to allow either top or bottom feed
- No soldering of earthing accessories required
- Unsurpassed performance in polluted environments, proven over three decades.

Selection Information: dimensions shown in millimeters

	XXXX	- XX	X	X	X	X	-XX	-T
Product Family	=APKT							
Voltage								
up to 7.2 kV	=7							
12 and 17.5 kV	=17							
24 kV	=24							
36 kV	=36							
Cable Cross Section								
7.2kV mm ²	12/17.5kV mm ²	24kV mm ²	36kV mm ²					
16-50	16-35	25-35		=A				
70-120	50-70	50-70	35-50	=B				
150-240	95-240	95-185	70-120	=C				
300-500	300-400	240-400	15-185	=D				
630-1000	500-800	500-630	240-500	=E				
	1000	800-1000	630-1000	=F				
Number of Cores								
Single Core				=1				
3-Core				=3				
Dielectric or Insulation Type								
XLPE				=X				
Location of Installation								
Indoor				=1				
Outdoor				=O				
Length of Termination Tail (3-Core only)								
for 450 mm				=H1				
for 650 mm				=H2				
for 800 mm				=H3				
for 1200 mm				=H4				
Accessories								
Not include termination accessories such as cable lug, armour kit, ground connector, bolt & nut, earth braid.								

Ordering Example:

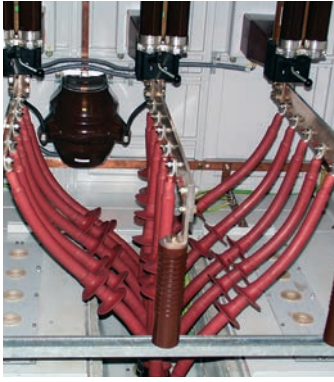
APKT-17C 3X O-H3-T

Outdoor termination for 12/17.5 kV, 120 mm² 3-core XLPE cable, tail length 800 mm.

Raychem termination kit for XLPE cable without armour

Voltage (kV)	Cable Size (mm ²)	Single Core		Three Core	
		Indoor	Outdoor	Indoor	Outdoor
7.2	16-50	APKT 7A1XI-T	APKT 7A1XO-T	APKT 7A3XI-H2-T	APKT 7A3XO-H2-T
	70-120	APKT 7B1XI-T	APKT 7B1XO-T	APKT 7B3XI-H2-T	APKT 7B3XO-H2-T
	150-240	APKT 7C1XI-T	APKT 7C1XO-T	APKT 7C3XI-H2-T	APKT 7C3XO-H2-T
	300-500	APKT 7D1XI-T	APKT 7D1XO-T	APKT 7D3XI-H2-T	APKT 7D3XO-H2-T
	630-1000	APKT 7E1XI-T	APKT 7E1XO-T	-	-
12-17.5	15-35	APKT 17A1XI-T	APKT 17A1XO-T	APKT 17A3XI-H2-T	APKT 17A3XO-H2-T
	50-70	APKT 17B1XI-T	APKT 17B1XO-T	APKT 17B3XI-H2-T	APKT 17B3XO-H2-T
	95-240	APKT 17C1XI-T	APKT 17C1XO-T	APKT 17C3XI-H2-T	APKT 17C3XO-H2-T
	300-400	APKT 17D1XI-T	APKT 17D1XO-T	APKT 17D3XI-H2-T	APKT 17D3XO-H2-T
	500-800	APKT 17E1XI-T	APKT 17E1XO-T	-	-
	1000	APKT 17F1XI-T	APKT 17F1XO-T	-	-
25-35	25-35	APKT 24A1XI-T	APKT 24A1XO-T	APKT 24A3XI-H2-T	APKT 24A3XO-H3-T
	50-70	APKT 24B1XI-T	APKT 24B1XO-T	APKT 24B3XI-H2-T	APKT 24B3XO-H3-T
	95-185	APKT 24C1XI-T	APKT 24C1XO-T	APKT 24C3XI-H2-T	APKT 24C3XO-H3-T
	240-400	APKT 24D1XI-T	APKT 24D1XO-T	APKT 24D3XI-H2-T	APKT 24D3XO-H3-T
	500-630	APKT 24E1XI-T	APKT 24E1XO-T	-	-
	800-1000	APKT 24F1XI-T	APKT 24F1XO-T	-	-
36	35-50	APKT 36B1XI-T	APKT 36B1XO-T	APKT 36B3XI-H2-T	APKT 36B3XO-H3-T
	70-120	APKT 36C1XI-T	APKT 36C1XO-T	APKT 36C3XI-H2-T	APKT 36C3XO-H3-T
	150-185	APKT 36D1XI-T	APKT 36D1XO-T	APKT 36D3XI-H2-T	APKT 36D3XO-H3-T
	240-500	APKT 36E1XI-T	APKT 36E1XO-T	APKT 36E3XI-H2-T	APKT 36E3XO-H3-T
	630-1000	APKT 36F1XI-T	APKT 36F1XO-T	-	-

Note: For armoured cables, please contact your local sales representative



EPKT

Terminations for polymeric and MIND paper insulated cables from 7.2 kV up to 36 kV

General Description

With millions of installations throughout the world, Raychem EPKT cable terminations for up to 36 kV are acknowledged to be more reliable and quicker to install than conventional systems.

A proven system

Consistent performance in extreme temperatures, atmospheric pollution and ultra-violet light has proven the insulating and sealing ability of Raychem terminations for more than 35 years.

Features & Benefits

- All applications for polymeric and MIND paper on 1-core, 3-core, armoured and unarmoured cables
- Red non-tracking Raychem HVOT tubing provides excellent environmental protection
- Can be used in combination with Raychem RICS / RCAB / RSRB
- Enhanced range-taking ability means that one kit fits more conductor sizes, reducing stocking requirements
- Unlimited shelf life allows stocking of economic quantities without product spoilage
- Components are lightweight and non-shattering
- Clear instruction sheets
- Fully sealed against water ingress from the environment or from within the conductor strands
- Compatible with all state of the art screen removal techniques
- No tapering of insulation required
- No polishing of polymeric insulation surface
- Factory engineered kit permits rapid on-site installation
- No mechanical stress at insulation screen cutback
- Termination accommodates same bending radius as cable
- Visual confirmation of correct assembly sequence possible after installation
- Rain skirts can be installed to allow either top or bottom feed
- No soldering of earthing accessories required
- Unsurpassed performance in polluted environments, proven over three decades.

Selection Information: dimensions shown in millimeters

				XXXX	- XX	X	X	X	X	-XX	XXX
Product Family				=EPKT							
Voltage											
up to 7.2 kV				=7							
12 and 17.5 kV				=17							
24 kV				=24							
36 kV				=36							
Cable cross section											
7.2 kV mm ²	12/17.5 kV mm ²	24 kV mm ²	36 kV mm ²								
16-50	16-35			=A							
70-120	35-70	25-50		=B							
150-240	95-240	70-185	50-95	=C							
300-500	300-400	240-400	120-185	=D							
630-1000	500-800	500-630	240-500	=E							
	1000	800-1000	630-1000	=F							
Number of cores											
Single Core				=1							
3-Core				=3							
Dielectric or insulation type											
Plastic				=X							
MIND Paper				=M							
Location of installation											
Indoor				=1							
Outdoor				=O							
Length of termination tail (3-Core only)											
for 450 mm				=H1							
for 650 mm				=H2							
for 800 mm				=H3							
for 1200 mm				=H4							
Accessories											
If needed add mod. codes to termination kit											

Ordering Example:

EPKT-17C 3M O-H3

Outdoor Termination for 12/17.5 kV, 120 mm² 3-Core Paper Cable, tail length 800 mm.

Raychem EPKT Termination Kit For XLPE Cable Without Armour

Voltage (kV)	Cable Size (mm ²)	Single Core		Three Core	
		Indoor	Outdoor	Indoor	Outdoor
7.2	16-50	EPKT 7A1XI-H2-T	EPKT 7A1XO-H2-T	EPKT 7A3XI-H2-T	EPKT 7A3XO-H2-T
	70-120	EPKT 7B1XI-H2-T	EPKT 7B1XO-H2-T	EPKT 7B3XI-H2-T	EPKT 7B3XO-H2-T
	150-240	EPKT 7C1XI-H2-T	EPKT 7C1XO-H2-T	EPKT 7C3XI-H2-T	EPKT 7C3XO-H2-T
	300-500	EPKT 7D1XI-H2-T	EPKT 7D1XO-H2-T	EPKT 7D3XI-H2-T	EPKT 7D3XO-H2-T
	630-1000	EPKT 7E1XI-H2-T	EPKT 7E1XO-H2-T	-	-
12/17.5	15-35	EPKT 17A1XI-H2-T	EPKT 17A1XO-H2-T	EPKT 17A3XI-H2-T	EPKT 17A3XO-H2-T
	50-70	EPKT 17B1XI-H2-T	EPKT 17B1XO-H2-T	EPKT 17B3XI-H2-T	EPKT 17B3XO-H2-T
	95-240	EPKT 17C1XI-H2-T	EPKT 17C1XO-H2-T	EPKT 17C3XI-H2-T	EPKT 17C3XO-H2-T
	300-400	EPKT 17D1XI-H2-T	EPKT 17D1XO-H2-T	EPKT 17D3XI-H2-T	EPKT 17D3XO-H2-T
	500-800	EPKT 17E1XI-H2-T	EPKT 17E1XO-H2-T	-	-
	1000	EPKT 17F1XI-H2-T	EPKT 17F1XO-H2-T	-	-
24	25-35	EPKT 24A1XI-H2-T	EPKT 24A1XO-H3-T	EPKT 24A3XI-H3-T	EPKT 24A3XO-H3-T
	50-70	EPKT 24B1XI-H2-T	EPKT 24B1XO-H3-T	EPKT 24B3XI-H3-T	EPKT 24B3XO-H3-T
	95-185	EPKT 24C1XI-H2-T	EPKT 24C1XO-H3-T	EPKT 24C3XI-H3-T	EPKT 24C3XO-H3-T
	240-400	EPKT 24D1XI-H2-T	EPKT 24D1XO-H3-T	EPKT 24D3XI-H3-T	EPKT 24D3XO-H3-T
	500-630	EPKT 24E1XI-H2-T	EPKT 24E1XO-H3-T	-	-
	800-1000	EPKT 24F1XI-H2-T	EPKT 24F1XO-H3-T	-	-
36	35-50	EPKT 36B1XI-H2-T	EPKT 36B1XO-H3-T	EPKT 36B3XI-H3-T	EPKT 36B3XO-H3-T
	70-120	EPKT 36C1XI-H2-T	EPKT 36C1XO-H3-T	EPKT 36C3XI-H3-T	EPKT 36C3XO-H3-T
	150-185	EPKT 36D1XI-H2-T	EPKT 36D1XO-H3-T	EPKT 36D3XI-H3-T	EPKT 36D3XO-H3-T
	240-500	EPKT 36E1XI-H2-T	EPKT 36E1XO-H3-T	EPKT 36E3XI-H3-T	EPKT 36E3XO-H3-T
	630-1000	EPKT 36F1XI-H2-T	EPKT 36F1XO-H3-T	-	-

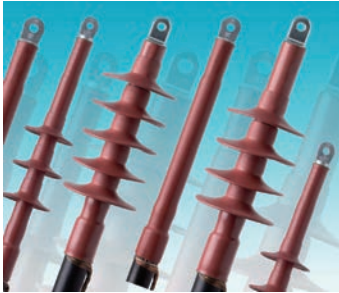
Note: For armoured cables, please contact our local sales representative.

Technical reports (Others information can be provided as request.)

PPR-2920 Test report for MV termination EPKT in according with IEC60502

PPR-2375 Test report for MV termination EPKT in according with CENELEC HD629

PPR-1676 Type Approval Certificate of EPKT termination by DNV



IXSU-F/OXSU-F

Heat-shrinkable termination system with non-linear, zinc oxide stress control for polymeric cables up to 24 kV

General Description

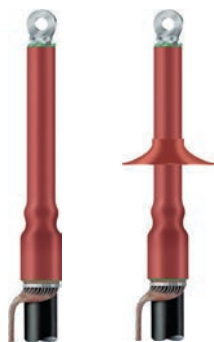
The Raychem IXSU/OXSU series comprises a one-piece termination incorporating the reliable red non-tracking environmental protection tube with a state of the art non-linear, zinc oxide based stress control material. The zinc oxide is dispersed in a mastic matrix and is co-extruded with the red non tracking tube. The mastic provides moisture seals at the top and bottom of the termination, making for a fully integrated, Class 1, one-piece termination. Indoor terminations require no rain sheds, making it ideal for application in confined spaces, especially in the ship building industry. Discrete rain sheds facilitate outdoor, inverted installations.

Features & Benefits

- All applications for polymeric 1-core, 3-core, armoured and unarmoured cables up to 24 kV
- Electrical Stress control based on Raychem ceramic semi-conductor technology (non-linear zinc oxide) providing unsurpassed electrical performance
- The mastic based stress control is co-extruded with the proven red non-tracking Raychem HVOT tubing creating a one-piece termination. Mastic also provides a moisture seal at the ends of the termination.
- Can be used in combination with Raychem RICS / RCAB / RSRB bushing boots
- Enhanced range-taking ability means that one kit fits more conductor sizes, reducing stocking requirements
- Unlimited shelf life allows stocking of economic quantities without product spoilage
- Components are lightweight and non-shattering
- Clear instruction sheets
- Fully sealed against water ingress from the environment or from within the conductor strands
- Superior AC and impulse voltage withstand capability facilitates very short, shed less terminations ideal for installation in confined spaces.
- The integrated stress control mastic also provides a moisture seal, eliminating the need for separate, discrete seals, greatly simplifying installation
- Compatible with all state of the art screen removal techniques
- No tapering of insulation required
- No polishing of polymeric insulation surface
- Factory engineered kit permits rapid on-site installation
- No mechanical stress at insulation screen cutback
- Termination accommodates same bending radius as cable
- Visual confirmation of correct assembly sequence possible after installation
- Rain skirts can be installed to allow either top or bottom feed
- No soldering of earthing accessories required
- Unsurpassed performance in polluted environments, proven over three decades.
- Compatible for use with mechanical and crimp connectors

Selection Information: dimensions shown in millimeters

12 kV



Termination for crimp lug
Screened single core plastic and rubber cable

Cross section (mm ²)	Kit number Indoor	Kit number Outdoor	Diameter over insulation HD 620 A2 (mm)
10 – 35	IXSU-F 3111	OXSU-F 3111	16.3
25 – 95	IXSU-F 3121	OXSU-F 3121	13.7 – 20.8
95 – 240	IXSU-F 3131	OXSU-F 3131	18.6 – 28.4
240 – 500	IXSU-F 3141	OXSU-F 3141	25.7 – 36.2
500 – 800	IXSU-F 3151	OXSU-F 3151	34.0 – 42.2
800 – 1200	IXSU-F 3161	OXSU-F 3161	39.5 – 50.0

Termination with mechanical lug BLMT
Screened single core plastic and rubber cable

Cross section (mm ²)	Kit number Indoor	Kit number Outdoor	Diameter over insulation HD 620 A2 (mm)
25 – 35	IXSU-F3111-ML-1-13	OXSU-F3111-ML-1-13	13.7 – 16.3
	IXSU-F3111-ML-1-17	OXSU-F3111-ML-1-17	
25 – 95	IXSU-F3121-ML-1-13	OXSU-F3121-ML-1-13	13.7 – 20.8
	IXSU-F3121-ML-1-17	OXSU-F3121-ML-1-17	
95 – 240	IXSU-F3131-ML-4-13	OXSU-F3131-ML-4-13	18.6 – 28.4
	IXSU-F3131-ML-4-17	OXSU-F3131-ML-4-17	
120 – 300	IXSU-F3131-ML-5-13	OXSU-F3131-ML-5-13	20.1 – 30.4
	IXSU-F3131-ML-5-17	OXSU-F3131-ML-5-17	
185 – 400	IXSU-F3141-ML-6-13	OXSU-F3141-ML-6-13	23.2 – 33.6
	IXSU-F3141-ML-6-17	OXSU-F3141-ML-6-17	
500 – 630	IXSU-F3151-ML-7-17	OXSU-F3151-ML-7-17	34.4 – 40.0
	IXSU-F3151-ML-7-21	OXSU-F3151-ML-7-21	

12 kV



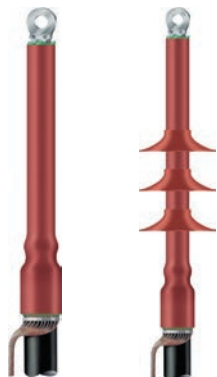
Termination for crimp lug
Screened 3-core plastic and rubber cable without armour

Cross section (mm ²)	Tail Length (mm)	Kit number Indoor	Kit number Outdoor
10 – 16	450	IXSU-F 3301	OXSU-F 3301
	1200	IXSU-F 3304	OXSU-F 3304
16 – 35	450	IXSU-F 3311	OXSU-F 3311
	1200	IXSU-F 3314	OXSU-F 3314
25 – 70	450	IXSU-F 3321	OXSU-F 3321
	1200	IXSU-F 3324	OXSU-F 3324
95 – 240	450	IXSU-F 3331	OXSU-F 3331
	1200	IXSU-F 3334	OXSU-F 3334
240 – 500	450	IXSU-F 3341	OXSU-F 3341
	1200	IXSU-F 3344	OXSU-F 3344

Termination with mechanical lug BLMT
Screened 3-core plastic and rubber cable without armour

Cross section (mm ²)	Tail Length (mm)	Kit number Indoor	Kit number Outdoor
25 – 35	450	IXSU-F3311-ML-1-13	OXSU-F3311-ML-1-13
	1200	IXSU-F3311-ML-1-17	OXSU-F3311-ML-1-17
25 – 70	450	IXSU-F3314-ML-1-13	OXSU-F3314-ML-1-13
	1200	IXSU-F3314-ML-1-17	OXSU-F3314-ML-1-17
95 – 240	450	IXSU-F3321-ML-1-13	OXSU-F3321-ML-1-13
	1200	IXSU-F3321-ML-1-17	OXSU-F3321-ML-1-17
300 – 400	450	IXSU-F3324-ML-1-13	OXSU-F3324-ML-1-13
	1200	IXSU-F3324-ML-1-17	OXSU-F3324-ML-1-17
300 – 400	450	IXSU-F3331-ML-4-13	OXSU-F3331-ML-4-13
	1200	IXSU-F3331-ML-4-17	OXSU-F3331-ML-4-17
300 – 400	450	IXSU-F3334-ML-4-13	OXSU-F3334-ML-4-13
	1200	IXSU-F3334-ML-4-17	OXSU-F3334-ML-4-17
300 – 400	450	IXSU-F3341-ML-6-13	OXSU-F3341-ML-6-13
	1200	IXSU-F3341-ML-6-17	OXSU-F3341-ML-6-17
300 – 400	450	IXSU-F3341-ML-6-21	OXSU-F3341-ML-6-21
	1200	IXSU-F3341-ML-6-21	OXSU-F3341-ML-6-21

24 kV



Termination for crimp lug
Screened single core plastic and rubber cable

Cross section (mm ²)	Kit number Indoor	Kit number Outdoor	Diameter over insulation HD 620 A2 (mm)
25 - 70	IXSU-F 5121	OXSU-F 5121	17.9 - 23.4
70 - 240	IXSU-F 5131	OXSU-F 5131	21.9 - 32.6
185 - 400	IXSU-F 5141	OXSU-F 5141	27.4 - 37.8
400 - 800	IXSU-F 5151	OXSU-F 5151	35.1 - 46.9
1000 - 1200	IXSU-F 5161	OXSU-F 5161	49.4 - 56.0

Termination with mechanical lug BLMT
Screened single core plastic and rubber cable

Cross section (mm ²)	Kit number Indoor	Kit number Outdoor	Diameter over insulation HD 620 A2 (mm)
25 - 95	IXSU-F5121-ML-1-13	OXSU-F5121-ML-1-13	17.9 - 25.0
	IXSU-F5121-ML-1-17	OXSU-F5121-ML-1-17	
95 - 240	IXSU-F5131-ML-4-13	OXSU-F5131-ML-4-13	23.0 - 32.6
	IXSU-F5131-ML-4-17	OXSU-F5131-ML-4-17	
120 - 300	IXSU-F5131-ML-5-13	OXSU-F5131-ML-5-13	24.3 - 34.6
	IXSU-F5131-ML-5-17	OXSU-F5131-ML-5-17	
185 - 400	IXSU-F5141-ML-6-13	OXSU-F5141-ML-6-13	27.4 - 37.8
	IXSU-F5141-ML-6-17	OXSU-F5141-ML-6-17	
	IXSU-F5141-ML-6-21	OXSU-F5141-ML-6-21	
500 - 630	IXSU-F5151-ML-7-17	OXSU-F5151-ML-7-17	37.9 - 44.0
	IXSU-F5151-ML-7-21	OXSU-F5151-ML-7-21	

24 kV



Termination for crimp lug
Screened 3-core plastic and rubber cable without armour

Cross section (mm ²)	Tail Length (mm)	Kit number Indoor	Kit number Outdoor
10 - 25	450	IXSU-F 5311	OXSU-F 5311
	1200	IXSU-F 5314	OXSU-F 5314
25 - 50	450	IXSU-F 5321	OXSU-F 5321
	1200	IXSU-F 5324	OXSU-F 5324
70 - 185	450	IXSU-F 5331	OXSU-F 5331
	1200	IXSU-F 5334	OXSU-F 5334
185 - 400	450	IXSU-F 5341	OXSU-F 5341
	1200	IXSU-F 5344	OXSU-F 5344

Termination with mechanical lug BLMT
Screened 3-core plastic and rubber cable without armour

Cross-section (mm ²)	Tail Length (mm)	Kit number Indoor	Kit number Outdoor
25 - 50	450	IXSU-F5321-ML-1-13	OXSU-F5321-ML-1-13
		IXSU-F5321-ML-1-17	OXSU-F5321-ML-1-17
	1200	IXSU-F5324-ML-1-13	OXSU-F5324-ML-1-13
		IXSU-F5324-ML-1-17	OXSU-F5324-ML-1-17
95 - 185	450	IXSU-F5331-ML-4-13	OXSU-F5331-ML-4-13
		IXSU-F5331-ML-4-17	OXSU-F5331-ML-4-17
	1200	IXSU-F5334-ML-4-13	OXSU-F5334-ML-4-13
		IXSU-F5334-ML-4-17	OXSU-F5334-ML-4-17
185 - 400	450	IXSU-F5341-ML-6-13	OXSU-F5341-ML-6-13
		IXSU-F5341-ML-6-17	OXSU-F5341-ML-6-17
		IXSU-F5341-ML-6-21	OXSU-F5341-ML-6-21
	1200	IXSU-F5344-ML-6-13	OXSU-F5344-ML-6-13
		IXSU-F5344-ML-6-17	OXSU-F5344-ML-6-17
		IXSU-F5344-ML-6-21	OXSU-F5344-ML-6-21



EPKJ
Joints for screened plastic and rubber insulated cables up to 36 kV

General Description

Raychem EPKJ series of heat shrinkable joints is based on well established, highly reliable, radiation cross linked polymeric tubes which are easy to install, eliminates shelf life limitations even in severe climates and permits immediate back filling of trenches and quick energization.

Features & Benefits

- Polymeric/elastomeric triple extruded, conducting/insulating joint body ensures higher recovery force and fewer components, improving reliability and simplifying installation.
- Insulating, screening and electric field control derived from specially formulated, cross-linked polymeric materials with precisely defined electrical characteristics.
- Factory engineered components ensure consistent installations with pre-determined insulation thickness, eliminating installer errors.
- No penciling of insulation required, reducing installation time.
- Shrinking process drives out moisture / condensation in the jointing area, ensuring no moisture entrapment within the joint.
- Special low viscosity void filler flows and uniformly envelops the connector, creating a smooth profile.
- Wide use range of kits ensures fewer kits to cover a range of conductor sizes, reducing inventory.

Selection Information: dimensions shown in millimeters

EPKJ-R Inline Joints					3-Core Polymeric Cable (Unarmoured)
Size of Conductor in [mm ²]					
12 kV	24 kV	36 kV	Connector Dia. max. [mm]	Connector Length max. [mm]	Kit Number Unarmoured
35-70			22	110	EPKJ-17A/3XU-3XU
95-185			29	140	EPKJ-17B/3XU-3XU
240-400			42	180	EPKJ-17C/3XU-3XU
500-630			52	200	EPKJ-17D/3XU-3XU
	25		20	110	EPKJ-24A/3XU-3XU
	35-70		25	140	EPKJ-24B/3XU-3XU
	95-240		36	160	EPKJ-24C/3XU-3XU
	300-400		44	200	EPKJ-24D/3XU-3XU

EPKJ-R Inline Joints			3-Core Polymeric Cable (Tape Armour)
Size of Conductor in [mm ²]			
12 kV	24 kV	36 kV	Kit Number Tape Armour
35-70			EPKJ-17A/3XU-3XU-T
95-185			EPKJ-17B/3XU-3XU-T
240-400			EPKJ-17C/3XU-3XU-T
	25		EPKJ-24A/3XU-3XU-T
	35-70		EPKJ-24B/3XU-3XU-T
	95-240		EPKJ-24C/3XU-3XU-T
	300-400		EPKJ-24D/3XU-3XU-T

EPKJ-R Inline Joints			Single Core Polymeric Cable
Size of Conductor in [mm ²]			
12 kV	24 kV	36 kV	Kit Number unarmoured
35-70			EPKJ-17A/1XU-1XU
95-185			EPKJ-17B/1XU-1XU
240-400			EPKJ-17C/1XU-1XU
500-630			EPKJ-17D/1XU-1XU
	25		EPKJ-24A/1XU-1XU
	35-70		EPKJ-24B/1XU-1XU
	95-240		EPKJ-24C/1XU-1XU
	300-400		EPKJ-24D/1XU-1XU
		50-70	EPKJ-36A/1XU-1XU
		95-150	EPKJ-36B/1XU-1XU
		185-400	EPKJ-36C/1XU-1XU
		500-630	EPKJ-36D/1XU-1XU



MXSU/MXST/MXSW/MXAW Jointing system up to 36 kV complete with mechanical connectors

General Description

Raychem MXSU/MXST/MXSW/MXAW series of heat shrinkable cable joints have been specifically designed for use with mechanical connectors. The inclusion of range taking connectors ensures the kits can be supplied complete, with connectors that cover the use range of the kits.

MXSU/MXST/MXSW/MXAW kits exceed international performance standards including CENELEC HD 629 and IEC 60502-4. Tested for 800 hours of heat cycling at a conductor temperature of 130°C @ 2.5U₀.

Features & Benefits

- Polymeric/elastomeric triple extruded, conducting/insulating joint body ensures higher recovery force and fewer components, improving reliability and simplifying installation.
- Range taking capability of mechanical connectors makes it possible to include a single connector that covers the use range of the kit.
- Mechanical connectors eliminate the need for a crimping tool.
- Shear head bolts, with a pre-set shear torque, ensure consistent contact pressure. Specially designed contact surface at the bolt tip breaks up the conductor oxide layer resulting in an excellent electrical contact and improved tensile strength. Eliminates jointer errors.
- Tin plated mechanical connectors with corrosion inhibiting compound facilitates installation on aluminium or copper conductors.
- Can withstand sheath testing for 15 minutes at 15kV DC and 8kV AC.
- Range taking kits with unlimited shelf life.

Selection Information: dimensions shown in millimeters

Inline joint for 3 core poly cables with copper wire shield, without armour

Mechanical Connectors included	12 kV	24 kV	Diameter Conductor	Diameter over Core insulation	Diameter Cable Over sheath
MXSU-3311	25-95		5.2-12.0mm	13.2-21.8mm	40-61mm
MXSU-3321	70-150		8.7-15.0mm	17.6-24.3mm	45-68mm
MXSU-3331	95-240		10.3-19.2mm	18.5-29.4mm	53-77mm
MXSU-3332	150-300		12.9-21.6mm	21.6-31.4mm	59-85mm
MXSU-5311		25-95	5.2-12.0mm	17.9-26.0mm	48-72mm
MXSU-5321		50-150	7.2-15.0mm	20.2-29.5mm	55-80mm
MXSU-5331		95-240	10.3-19.2mm	23.0-33.6mm	62-89mm
MXSU-5332		150-300	12.9-21.6mm	25.0-35.5mm	70-96mm

Inline joint for 3 core poly cables with copper wire shield, and steel tape armour

Mechanical Connectors included	12 kV	24 kV	Diameter Conductor	Diameter over Core insulation	Diameter Cable Over sheath
MXST-3331	95-240		10.3-19.2mm	17.6-29.4mm	60-80mm
MXST-3332	150-300		12.9-21.6mm	22.0-31.4mm	64-85mm
MXST-5331		95-240	10.3-19.2mm	23.0-33.6mm	70-90mm
MXST-5332		150-300	12.9-21.6mm	25.0-35.5mm	76-95mm

Inline joint for 3 core poly cables with copper tape shield and steel wire armour

Mechanical Connectors included	12 kV	24 kV	Diameter Conductor	Diameter over Core insulation	Diameter Cable Over sheath
MXSW-3331	95-240		10.3-19.2mm	17.6-29.4mm	60-80mm
MXSW-3332	150-300		12.9-21.6mm	22.0-31.4mm	64-85mm
MXSW-5331		95-240	10.3-19.2mm	23.0-33.6mm	70-90mm
MXSW-5332		150-300	12.9-21.6mm	25.0-35.5mm	76-95mm

Note: For any other cable construction, please contact your local sales representative

Inline joint for 1 core poly cables with copper wire shield without armour

Mechanical Connectors included	12 kV	24 kV	36 kV	Diameter Conductor	Diameter over Core insulation	Diameter Cable Over sheath
MXSU-3111	25-95			5.2-12.0 mm	13.2-21.8 mm	23-32 mm
MXSU-3121	70-150			8.7-15.0 mm	17.6-24.3 mm	25-38 mm
MXSU-3131	95-240			10.3-19.2 mm	17.6-29.4 mm	26-40 mm
MXSU-3132	150-300			12.9-21.6 mm	21.6-30.4 mm	29-43 mm
MXSU-3141	240-400			17.8-24.6 mm	25.7-32.6 mm	33-47 mm
MXSU-3151	500			25.5-27.6 mm	33.8-37.2 mm	44-50 mm
MXSU-3161	630			29.0-32.5 mm	37.5-40.0 mm	47-54 mm
MXSU-3171	800			32.0-33.8 mm	39.5-42.6 mm	52-57 mm
MXSU-3181	1000			38.5-39.2 mm	45.0-47.6 mm	59-64 mm
MXSU-5101		10-35		3.7-7.5 mm	15.0-22.0 mm	17-33 mm
MXSU-5111		25-95		5.2-12.0 mm	17.9-26.0 mm	25-38 mm
MXSU-5121		50-150		7.2-15.0 mm	20.2-29.5 mm	28-38 mm
MXSU-5131		95-240		10.3-19.2 mm	23.0-33.6 mm	30-43 mm
MXSU-5132		150-300		12.9-21.6 mm	25.0-35.5 mm	33-48 mm
MXSU-5141		240-400		17.8-24.6 mm	29.9-38.8 mm	35-49 mm
MXSU-5151		500		25.5-27.6 mm	37.2-41.6 mm	48-54 mm
MXSU-5161		630		29.0-32.5 mm	39.2-44.7 mm	50-58 mm
MXSU-5171		800		32.0-33.8 mm	44.8-46.9 mm	58-61 mm
MXSU-5181		1000		38.5-39.2 mm	49.4-53.2 mm	64-67 mm
MXSU-6111			35-95	6.0-12.0 mm	24.0-30.0 mm	32-43 mm
MXSU-6121			70-150	8.7-15.0 mm	26.2-34.5 mm	34-44 mm
MXSU-6131			150-300	13.9-21.6 mm	31.1-39.6 mm	38-53 mm
MXSU-6141			240-400	17.8-24.6 mm	36.2-42.8 mm	40-54 mm
MXSU-6151			500	25.5-29.2 mm	40.1-46.6 mm	52-60 mm
MXSU-6161			630	29.0-32.5 mm	45.8-50.5 mm	55-68 mm
MXSU-6171			800	32.0-33.8 mm	50.1-53.4 mm	62-66 mm
MXSU-6181			1000	38.5-39.2 mm	55.7-58.8 mm	69-73 mm

Note: For armoured and tape shield cables, please contact your local sales representative

Inline joint for 1 core poly cables with copper wire or tape shield with aluminium wire armour

Mechanical Connectors included	24 kV	Diameter Conductor	Diameter over Core insulation	Diameter Cable Over sheath
MXAW-5131	95-185	10.3-17.6 mm	23.0-31.2 mm	37-43 mm
MXAW-5132	150-300	12.9-21.6 mm	25.8-34.6 mm	40-48 mm
MXAW-5141	240-400	17.8-24.6 mm	29.4-38.8 mm	44-54 mm
MXAW-5151	500	25.5-27.6 mm	37.2-41.6 mm	48-56 mm
MXAW-5161	630	29.0-32.5 mm	39.2-44.7 mm	50-60 mm

Note: For cable constructions or voltages not listed, please contact your local sales representative



SXSU/SXST/SXSW/SXAW

Joints for polymeric insulated cables from 12 kV up to 36 kV

General Description

Raychem SXSU/SXST/SXSW/SXAW series of heat shrinkable joints is based on well established, highly reliable, radiation cross linked polymeric tubes which are easy to install, eliminates shelf life limitations even in severe climates and permits immediate back filling of trenches and quick energization.

With millions of installations throughout the world, Raychem SXSU cable joints for up to 36 kV are acknowledged to be more reliable and quicker to install than conventional systems.

SXSU kits exceed International performance standards including CENELEC HD 629 and IEC 60502-4.

Features & Benefits

- Polymeric/elastomeric triple extruded, conducting/insulating joint body ensures higher recovery force and fewer components, improving reliability and simplifying installation.
- Insulating, screening and electric field control derived from specially formulated, crosslinked polymeric materials with precisely defined electrical characteristics.
- Factory engineered components ensure consistent installations with pre-determined insulation thickness, eliminating installer errors.
- No penciling of insulation required, reducing installation time.
- Shrinking process drives out moisture / condensation in the jointing area, ensuring no moisture entrapment within the joint.
- Wide use range of kits ensures fewer kits to cover a range of conductor sizes, reducing inventory.
- Special low viscosity void filler flows and uniformly envelops the connector, creating a smooth profile.
- Unlimited shelf life allows stocking of economic quantities without product spoilage.
- Enhanced range-taking ability means that one kit fits more conductor sizes, reducing stocking requirements.

Selection Information: dimensions shown in millimeters

Inline joint for 1-core polymeric cables with copper wire shield, without armour

Kit Number	12kV	24kV	36kV	Diameter over Core insulation	Diameter Cable oversheath	Connector dimensions max. diameter/max.length
SXSU-3111	35-70			15,4-20,2 mm	23-29 mm	23 mm/ 110 mm
SXSU-3121	95-185			17,6-26,9 mm	25-37 mm	29 mm/ 160 mm
SXSU-3131	185-300			22,0-31,4 mm	29-43 mm	34 mm/ 180 mm
SXSU-3141	300-500			28,4-38,8 mm	36-52 mm	44 mm/ 220 mm
SXSU-4111	50-70			15,4-20,2 mm	23-29 mm	22 mm/ 110 mm
SXSU-4121	95-185			17,6-26,9 mm	25-37 mm	29 mm/ 160 mm
SXSU-4131	185-300			23,2-31,4 mm	29-43 mm	36 mm/ 180 mm
SXSU-4141	400-630			29,8-42,5 mm	40-52 mm	52 mm/ 250 mm
SXSU-4151	800-1200			39,4-50,0 mm	48-66 mm	62mm/ 280 mm
SXSU-5121		25-95		17,6-26,0 mm	25-37 mm	23 mm/ 120 mm
SXSU-5131		95-240		23,2-33,6 mm	28-44 mm	34 mm/ 140 mm
SXSU-5141		240-500		29,8-41,6 mm	33-52 mm	44 mm/ 230 mm
SXSU-5151		630-800		39,4-48,0 mm	48-66 mm	58 mm/ 250 mm
SXSU-5161		1000-1200		49,4-56,2 mm	55-75 mm	62 mm/ 280 mm
SXSU-6121			35-95	24,0-31,4 mm	32-41 mm	22 mm/ 140 mm
SXSU-6131			95-150	26,4-34,4 mm	35-46 mm	29 mm/ 160 mm
SXSU-6141			185-400	31,9-43,7 mm	40-54 mm	42 mm/ 220 mm
SXSU-6151			500-800	42,9-53,4 mm	55-66 mm	58 mm/ 250 mm
SXSU-6161			800-1200	46,2-61,5 mm	55-73 mm	62 mm/ 280 mm
SXSU-6122			35-150	24,0-34,4 mm	33-44 mm	29 mm/ 160 mm
SXSU-6132			150-300	30,8-40,5 mm	36-52 mm	38 mm/ 160 mm
SXSU-6142			400-630	40,1-50,5 mm	40-62 mm	52 mm/ 250 mm
SXSU-6152			800-1200	45,6-61,5 mm	55-76 mm	62 mm/ 280 mm

Note: For copper tape shield or armoured cables, please contact your local sales representative.

Inline joint for 3-core polymeric cables with copper wire shield, without armour

Kit Number	12kV	24kV	36kV	Diameter over Core insulation	Diameter Cable oversheath	Connector dimensions max. diameter/max.length
SXSU-3311	35-70			15,4-20,2 mm	40-57 mm	23 mm/ 110 mm
SXSU-3321	95-185			17,6-26,9 mm	53-73 mm	29 mm/ 160 mm
SXSU-3331	185-300			22,0-31,4 mm	63-82 mm	34 mm/ 180 mm
SXSU-4302	16-35			13,2-17,3 mm	38-49 mm	17 mm/ 100 mm
SXSU-4312	50-70			15,4-20,2 mm	46-57 mm	22 mm/ 110 mm
SXSU-4322	95-185			17,6-26,9 mm	53-73 mm	29 mm/ 160 mm
SXSU-4332	185-300			23,2-31,4 mm	63-82 mm	36 mm/ 180 mm
SXSU-5322		25-95		17,6-26,0 mm	48-72 mm	23 mm/ 120 mm
SXSU-5332		95-240		23,2-33,6 mm	62-89 mm	34 mm/ 140 mm
SXSU-5342		240-500		29,8-41,6 mm	78-100 mm	44 mm/ 230 mm

Note: For copper tape shield or armoured cables, please contact your local sales representative.

Inline joint for 3-core polymeric cables with copper wire shield and steel tape armour

Kit Number	12kV	Diameter over Core insulation	Diameter Cable oversheath	Connector dimensions max. diameter/max.length
SXST-4303	16-35	13,2-17,3 mm	38-52 mm	17 mm/ 100 mm
SXST-4313	50-70	15,4-20,2 mm	48-57 mm	22 mm/ 110 mm
SXST-4323	95-185	17,6-26,9 mm	56-73 mm	29 mm/ 160 mm
SXST-4333	185-300	23,2-31,4 mm	68-84 mm	36 mm/ 180 mm

Note: For tape shield cables, please contact your local sales representative.

Inline joint for 3-core polymeric cables with copper wire shield and steel wire armour

Kit Number	12kV	Diameter over Core insulation	Diameter Cable oversheath	Connector dimensions max. diameter/max.length
SXSW-4304	16-35	13,2-17,3 mm	38-54 mm	17 mm/ 100 mm
SXSW-4314	50-70	15,4-20,2 mm	48-60 mm	22 mm/ 110 mm
SXSW-4324	95-185	17,6-26,9 mm	56-75 mm	29 mm/ 160 mm
SXSW-4334	185-300	23,2-31,4 mm	68-86 mm	36 mm/ 180 mm

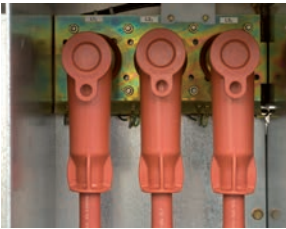
Note: For copper tape shield cables, please contact your local sales representative.

Inline joint for 1-core polymeric cables with aluminium wire armour

Kit Number	12kV	24kV	36kV	Diameter over Core insulation	Diameter Cable oversheath	Connector dimensions max. diameter/max.length
SXAW-3121	95-185			17,6-26,9 mm	28-39 mm	28,5 mm/ 140 mm
SXAW-3131	185-300			22,0-31,4 mm	33-45 mm	34 mm/ 180 mm
SXAW-3141	400-500			28,4-38,8 mm	40-52 mm	44 mm/ 220 mm
SXAW-3151	630-800			39,4-45,5 mm	53-59 mm	58 mm/ 250 mm
SXAW-5121		50-95		17,6-26,0 mm	28-39 mm	23 mm/ 120 mm
SXAW-5131		120-185		23,2-33,6 mm	33-44 mm	28,5 mm/ 140 mm
SXAW-5141		240-400		29,8-38,8 mm	40-54 mm	38,5 mm/ 220 mm
SXAW-5151		500-630		39,4-45,0 mm	54-64 mm	52 mm/ 250 mm
SXAW-6122			50-95	24,0-31,4 mm	33-44 mm	23 mm/ 120 mm
SXAW-6132			120-240	30,8-40,5 mm	44-54 mm	32 mm/ 160 mm
SXAW-6142			300-630	40,1-50,5 mm	54-68 mm	52 mm/ 250 mm

Note: For tape shield cables, please contact your local sales representative.

Bushing boot



RICS insulated adapter termination system for SF6-insulated switchgear up to 24 kV

General Description

This insulated adapter provides perfect sealing, electrical insulation and an electrical connection between all Raychem terminations and SF6-insulated switchgear up to 24 kV. It is designed to fit bushing profiles according to EN 50181 type C. Raychem elastomeric RICS adapters are moulded parts which fit over the connection between the cable lug and the right-angled bushing of a gas insulated switchgear, where the air clearances are insufficient for normal operation. The non-tracking elastomeric housing has excellent track and erosion resistance, dielectric properties and environmental resistance, giving superb performance in areas of high humidity and electrical stress.



Features & Benefits

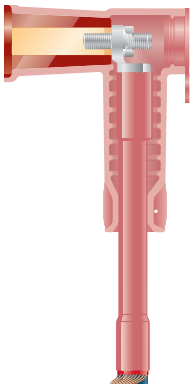
- Quick and easy to install. Works in combination with all Raychem termination product lines.
- Can easily be removed and reinstalled without the need for additional material or tooling, allowing access to the bushing connection for test purposes.
- The compact design of the adapters and their clear cut profiles simplify installation. The electrical connection with the aid of a stud renders additional fastening systems unnecessary.
- The adapters are water-tight and guarantee uninterrupted operation, even under extreme environmental conditions with severe pollution.
- Caters for a wide range of cables with as few fittings as possible, while optimising the product line for specific applications, thereby maximising reliability.
- The adapters conform to CENELEC HD 629.1 S2:2006, IEC 540, VDE 0278 and ANSI IEEE 386 specifications.

Selection Information: dimensions shown in millimeters

RICS-3133 T-Adapter up to 12 kV

The insulating body, fixing bolts, terminal stud and cap are supplied in a 3-phase set complete with installation instruction. Cable terminations with lugs for M16 studs have to be ordered separately. Covers a wide cross section range of 70-300 sqmm. Tested according to CENELEC HD 629.1 S2:2006 , including tests like AC, DC (60 kV), BIL(95 kV), long-term loadcycling at AC voltage 16 kV phase-ground (2.5 Uo).

Cross section (sqmm)	Ordering description T-Adapter	Termination for polymeric cables incl. Mechanical lugs
70 - 150	RICS-3133	IXSU-F3131-ML-2-17
95 - 240	RICS-3133	IXSU-F3131-ML-4-17
120 - 300	RICS-3133	IXSU-F3131-ML-5-17

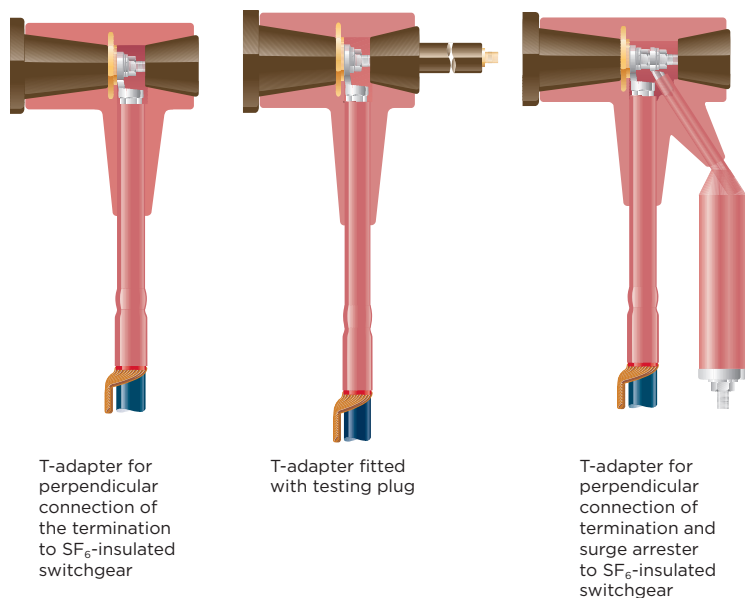


RICS T-adapter with or without surge arrester up to 24 kV

Thick walled insulator made of high quality elastomer with sealing face over the termination, bushing cone and plug. The electrical connection is made with a terminal stud and the cable lug of the termination. Two cable connection is possible. A special plug which allows cable testing without disconnecting the adapter is also offered. The design of the adapter for connecting the surge arrester is basically identical. The elastomer insulator has an additional lead-in duct for the surge arrester.

Scope of supply (for three phases)

Insulator, plug, terminal stud, small accessories and installation instructions.

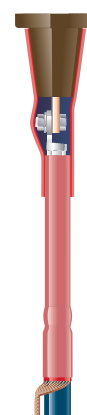


RICS Straight adapter up to 24 kV

A thick walled, heat-shrinkable insulating sleeve provides a hermetic seal over the cone of the bushing and the termination. The adapter area is smoothed with a meltable filler strip.

Scope of supply (for three phases)

Heat-shrinkable insulating sleeving, filler strip, small accessories and installation instructions. Terminal stud and lug must be enclosed.

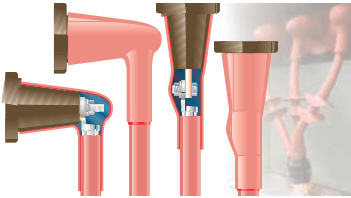


Straight adapter for vertical connection of the termination to SF₆-insulated switchgear

Related test report

Reference No.	Voltage (kV)	Specification
PPR-2505	12	HD629.1 S2:2006
PPR-2509	12	HD629.1 S2:2006 / GOST 1378.0-86
PPR-1106	24	IEC 540, VDE 0278 and ANSI IEEE 386

Bushing boot

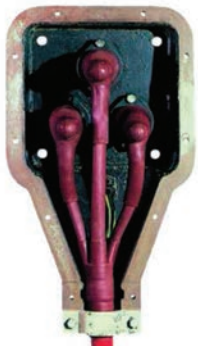


RSRB
Heat shrinkable insulating bushing boots up to 36 kV
General Description

RSRB polymeric insulating boots are moulded parts which fit over the connection between the cable lug and equipment bushing to improve phase-to-phase and phase-to-ground insulation. They are used in switchgear and transformer cable boxes where air clearances are insufficient for normal operation, or to protect against flashover due to rodents or high humidity.

The non-tracking polymeric housing has excellent erosion resistance, dielectric properties and environmental resistance, giving superb performance in areas of high humidity and electrical stress. The boot is coated internally with a hot melt adhesive to provide an excellent seal and improve electrical performance.

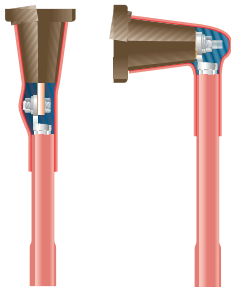
RSRB boots work in combination with all Raychem heat shrink termination products. RSRB boots are quick and easy to install and do not require any taping of the bushing or the termination for voltages upto 24 kV. The boot can be easily removed, allowing access to the bushing connection for test purposes.



Features & Benefits

- Simple and easy installation
- Requires standard gas torch installation
- High-performance insulation material
- Excellent track and erosion resistance
- Removable for access to bushing connection
- Available for in-line and right angled configurations
- Unlimited shelf life
- Connection can be energised immediately after installation.

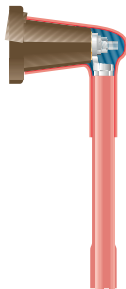
Selection Information: dimensions shown in millimeters



11 kV Bushing Boots Heat-Shrinkable

Part Number In-Line	Part Number Right Angle	Conductor Size Range Paper (sqmm)	Conductor Size Range XLPE (sqmm)
RSRB 4022	RSRB 4042	16-35	-
RSRB 4024	RSRB 4044	50-95	16-95
RSRB 4026	RSRB 4046	120-300	120-300

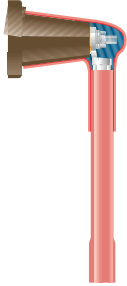
Sold as set of three



22 kV Right Angle Bushing Boots Heat-Shrinkable

Part Number	Conductor Size Range (sqmm)
RSRB 5044	25-95
RSRB 5046	95-300

Sold as set of three



33 kV Right Angle Bushing Boots Heat-Shrinkable

Part Number	Conductor Size Range (sqmm)
RSRB 6046	120-300

Sold as set of three

Related test report

Reference No.	Voltage (kV)
PPR-0620	17.5
PPR-0621	17.5
PPR-0691	36
PPR-1089	24



CSJT

Silicone cold-shrink joint with integrated stress control for XLPE cables up to 36 kV

General Description

Raychem CSJT Series of cold shrink joint offers a reliable, fast and easy to install jointing system to maintain a highly reliable network. A silicone rubber joint body with integrated geometrical stress cone and faraday cage provides excellent electrical stress control. CSJT kits are designed to cover a wide range of applications covering all available types of armouring and cable screens standard kit are supplied with a resin injected re-jacketing system.

Alternate heat shrink and cold shrink re-jacketing system is available upon request.

Features & Benefits

- Pre-expanded, single piece silicone rubber joint body with high mechanical expansion capability allows a wide application range
- Electrical stress control of the screen cut area by integrated conductive geometrical stress cones
- Electrical stress control of the connector area by an integrated screened connection area (Faraday cage)
- Proven shield continuity concept
- The tape and resin outer sealing and protection system provides a reliable moisture seal, corrosion prevention and effective impact resistance
- CSJT joints can be supplied with compression connectors or Raychem mechanical BSM connectors
- CSJT joints can be modified for different armour types and/or wire shield cables.
- CSJT joints can be applied with alternate re-jacketing system
- Pre-expansion on a easy-to-install spiral holdout system
- CENELEC HD 629.1, requirements which include IEC and IEC60

Selection Information: dimensions shown in millimeters

12 kV 3-Core cable

Cross-section (mm ²)	Kit description	Diameter over insulation(mm)	Comment
50-70	CSJT-12-5070-T	16-21	Tape shielded, unarmoured
95-185	CSJT-12-9518-T	21-26	Tape shielded, unarmoured
240-300	CSJT-12-2430-T	26-32	Tape shielded, unarmoured

12 kV 1-Core cable

Cross-section (mm ²)	Kit description	Diameter over insulation(mm)	Comment
50-70	CSJT-12-5070-T-SC	16-21	Tape shielded, unarmoured
95-185	CSJT-12-9518-T-SC	21-26	Tape shielded, unarmoured
240-300	CSJT-12-2430-T-SC	26-32	Tape shielded, unarmoured
400	CSJT-12-400-T-SC	27-35	Tape shielded, unarmoured
500	CSJT-12-500-T-SC	33-40	Tape shielded, unarmoured

24 kV 3-Core cable

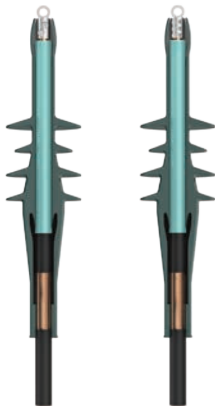
Cross-section (mm ²)	Kit description	Diameter over insulation(mm)	Comment
70-120	CSJT-24-7012-T	21-26	Tape shielded, unarmoured
150-240	CSJT-24-1524-T	26-32	Tape shielded, unarmoured
300	CSJT-24-300-T	27-35	Tape shielded, unarmoured

24 kV 1-Core cable

Cross-section (mm ²)	Kit description	Diameter over insulation(mm)	Comment
70-120	CSJT-24-7012-T-SC	21-26	Tape shielded, unarmoured
150-240	CSJT-24-1524-T-SC	26-32	Tape shielded, unarmoured
300	CSJT-24-300-T-SC	27-35	Tape shielded, unarmoured
400	CSJT-24-400-T-SC	33-40	Tape shielded, unarmoured

The application range given in the table is based on polymeric insulated cable according to IEC 60502 standard with stranded circular conductors.

Due to different conductor shapes or dimensions and cable constructions the minimum and maximum application range may be extendable. Please contact your local sales representative.



CSTI/CSTO

Silicone cold-shrink termination with integrated stress control for XLPE cables up to 24 kV

General Description

The Raychem CSTI/CSTO family of cold shrink terminations is made from a high performance, liquid silicone material. Specially formulated for excellent track and split resistance, the terminations deliver long and trouble free service. The extra long, silicone stress cone is integrated with the termination and eliminates positioning issues common with normal cold shrink terminations. Moisture sealing at the lug is integrated into the termination body, eliminating the need for additional sealing tapes. Easy release spiral hold out ensures one-step installation

Main technical parameters

Cable insulation outer diameter	11.7-52 mm
Cable conductor cross-section range	25-630 mm ²
Max system voltage	17.5 kv
Impulse voltage withstand	95 kv
Partial discharge @1.73UO	<3 pc
AC voltage withstand .5 min	39 kv
DC voltage withstand .15 min	35 kv



Features & Benefits

- One piece, pre-expanded termination on a spiral hold out for easy installation
- Integrated stress cone and faraday cage for excellent electrical stress control
- Longer stress cone eliminated installer positioning error
- Integrated lug seal with pre-installed sealant for a Class 1 termination
- Suitable for use with crimp or mechanical connectors
- Excellent electrical properties with superior track resistance
- Outstanding weathering and UV resistance for a long service life
- Minimum 24 months shelf life
- Tested to IEC 60502-4

Selection Information: dimensions shown in millimeters

12 kV 3-Core cable

Cross-section (mm ²)	Kit description	Diameter over insulation(mm)	Comment
Indoor termination			
25-35	CSTI-12-2535-T	11.7-18	Tape shielded, unarmoured
50-120	CSTI-12-5012-T	16.5-27	Tape shielded, unarmoured
150-185	CSTI-12-1518-T	16.5-27	Tape shielded, unarmoured
240-400	CSTI-12-2440-T	24.5-34.5	Tape shielded, unarmoured
500	CSTI-12-500-T	32.5-52	Tape shielded, unarmoured
Outdoor termination			
25-35	CSTO-12-2535-T	11.7-18	Tape shielded, unarmoured
50-120	CSTO-12-5012-T	16.5-27	Tape shielded, unarmoured
150-185	CSTO-12-1518-T	16.5-27	Tape shielded, unarmoured
240-400	CSTO-12-2440-T	24.5-34.5	Tape shielded, unarmoured
500	CSTO-12-500-T	32.5-52	Tape shielded, unarmoured

12 kV 1-Core cable

Cross-section (mm ²)	Kit description	Diameter over insulation(mm)	Comment
Indoor termination			
50-150	CSTI-12-5015-SC-T	16.5-27	Tape shielded, unarmoured
185-400	CSTI-12-1840-SC-T	24.5-34.5	Tape shielded, unarmoured
500-630	CSTI-12-5063-SC-T	32.5-52	Tape shielded, unarmoured
Outdoor termination			
50-150	CSTO-12-5015-SC-T	16.5-27	Tape shielded, unarmoured
185-400	CSTO-12-1840-SC-T	24.5-34.5	Tape shielded, unarmoured
500-630	CSTO-12-5063-SC-T	32.5-52	Tape shielded, unarmoured

24 kV 3-Core cable

Cross-section (mm ²)	Kit description	Diameter over insulation(mm)	Comment
Indoor termination			
35-95	CSTI-24-3595-T	16.5-27	Tape shielded, unarmoured
120-185	CSTI-24-1218-T	24.5-34.5	Tape shielded, unarmoured
240-300	CSTI-24-2430-T	24.5-34.5	Tape shielded, unarmoured
Outdoor termination			
35-95	CSTO-24-3595-T	16.5-27	Tape shielded, unarmoured
120-185	CSTO-24-1218-T	24.5-34.5	Tape shielded, unarmoured
240-300	CSTO-24-2430-T	24.5-34.5	Tape shielded, unarmoured

24 kV 1-Core cable

Cross-section (mm ²)	Kit description	Diameter over insulation(mm)	Comment
Indoor termination			
35-95	CSTI-24-3595-SC-T	16.5-27	Tape shielded, unarmoured
120-300	CSTI-24-1230-SC-T	24.5-34.5	Tape shielded, unarmoured
400-500	CSTI-24-4050-SC-T	32.5-52	Tape shielded, unarmoured
Outdoor termination			
35-95	CSTO-24-3595-SC-T	16.5-27	Tape shielded, unarmoured
120-300	CSTO-24-1230-SC-T	24.5-34.5	Tape shielded, unarmoured
400-500	CSTO-24-4050-SC-T	32.5-52	Tape shielded, unarmoured

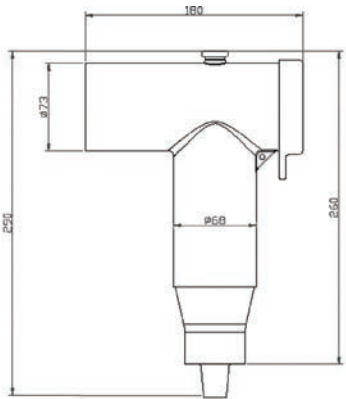
The application range given in the table is based on polymeric insulated cable according to IEC 60502 standard with stranded circular conductors.

Due to different conductor shape or dimensions and cable constructions the minimum and maximum application range may be extendable. Please contact your local sales representative.



ELBC
810 screened separable connector up to 17.5 kV 800 A
General Description

Raychem ELBC-810 screened separable connectors are used to connect XLPE cables to electrical equipment (e.g. RMU, switchgear, transformer, etc.) using CENELEC bushings type “C” specified for 630/1250 A up to 17.5 kV. Made of a highly modified EPDM rubber, ELBC is fully screened and fully submersible, suitable for indoor and outdoor installations. For a wide application range, the design incorporates one body and five stress cones to cover all cross-sections, from 25 sq. mm to 500 sq. mm. The overall and cut-back dimensions are designed to take up minimum space in the terminal box. ELBC 810 elbow connectors are equipped with a capacitive test point for determining whether the circuit is energised. This test point is protected by a conductive cap. ELBC is compatible for use with both mechanical and compression lugs which can be ordered separately. Pre-engineered design of the mechanical lug optimizes the contact resistance between the connector and conductor. Installation is very easy, requiring only a standard socket spanner and no additional space. The separable connector is easily connected with the bushing and junction that comply to EN50180/50181 DIN47636. Accessories such as test rods, earth plugs and front terminals are compatible for use with the TE range of RSTI and ELBC separable connectors.

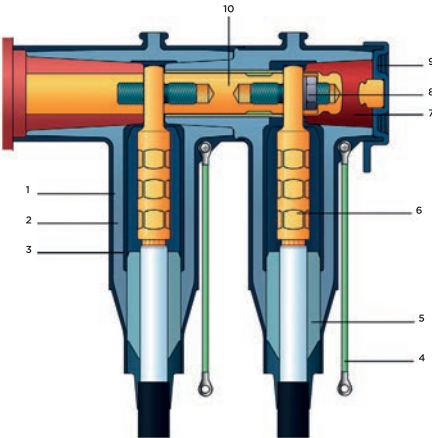


Features & Benefits

- ELBC screened separable connectors are made of high modified EPDM rubber which ensures the high dielectric strength and elongation at break.
- A thick conductive EPDM jacket protects the connection system against unintentional contact.
- Unique design makes it fully shielded and submersible when matched with the right bushing or plug.
- Unique design ensures the ELBC has a current rating up to 800A. ELBC is designed to fit 630/1250 A type “C” bushings, as specified by EN50180 and EN50181.
- The screened separable connector exceeds CENELEC HD 629.1 S2 requirements, which includes BS, VDE and other international specifications.
- The compact design supports the use of double “T” connections inside cable cabinets.
- A wide application range covers cable cross-sections from 25 sq. mm to 500 sq. mm.
- Compatible for use with mechanical or compression type lugs.
- Easily accessible back plug with capacitive test point.
- Few accessories required for system test, double “T” and earth connection.
- Complete kit including lugs facilitates easy installation and storage.
- 100% routine test for PD & AC.

Design & Construction

1. Outer conductive layer
2. Insulated layer
3. Farady cage
4. Earthing eye and grounding kit
5. Stress cone
6. Compression / mechanical lug
7. Back plug
8. Stud-bolt set
9. End cap
10. Threaded bolt



Technical Data

Cable insulation range	15.5 ~ 37 mm
Cable cross-section range	25 ~ 500 mm ²
Max. Rated voltage	17.5 kV
Rated current	800 A
2Uo PD	< 2 pC
AC withstand, 5min	54 kV
Thermal short, 1s	54 kA
Dynamic short, 1s	85 kA

Meet the international CENELEC HD 629.1 S2 specification and GB 12706.4:2008

Selection Information: dimensions shown in millimeters

6/10 (12) kV and 8.7/15 (17.5) kV single-core, with compression lug

Front Connector	Rear Connector	Insulation Φ (mm)	Cross Section (mm ²)
ELBC-810-25C-SC	ELBC-CC-810-25C-SC	15.5-19	25
ELBC-810-35C-SC	ELBC-CC-810-35C-SC	15.5-19	35
ELBC-810-50C-SC	ELBC-CC-810-50C-SC	15.5-19	50
ELBC-810-70C-SC	ELBC-CC-810-70C-SC	18.0-23	70
ELBC-810-95C-SC	ELBC-CC-810-95C-SC	18.0-23	95
ELBC-810-120C-SC	ELBC-CC-810-120C-SC	22.0-27	120
ELBC-810-150C-SC	ELBC-CC-810-150C-SC	22.0-27	150
ELBC-810-185C-SC	ELBC-CC-810-185C-SC	22.0-27	185
ELBC-810-240C-SC	ELBC-CC-810-240C-SC	26.0-32	240
ELBC-810-300C-SC	ELBC-CC-810-300C-SC	26.0-32	300
ELBC-810-400C-SC	ELBC-CC-810-400C-SC	31.0-37	400
ELBC-810-500C-SC	ELBC-CC-810-500C-SC	31.0-37	500

6/10 (12) kV and 8.7/15 (17.5) kV single-core with mechanical lug

Front Connector	Rear Connector	Insulation Φ (mm)	Cross Section (mm ²)
ELBC-810-2550-SC	ELBC-CC-810-2550-SC	15.5-19	25-50
ELBC-810-7095-SC	ELBC-CC-810-7095-SC	18.0-23	70-95
ELBC-810-1218-SC	ELBC-CC-810-1218-SC	22.0-27	120-185
ELBC-810-2430-SC	ELBC-CC-810-2430-SC	26.0-32	240-300
ELBC-810-400-SC	ELBC-CC-810-400-SC	31.0-37	400

6/10 (12) kV and 8.7/15 (17.5) kV, 3-core cable sets, with heat shrinkable trifurcation kits

Front Connector	Rear Connector	Insulation Φ (mm)	Cross Section (mm ²)
ELBC-810-2550	ELBC-CC-810-2550	15.5-19	25-50
ELBC-810-7095	ELBC-CC-810-7095	18.0-23	70-95
ELBC-810-1218	ELBC-CC-810-1218	22.0-27	120-185
ELBC-810-2430	ELBC-CC-810-2430	26.0-32	240-300

6/10 (12) kV and 8.7/15 (17.5) kV, 3-core cable sets, with cold shrinkable trifurcation kits

Front Connector	Rear Connector	Insulation Φ (mm)	Cross Section (mm ²)
ELBC-810-2550-CTR	ELBC-CC-810-2550-CTR	15.5-19	25-50
ELBC-810-7095-CTR	ELBC-CC-810-7095-CTR	18.0-23	70-95
ELBC-810-1218-CTR	ELBC-CC-810-1218-CTR	22.0-27	120-185
ELBC-810-2430-CTR	ELBC-CC-810-2430-CTR	26.0-32	240-300
ELBC-810-400-CTR	ELBC-CC-810-400-CTR	31.0-37	400

Related test report

Reference No.	Voltage (kV)	Specification
2010JDL441	17.5	GB/T 12706.4-2008 IEC 60502.4-2005"



ELBC

824 screened separable connector up to 24 kV, 800 A

General Description

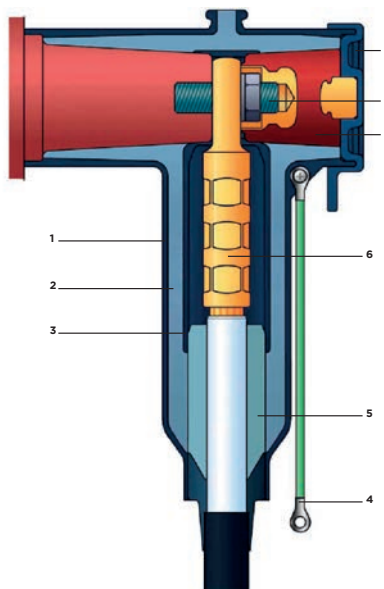
Raychem ELBC-824 screened separable connectors are used to connect XLPE cables to electrical equipment (e.g. RMU, switchgear, transformer, etc.) using CENELEC bushings type "C" specified for 630/1250 A up to 24 kV. Made of a highly modified EPDM rubber, ELBC is fully screened and fully submersible, suitable for indoor and outdoor installations. For a wide application range, the design incorporates one body and five stress cones to cover all cross-sections, from 35sq.mm to 400sq. mm. The overall and cut-back dimensions are designed to take up minimum space in the terminal box. ELBC 810 elbow connectors are equipped with a capacitive test point for determining whether the circuit is energised. This test point is protected by a conductive cap. Mechanical lug and compression lug is ready for customer ordering. Both of them could cover the cable cross-section from 35sqmm to 400sqmm. Pre-engineered design of the mechanical lug optimizes the contact resistance between the connector and conductor. Installation is very easy, requiring only a standard socket spanner and no additional space. The separable connector is easily connected with the bushing and junction that comply to EN50180/50181 DIN47636. Accessories such as test rods, earth plugs and front terminals are compatible of use with the TE range of RSTI and ELBC separable connectors.

Features & Benefits

- ELBC screened separable connector is made of high modified EPDM rubber which ensures the high dielectric strength and elongation at break.
- A thick conductive EPDM jacket protects the connection system against unintentional contact.
- Unique design makes it fully shielded and submersible when matched with the right bushing or plug.
- Unique design ensures the ELBC has a current rating up to 800 A. ELBC is designed to fit 630/1250 A type "C" bushings, as specified by EN50180 and EN50181.
- The screened separable connector exceeds CENELEC HD 629.1 S2 requirements, which includes BS, VDE and other international specifications.
- The compact design supports the use of double "T" connections inside cable cabinets.
- A wide application range covers cable cross-section from 35sq. mm to 400sq. mm.
- Compatible for use with mechanical or compression type lugs.
- Easily accessible back plug with capacitive test point.
- Few accessories required for system test, double "T" and earth connection.
- Complete kit including lugs facilitates easy installation and storage.
- 100% routine test for PD & AC.

Design & Construction

1. Outer conductive layer
2. Insulated layer
3. Farady cage
4. Earthing eye and grounding kit
5. Stress cone
6. Compression and mechanical lug
7. Back plug
8. Threaded pin kit
9. End cap
10. Threaded bolt



Technical Data

Cable insulation range	15.5 - 37 mm
Cable cross-section range	35 - 400 mm ²
Max. Rated voltage	24 kV
Rated current	800 A
Basic impulse level	125 kV
2Uo PD	< 5 pC
AC withstand, 5 min	54 kV
Thermal short, 1 s	54 kA
Dynamic short, 1 s	85 kA

Meet the international CENELEC HD 629.1 S2 specification and GB 12706.4:2008

Selection Information: dimensions shown in millimeters

12/20 (24) kV Single-core, copper conductor with compression copper lug

Front Connector	Rear Connector	Insulation Φ (mm)	Cross Section (mm ²)
ELBC-824-35C-SC	ELBC-CC-824-35C-SC	18-23	35
ELBC-824-50C-SC	ELBC-CC-824-50C-SC	18-23	50
ELBC-824-70C-SC	ELBC-CC-824-70C-SC	18-23	70
ELBC-824-95C-SC	ELBC-CC-824-95C-SC	22-27	95
ELBC-824-120C-SC	ELBC-CC-824-120C-SC	22-27	120
ELBC-824-150C-SC	ELBC-CC-824-150C-SC	26-32	150
ELBC-824-185C-SC	ELBC-CC-824-185C-SC	26-32	185
ELBC-824-240C-SC	ELBC-CC-824-240C-SC	26-32	240
ELBC-824-300C-SC	ELBC-CC-824-300C-SC	31-37	300
ELBC-824-400C-SC	ELBC-CC-824-400C-SC	31-37	400

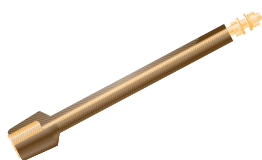
12/20 (24) kV Single-core with mechanical lug

Front Connector	Rear Connector	Insulation Φ (mm)	Cross Section (mm ²)
ELBC-824-3570-SC	ELBC-CC-824-3570-SC	18-23	35-70
ELBC-824-9512-SC	ELBC-CC-824-9512-SC	22-27	95-120
ELBC-824-1524-SC	ELBC-CC-824-1524-SC	26-32	150-240
ELBC-824-3040-SC	ELBC-CC-824-3040-SC	31-37	300-400

Trifurcation kits for 3-core cables

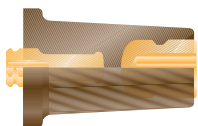
TRFC-H1	Heat Shrinkable trifurcation kits	3*1 M tubing and 1 pc breakout and 1 m earth braid
TRFC-C1	Cold Shrinkable trifurcation kits	3*500 mm tube and 1 pc breakout and 1.4 m earth braid
TRFC-C2	Cold Shrinkable trifurcation kits	6*500 mm tube and 1 pc breakout and 1.4 m earth braid

Accessories



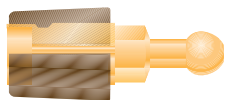
Test Rod

RSTI-68TR	310 mm
RSTI-68TRL	460 mm
RSTI-68TRA	Kit including 2 short and 1 long rods



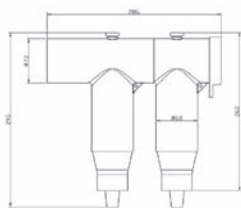
Terminal Plug

RSTI-68TP



Earthing Adapter

RSTI-68EA20	Ball Φ 20 mm
RSTI-68EA25	Ball Φ 25 mm



Single Connection

Material for three phases	1* ELBC-824-xxxx (kit)
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Live end Seal

Material for three phases	1* ELBC-824-xxxx (kit) 1* RSTI 68TP
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Related test report

Reference No.	Voltage (kV)	Specification
2011JDL569	24	GB/T 12706.4-2008 IEC 60502.4-2005



RSTI-58

Screened separable connection system 800 A up to 24 kV

General Description

RSTI: Raychem RSTI-58 screened separable connectors are designed to connect single- and three-core polymeric cables to medium-voltage gas insulated switchgear and other equipment using CENELEC bushings type "C" specified for 630/1250 A up to 24 kV. Made of a highly modified silicone rubber and protected by a thin-walled outer conductive screen connected to earth, RSTI-58 connectors are equally suited for indoor and outdoor installation. Supporting a wide application range, the design incorporates one body and two stress cone adapters to cover all cross-sections from 25 to 300 mm². The overall and cut-back dimensions are designed to take up minimum space in the terminal box. RSTI-58 connectors are equipped with a capacitive test point for determining whether the circuit is energized. This test point is protected by a conductive cap. After cable preparation and lubrication, the stress control adapter is simply slid into place, followed by the screened connector body. These two components can be installed under virtually any conditions. A separable mounting system ensures easy installation of the connector onto the bushing. All kits include highperformance multi-range mechanical or DIN compression lugs matching the design of the RSTI-58 connector.

The RSTI-CC screened coupling connector is designed to mate with the rear end of the base screened connector system connector system is designed designed for 24 kV.



Features & Benefits

RSTI:

- The insulation of the connector 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 screened connector need not be removed for oversheath testing.
- The screened cable connector exceeds CENELEC HD 629.1 S2 requirements, which includes BS, VDE and other international specifications.
- Design fits 630/1250 A bushings type "C" as specified by EN50180 and EN50181.
- The compact design supports the use of double "T" connections inside standard terminal boxes.
- The wide application range covers cable cross-sections from 25 to 300 mm².
- Conductor connection with mechanical or DIN lugs.
- Easily accessible rear plug with capacitive test point.
- Few accessories required for system test, double "T" and earth connection.
- Complete kit including lugs facilitates installation and storage.

RSTI-CC:

- The insulation of the coupling connector is made of a highly modified silicone rubber characterised by high tracking resistance, elongation at break and nonflammability.
- A thin-walled screen is permanently bonded onto the insulation and protects the connection system against accidental contact.
- The screened coupling connector need not be removed for oversheath testing.
- The combination of screened connector and coupling connector exceeds CENELEC HD 629.1 S2 requirements, which include BS, VDE and other international specifications.
- The combination of screened connector and coupling connector fits 630/1250 A bushings type "C" as specified by EN50180 and EN50181.
- The compact design supports the use of double "T" connections inside standard terminal boxes.
- The wide application range covers cable cross-sections from 25 to 300 mm².
- Conductor connection with mechanical or DIN lugs.
- Easily accessible rear plug with capacitive test point.
- Few accessories required for system test and earth connection.
- Complete kit including lugs for easier installation and storage.

Selection Information: dimensions shown in millimeters

Catalog Number	Cross Section (mm ²)	Diameter Reference number Core insulation (mm)	Lugs type	Voltage Level	Type
RSTI-5810	25	12.7- 23.4	Compression lugs	12/24	Front
RSTI-5811	35	12.7- 23.4	Compression lugs	12/24	Front
RSTI-5812	50	12.7- 23.4	Compression lugs	12/24	Front
RSTI-5813	70	12.7- 23.4	Compression lugs	12/24	Front
RSTI-5814	95	12.7- 23.4	Compression lugs	12/24	Front
RSTI-5815	120	12.7- 23.4	Compression lugs	12/24	Front
RSTI-5826	150	21.2- 34.6	Compression lugs	12/24	Front
RSTI-5827	185	21.2- 34.6	Compression lugs	12/24	Front
RSTI-5828	240	21.2- 34.6	Compression lugs	12/24	Front
RSTI-5829	300	21.2- 34.6	Compression lugs	12/24	Front
RSTI-5851	35-95	12.7- 23.4	Mechanical lugs and shear bolts	12/24	Front
RSTI-5852	95-120	12.7- 23.4	Mechanical lugs and shear bolts	12	Front
RSTI-5853	95-240	17.0- 30.1	Mechanical lugs and shear bolts	12/24	Front
RSTI-5854	150-240	21.2- 34.6	Mechanical lugs and shear bolts	12/24	Front
RSTI-5855	185-300	21.2- 34.6	Mechanical lugs and shear bolts	12/24	Front
RSTI-CC-5810	25	12.7- 23.4	Compression lugs	12/24	Rear
RSTI-CC-5811	35	12.7- 23.4	Compression lugs	12/24	Rear
RSTI-CC-5812	50	12.7- 23.4	Compression lugs	12/24	Rear
RSTI-CC-5813	70	12.7- 23.4	Compression lugs	12/24	Rear
RSTI-CC-5814	95	12.7- 23.4	Compression lugs	12/24	Rear
RSTI-CC-5815	120	12.7- 23.4	Compression lugs	12/24	Rear
RSTI-CC-5826	150	21.2- 34.6	Compression lugs	12/24	Rear
RSTI-CC-5827	185	21.2- 34.6	Compression lugs	12/24	Rear
RSTI-CC-5828	240	21.2- 34.6	Compression lugs	12/24	Rear
RSTI-CC-5829	300	21.2- 34.6	Compression lugs	12/24	Rear
RSTI-CC-5851	35-95	12.7- 23.4	Mechanical lugs and shear bolts	12/24	Rear
RSTI-CC-5852	95-120	12.7- 23.4	Mechanical lugs and shear bolts	12	Rear
RSTI-CC-5853	95-240	17.0- 30.1	Mechanical lugs and shear bolts	12/24	Rear
RSTI-CC-5854	150-240	21.2- 34.6	Mechanical lugs and shear bolts	12/24	Rear
RSTI-CC-5855	185-300	21.2- 34.6	Mechanical lugs and shear bolts	12/24	Rear



RSTI-68

Screened separable connection system 1250 A up to 42 kV

General Description

Raychem RSTI screened separable connectors are designed to connect single- and three-core polymeric cables to medium-voltage gas insulated switchgear and other equipment using CENELEC bushings Type C1=630 A and C2=1250 A, specified up to 42 kV. Made of a highly modified silicone rubber and protected by a thin walled outer conductive screen connected to earth, RSTI connectors are equally suited for indoor and outdoor installation. Supporting a wide application range, the design incorporates one body and two stress cone adapters to cover all cross-sections from 35 to 300 mm². The overall and cut back dimensions are designed to take up minimum space in the terminal box. RSTI connectors are equipped with a capacitive test point for determining whether the circuit is energised. A conductive cap protects this test point.



Features & Benefits

- The insulation of the connector 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 accidental contact.
- The screened connector need not be removed for over sheath testing.
- The screened cable connector exceeds CENELEC HD 629.1 S2 requirements, which includes BS; VDE and other international specifications.
- Design fits 630 A and 1250 A bushings (Interface "C1" and "C2") as specified by EN 50180 and EN 50181.
- The compact design supports the use of double "T" connections inside standard terminal boxes.
- The wide application range covers cable cross sections from 35 to 300 mm².
- Conductor connection with mechanical, DIN or deep indent lugs.
- Easily accessible rear plug with capacitive test point.
- Few accessories required for system test, double "T" and earth connection.
- Complete kit including lugs facilitates installation and storage.

Selection Information: dimensions shown in millimeters

Catalog Number	Cross Section (mm ²)	Diameter Reference number Core insulation (mm)	Lugs type	Voltage Level	Type
RSTI-6811	50	22.4- 35.5	Al Compression lugs	42	Front
RSTI-6812	70	22.4- 35.5	Al Compression lugs	42	Front
RSTI-6813	95	22.4- 35.5	Al Compression lugs	42	Front
RSTI-6814	120	22.4- 35.5	Al Compression lugs	42	Front
RSTI-6815	150	28.9- 42.0	Al Compression lugs	42	Front
RSTI-6816	185	28.9- 42.0	Al Compression lugs	42	Front
RSTI-6817	240	28.9- 42.0	Al Compression lugs	42	Front
RSTI-6818	300	28.9- 42.0	Al Compression lugs	42	Front
RSTI-6821	50	22.4- 35.5	Cu Compression lugs	42	Front
RSTI-6822	70	22.4- 35.5	Cu Compression lugs	42	Front
RSTI-6823	95	22.4- 35.5	Cu Compression lugs	42	Front
RSTI-6824	120	22.4- 35.5	Cu Compression lugs	42	Front
RSTI-6825	150	28.9- 42.0	Cu Compression lugs	42	Front
RSTI-6826	185	28.9- 42.0	Cu Compression lugs	42	Front
RSTI-6827	240	28.9- 42.0	Cu Compression lugs	42	Front
RSTI-6828	300	28.9- 42.0	Cu Compression lugs	42	Front
RSTI-6851	35-95	22.4- 35.5	Mechanical lugs and shear bolts	42	Front
RSTI-6852	95-150	22.4- 35.5	Mechanical lugs and shear bolts	42	Front
RSTI-6853	120-240	28.9- 42.0	Mechanical lugs and shear bolts	42	Front
RSTI-6855	185-300	28.9- 42.0	Mechanical lugs and shear bolts	42	Front
RSTI-CC-6811	50	22.4- 35.5	Al Compression lugs	42	Rear
RSTI-CC-6812	70	22.4- 35.5	Al Compression lugs	42	Rear
RSTI-CC-6813	95	22.4- 35.5	Al Compression lugs	42	Rear
RSTI-CC-6814	120	22.4- 35.5	Al Compression lugs	42	Rear
RSTI-CC-6815	150	28.9- 42.0	Al Compression lugs	42	Rear
RSTI-CC-6816	185	28.9- 42.0	Al Compression lugs	42	Rear
RSTI-CC-6817	240	28.9- 42.0	Al Compression lugs	42	Rear
RSTI-CC-6818	300	28.9- 42.0	Al Compression lugs	42	Rear
RSTI-CC-6821	50	22.4- 35.5	Cu Compression lugs	42	Rear
RSTI-CC-6822	70	22.4- 35.5	Cu Compression lugs	42	Rear
RSTI-CC-6823	95	22.4- 35.5	Cu Compression lugs	42	Rear
RSTI-CC-6824	120	22.4- 35.5	Cu Compression lugs	42	Rear
RSTI-CC-6825	150	28.9- 42.0	Cu Compression lugs	42	Rear
RSTI-CC-6826	185	28.9- 42.0	Cu Compression lugs	42	Rear
RSTI-CC-6827	240	28.9- 42.0	Cu Compression lugs	42	Rear
RSTI-CC-6828	300	28.9- 42.0	Cu Compression lugs	42	Rear
RSTI-CC-6851	35-95	22.4- 35.5	Mechanical lugs and shear bolts	42	Rear
RSTI-CC-6852	95-150	22.4- 35.5	Mechanical lugs and shear bolts	42	Rear
RSTI-CC-6853	120-240	28.9- 42.0	Mechanical lugs and shear bolts	42	Rear
RSTI-CC-6855	185-300	28.9- 42.0	Mechanical lugs and shear bolts	42	Rear



RSTI-x9

Screened separable connection system 1250 A up to 42 kV

General Description

Raychem RSTI screened separable connectors are designed to connect single- and three-core polymeric cables to medium-voltage gas insulated switchgear and other equipment using CENELEC bushings Type C1=630 A and C2=1250 A, specified up to 42 kV. Made of a highly modified silicone rubber and protected by a thin walled outer conductive screen connected to earth, Raychem RSTI connectors are equally suited for indoor and outdoor application. Supporting a wide application range, the design incorporates one body and three stress cone adapters to cover all cross-sections from 400 to 800 mm² and all voltage classes from 12 to 42 kV. The overall and cut back dimensions are designed to take up minimum space in the terminal box. Raychem RSTI connectors are equipped with a capacitive test point for determining whether the circuit is energised. conductive cap protects this test point.



Features & Benefits

- The insulation of the connector 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 accidental contact.
- The screened connector need not be removed for over sheath testing.
- The screened cable connector exceeds CENELEC HD 629.1 S2 requirements, which includes BS; VDE and other international specifications.
- Design fits 630 A and 1250 A bushings (Interface "C1" and "C2") as specified by EN 50180 and EN 50181.
- The compact design supports the use of double "T" connections inside standard terminal boxes.
- The wide application range covers cable cross sections from 400 to 800 mm².
- Conductor connection with mechanical lugs.
- Easily accessible rear plug with capacitive test point.
- Complete kit including lugs facilitates installation and storage.

Selection Information: dimensions shown in millimeters

Screened separable connection system 12 kV with mechanical lugs

Catalog Number	Cross Section (mm ²)	Diameter Reference number Core insulation (mm)	Lugs type	Voltage Level	Type
RSTI-3951	400	28.9 - 36.4	Mechanical lugs and shear bolts	42	Front
RSTI-3952	500	28.9 - 36.4	Mechanical lugs and shear bolts	42	Front
RSTI-3953	630	34.0 - 45.4	Mechanical lugs and shear bolts	42	Front
RSTI-3954	800	34.0 - 45.4	Mechanical lugs and shear bolts	42	Front

Screened separable connection system 24 kV with mechanical lugs

Catalog Number	Cross Section (mm ²)	Diameter Reference number Core insulation (mm)	Lugs type	Voltage Level	Type
RSTI-5951	400	34.0 - 45.4	Mechanical lugs and shear bolts	42	Front
RSTI-5952	500	34.0 - 45.4	Mechanical lugs and shear bolts	42	Front
RSTI-5953	630	39.1 - 59.0	Mechanical lugs and shear bolts	42	Front
RSTI-5954	800	39.1 - 59.0	Mechanical lugs and shear bolts	42	Front

Screened separable connection system 36 & 42 kV with mechanical lugs

Catalog Number	Cross Section (mm ²)	Diameter Reference number Core insulation (mm)	Lugs type	Voltage Level	Type
RSTI-6951	400	34.0 - 45.4	Mechanical lugs and shear bolts	42	Front
RSTI-6952	500 - 630	39.1 - 59.0	Mechanical lugs and shear bolts	42	Front
RSTI-6953	800	39.1 - 59.0	Mechanical lugs and shear bolts	42	Front



RSES 400 A screened, separable elbow connection system 400 A for 24 kV and 36 kV

General Description

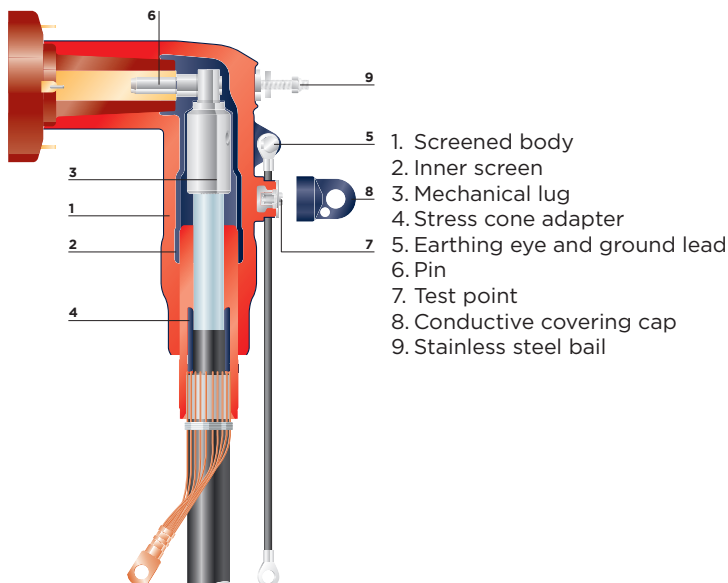
Raychem RSES screened, separable elbow connectors are designed to connect single and three-core polymeric cables to medium-voltage gas-insulated switchgear and other equipment using CENELEC bushing Type "B" specified for 400 A up to 36 kV. Made of a highly modified silicone rubber and protected by a thin-walled outer conductive screen connected to earth, RSES elbow connectors are equally suited for indoor and outdoor installation. Supporting a wide application range, the design incorporates one body and two stress cone adapters to cover all cross-sections from 50 to 300 mm². The overall and cut-back dimensions are designed to take up minimum space in the terminal box. RSES elbow connectors are equipped with a capacitive test point for determining whether the circuit is energised. This test point is protected by a conductive cap. After cable preparation and lubrication, the stress control adapter is simply slid into place, followed by the screened connector body. These two components can be installed under virtually any conditions. A separable mounting system ensures easy installation of the connector onto the bushing. All kits include high-performance multi-range mechanical lugs matching the design of the RSES elbow connector.



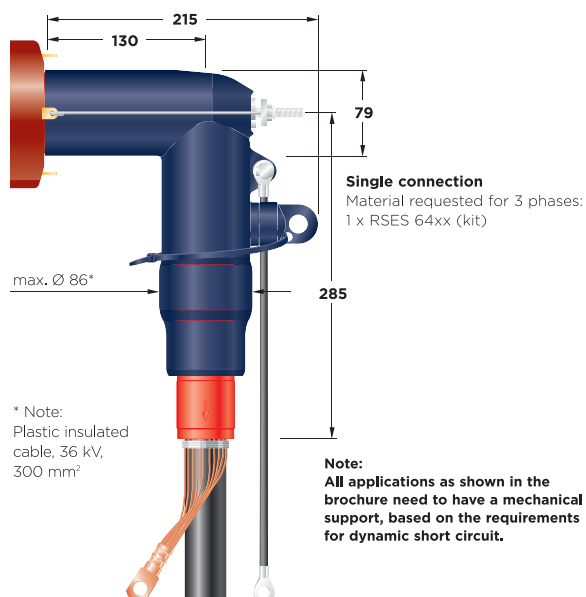
Features & Benefits

- The insulation of the connector 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 accidental contact.
- The screened connector doesn't need to be removed for oversheath testing.
- The screened cable connector exceeds CENELEC HD 629.1 S2 requirements, which includes BS, VDE and other international specifications.
- Design fits 400 A bushings (interface "B") as specified by EN 50180 and EN 50181.
- The wide application range covers cable cross-sections from 50 to 300 mm².
- Conductor connection with mechanical lugs, designed to accept aluminium and copper conductors.
- Easily accessible capacitive test point.
- Few accessories required for system test.
- Complete kit including lugs facilitates easy installation and storage.

Design & Construction



Applications



Technical Data

Cable insulation diameter range	22.4 - 42.0 mm
Connector cross-section range	50 - 300 mm ²
Maximum system voltage	36 kV
Continuous current rating	400 A
Basic impulse level	194 kV
Partial discharge at 2 U ₀	< 2 pC
AC voltage withstand, 5 min	85.5 kV
DC voltage withstand, 15 min	114 kV
Thermal short circuit, 1 s	18.1 kA
Dynamic short circuit	48.5 kA
The adapters meet the international CENELEC HD 629.1 S2 specification.	

Selection Information: dimensions shown in millimeters

Screened separable elbow connection system with mechanical lugs and shear bolts

24 kV, Conductor material: Al or Cu

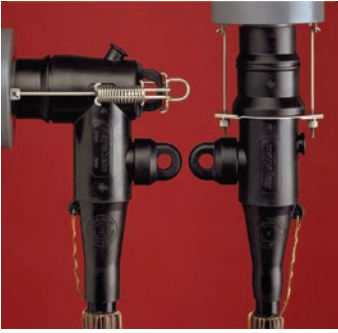
Cross section (mm ²)	Insulation Diameter (mm)	Reference Number
70-95	22.4-35.5	RSES-6451
95-240	22.4-35.5	RSES-6452
185-300	22.4-35.5	RSES-6454

36 kV, Conductor material: Al or Cu

Cross section (mm ²)	Insulation Diameter (mm)	Reference Number
50-95	22.4-35.5	RSES-6451
95-150	22.4-35.5	RSES-6452
120-240	28.9-42.0	RSES-6453
185-300	28.9-42.0	RSES-6455

Related test reports

Reference No.	Voltage (kV)	Specification
PPR-2102	24	CELENEC HD629.1 S2 2006



RSES / RSSS 250 A

Screened adaptor system 250 A, up to 24 kV

General Description

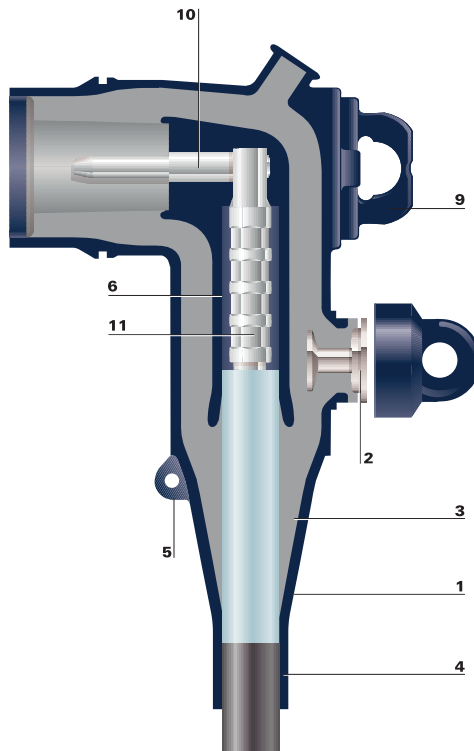
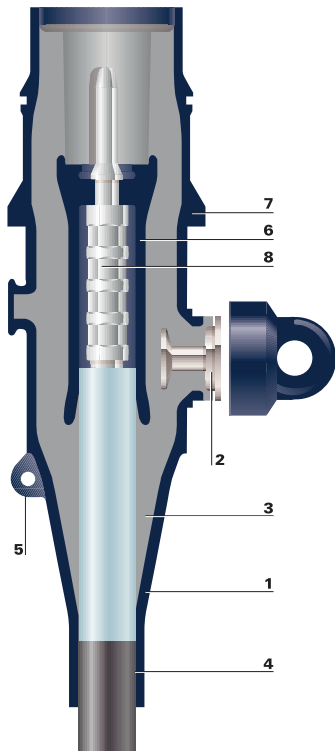
Raychem RSES/RSSS screened, separable adaptors are designed to connect single-core polymeric cables to medium voltage equipment (transformers, switchgears, motors etc.) using CENELEC bushings Type "A" specified for 250 A up to 24 kV. Made of crosslinked EPDM and protected with a minimum 3 mm moulded conductive shield connected to earth, Raychem deadbreak adaptors are suitable for both indoor and outdoor installations. Their wide application range allows a minimum number of bodies to cover several different cable cross-sections without the need for additional cable adaptors. The cut-back dimensions for all cable sizes are the same for RSSS and RSES systems. Screened adaptors are equipped with a capacitive test point to ensure that the circuit is not energized before disconnection. The capacitive test point is protected by a conductive cap. A range of high strength bimetallic compression connectors tested according to IEC 61238-1:2003 are offered to connect both aluminium and copper conductors. After cable preparation and lubrication, the adaptors can simply be slid into place under virtually all conditions. A separable mounting system provides for an easy installation of the adaptor onto the bushing.



Features & Benefits

- Premolded deadbreak elbow/straight connection.
- Thick walled screen protects against unintentional contact.
- Design fits bushing profile "A" in accordance with EN50181.
- Built in capacitive test point to determine the circuit status.
- Cold applied range taking product.
- Conductor connection with bimetallic compression lugs.

Design & Construction



1. Screened body
2. Capacitive test point
3. Stress cone
4. Conductive cable entrance
5. Earthing eye
6. Inner screen
7. Retaining shoulder
8. Compression pin-connector
9. Lifting eye
10. Pin
11. Compression connector

Technical Data

	RSES 250A 17.5 kV	RSSS 250A 17.5 kV	RSES 250A 24 kV	RSSS 250A 24 kV
Cable insulation diameter range	13.5 - 33.5 mm	13.5 - 24.1 mm	13.5 - 33.5 mm	13.5 - 26.5 mm
Connector cross section range	35 - 120 mm ²	16 - 95 mm ²	16 - 120 mm ²	16 - 95 mm ²
Maximum system voltage	17.5 kV	17.5 kV	24 kV	24 kV
Continuous current rating	250 A	250 A	250 A	250 A
Basic impulse level	95 kV	95 kV	125 kV	125 kV
Partial discharge at 2 U ₀	< 5 pC	< 5 pC	< 5 pC	< 5 pC
AC voltage withstand	40 kV, 5 min	40 kV, 5 min	50 kV, 1 min	50 kV, 1 min
DC voltage withstand	35 kV, 15 min	35 kV, 15 min	96 kV, 30 min	96 kV, 30 min

The adaptors have been tested in accordance with the international specifications (e.g. ANSI/IEEE 386, IEC 540, VDE 0278 and GB 12706-2002).

The bimetallic connectors have been tested in accordance with VDE 0220 on aluminium and copper conductors.

Selection Information: dimensions shown in millimeters

Screened Elbow Adapters 250 A 17.5 kV

Cross section (mm²)	Insulation Diameter (mm)	Reference Ordering #	Bushing Type
35 Cu	17.0-20.0	RSES-1035-SC	Type A (250A)
50 Cu	17.0-20.0	RSES-1050-SC	Type A (250A)
70 Cu	20.0-23.0	RSES-1070-SC	Type A (250A)
95 Cu	20.0-23.0	RSES-1095-SC	Type A (250A)
120 Cu	23.0-24.6	RSES-1012-SC	Type A (250A)

Screened Straight Adapters 250 A 17.5 kV

Cross section (mm²)	Insulation Diameter (mm)	Reference Ordering #	Bushing Type
35 Cu	17.0-20.0	RSSS-1035-SC	Type A (250A)
50 Cu	17.0-20.0	RSSS-1050-SC	Type A (250A)
70 Cu	20.0-23.0	RSSS-1070-SC	Type A (250A)
95 Cu	20.0-23.0	RSSS-1095-SC	Type A (250A)
120 Cu	23.0-24.6	RSSS-1012-SC	Type A (250A)

Screened Elbow Adapters 250 A 24 kV

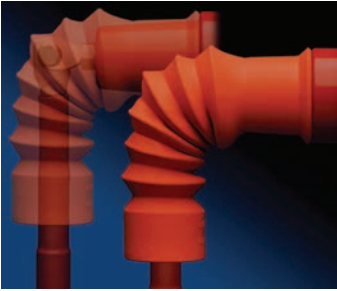
Diameter over insulation	Cross section						
	16 mm²	25 mm²	35 mm²	50 mm²	70 mm²	95 mm²	120 mm²
13.5-17.4 mm	RSES 5201	RSES 5202	RSES 5203	RSES 5205	-	-	-
16.3-20.8 mm	RSES 5211	RSES 5212	RSES 5213	RSES 5215	RSES 5217	RSES 5219	-
19.6-24.1 mm	-	-	RSES 5223	RSES 5225	RSES 5227	RSES 5229	RSES 5224
23.1-27.7 mm	-	-	-	RSES 5235	RSES 5237	RSES 5239	RSES 5234
27.9-33.5 mm	-	-	-	-	-	RSES 5249	RSES 5244

Screened Straight Adapters 250 A 24 kV

Diameter over insulation	Cross section					
	16 mm²	25 mm²	35 mm²	50 mm²	70 mm²	95 mm²
13.5-17.4 mm	RSSS 5201	RSSS 5202	RSSS 5203	RSSS 5205	-	-
16.3-20.8 mm	RSSS 5211	RSSS 5212	RSSS 5213	RSSS 5215	RSSS 5217	RSSS 5219
19.6-24.1 mm	-	-	RSSS 5223	RSSS 5225	RSSS 5227	RSSS 5229
21.0-26.5 mm	-	-	-	RSSS 5255	RSSS 5257	RSSS 5259

Related test reports

Reference No.	Voltage (kV)	Specification
2005LZ249	17.5	GB/T 12706.4-2002
PPR-1065	24	VDE 0278
PPR-1116	24	
PPR-1150	24	
PPR-1117	24	VDE 0220
PPR-1151	24	
PPR-2527	24	CENELEC HD629.1 S2:2006-02
PPR-2528	24	
PPR-2697	24	LC in water



RCAB

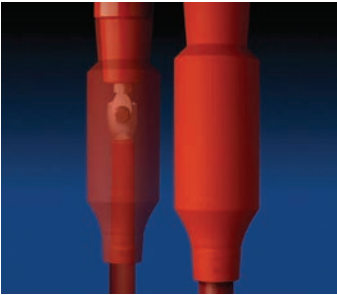
Elastomeric insulating bushing boot for bushings up to 630 A, 24 kV

General Description

Raychem RCAB elastomeric insulating boots are moulded parts which fit over the connection between the cable lug and the inline or right-angled equipment bushing to improve phase-to-phase and phase-to-ground insulation. They are used in switchgear and transformer cable boxes where the air clearances are insufficient for normal operation, or to protect against flashover due to rodents or high humidity. The non-tracking elastomeric housing has excellent erosion resistance, dielectric properties and environmental resistance, giving superb performance in areas of high humidity and electrical stress.

RCAB boots work in combination with all Raychem termination product lines, including both elastomeric and traditional heatshrink technology.

RCAB boots are quick and easy to install and do not require any taping of the bushing or the termination. The boot can easily be removed and reinstalled without the need for additional material or tooling, allowing access to the bushing connection for test purposes.

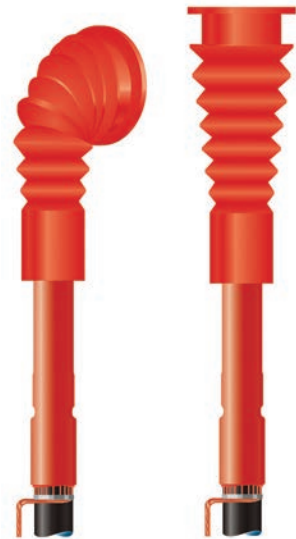


Features & Benefits

- Simple and easy installation
- Tool free application
- High-performance insulation material
- Excellent track and erosion resistance
- Removable and reinstallable
- Unlimited shelf life
- Connection can be energised immediately after installation.

RCAB family

RCAB right angle or inline application up to 17.5 kV



Ordering Information: RCAB-4110, RCAB-4120

Each kit contains elastomeric insulating boots, collars (if required) for three phases and installation instructions.

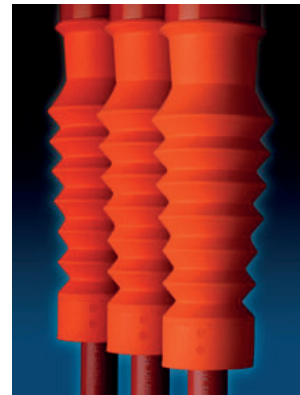
Related Product Information: Test report PPR 1336



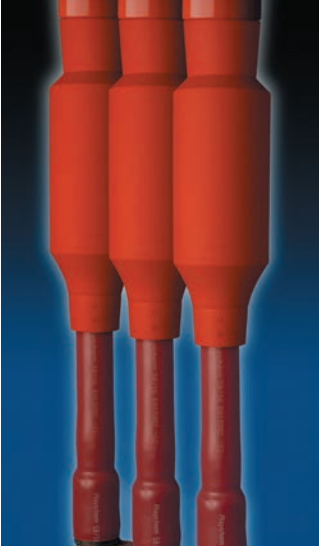
Collar for smaller bushing diameters



Universal screw EXRM-1366



RCAB inline application for 24 kV

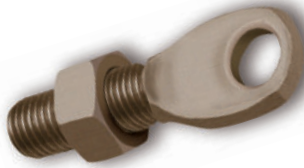
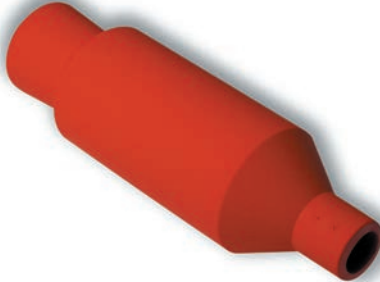


Ordering Information

RCAB-5120
Each kit contains elastomeric insulating boots for three phases and installation instructions.

Related Product Information

Test report PPR 1383



The universal screw EXRM-1366 is supplied on request.

Rating & Specification

Description	RCAB 4110	RCAB 4120	RCAB 5120
Max.system voltage Um	17.5 kV	17.5 kV	24 kV
Basic impulse level	95 kV	95 kV	125 kV
Collar size	No.1	None	-
Bushing diameter	31-45 mm	46-70 mm	46-61 mm
Bushing types: to DIN, CENELEC, ANSI	-	400 / 630 A	400 / 630 A
Cable cross section	35-400 mm ²	35-400 mm ²	35-300mm ²

Related test reports

Reference No.	Voltage (kV)	Specification
PPR-1336	17.5	—
PPR-1383	24	CENELEC HD 629.1



RPIT

Plug In Termination System RPIT up to 52kV for Gas-insulated Switchgear Nominal Current up to 1250A

General Description

Raychem RPIT is an inner cone cable connector made of silicone rubber for cable connection to MV equipments, such as switchgear, ring main units and transformer up to 52 kV.

Features & Benefits

- Shielded inline connection for gas insulated switchgears up to 52 kV, nominal current up to 1250A.
- Termination mates interfaces in accordance with EN 50180 and EN 50181 for inner cone connections.
- The contact parts are designed for stranded circular aluminum or copper conductors in accordance with IEC 60228.
- Prefabricated stress cone made of silicone rubber, 100% tested in factory.
- Dry type interface, multiple connections/disconnections available.
- Applicable in SF6 or oil insulated environment.
- Qualified in accordance with the international specifications IEC 60502-4 and GB 12706.4).
- The plug in termination is metal-enclosed, hermetically insulated and suitable for submersion or outdoor use.
- Complete product portfolio including termination, bushing, testing accessories and installation tool.
- Voltage detection function is available on request.



Rating & Specification

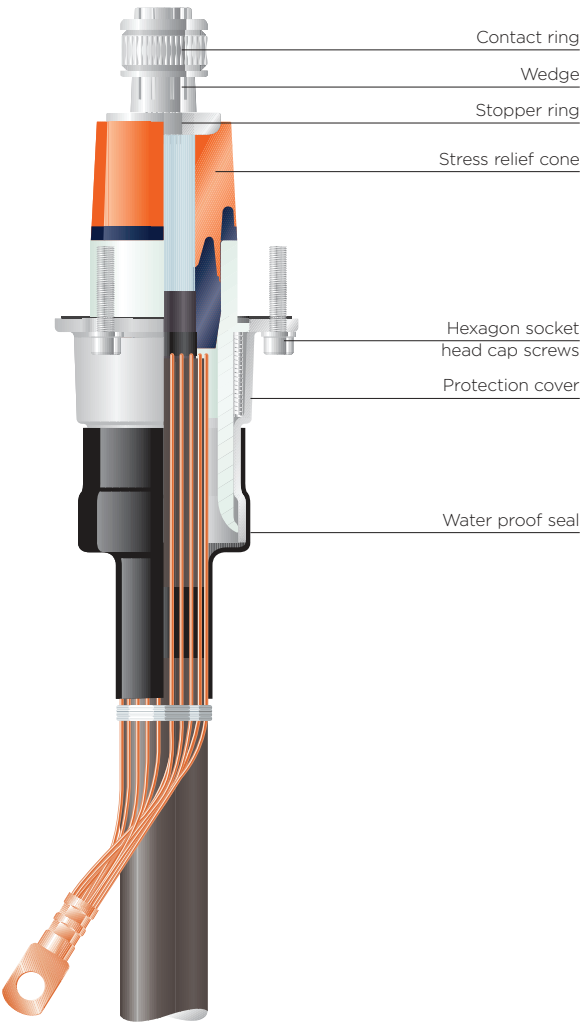
Item		Size 2	Size 3	Size 3
Max.operating voltage U_m	kV	42	42	52
Nominal current I_N	A	800	1250	1250
Application Range	Conductor	mm ²	Max. 400	Max. 630
	Insulation Φ	mm	Max. 36.5	Max. 55
AC withstand voltage	kV / 5min	117	117	124
Impulse withstand voltage	kV / ± 10 times	200	200	250
Partial discharge	1.73U _o (pC)	≤ 5	≤ 5	≤ 5
Thermal short circuit	kA	31.5/ 3 sec	50/ 5 sec	50/ 5 sec
Dynamic short circuit	kA	125	125	125

Selection Information: dimensions shown in millimeters

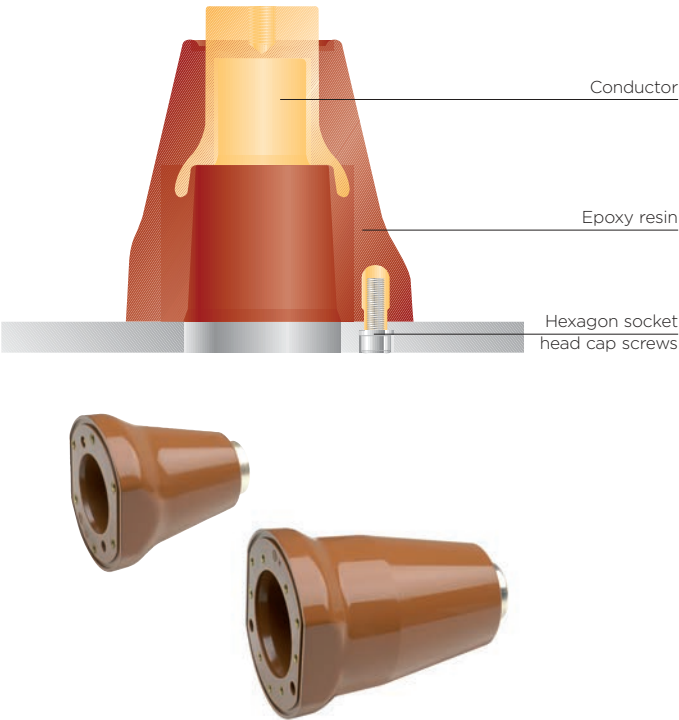
Type	Size	Nominal current	System voltage	Cross-section	Diameter over conductor	Diameter over insulation
		(A)	(kV)	(mm ²)	(mm)	(mm)
RPIT-32xx	2	800	12	95-400	11.0-24.6	19.3-33.2
RPIT-52xx	2	800	24	50-400	7.7-24.6	20.2-36.0
RPIT-62xx	2	800	36/42	50-300	7.7-21.6	25.2-42.0
RPIT-72xx	2	800	40.5	50-240	7.7-19.4	30.0-42.0
RPIT-33xx	3	1250	12	240-630	17.8-32.5	26.4-39.6
RPIT-53xx	3	1250	24	150-630	13.9-32.5	36.5-45.6
RPIT-63xx	3	1250	36/42	50-630	7.0-32.5	26.0-55.0
RPIT-73xx	3	1250	40.5	50-630	7.0-32.5	26.0-55.0
RPIT-83xx	3	1250	52	50-630	7.0-32.5	26.0-55.0

Design and Construction

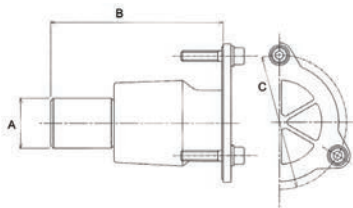
Termination



Bushing



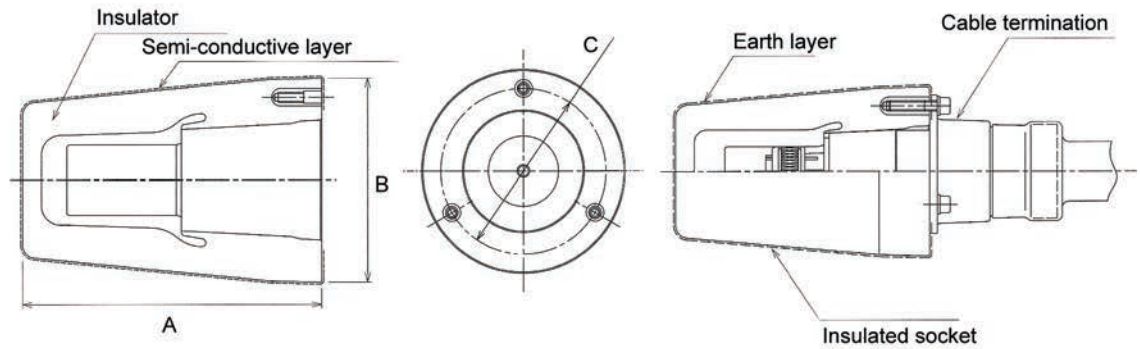
Insulating Plug



Dimension

Size	2 # (800A) RPIC-2	3 # (1250A) RPIC-3
A	62	81
B	83	110
C	102	130

Insulating Cap



Dimension

Size	2 # (800) RPIT-2-IS	3 # (1250A) RPIT-3-IS
A	200	224
B	136	170
C	102	130

Electrical Performance

Item	2 # (800A) RPIT-2-IS	3 # (1250A) RPIT-3-IS
AC withstand voltage	81 kV, 5 min	95 kV, 5 min
Partial Discharge	45kV, < 5pC	45kV, < 5pC
Impulse withstand voltage	170 kV, ± 10times	200 kV, ± 10times

Installation Tools

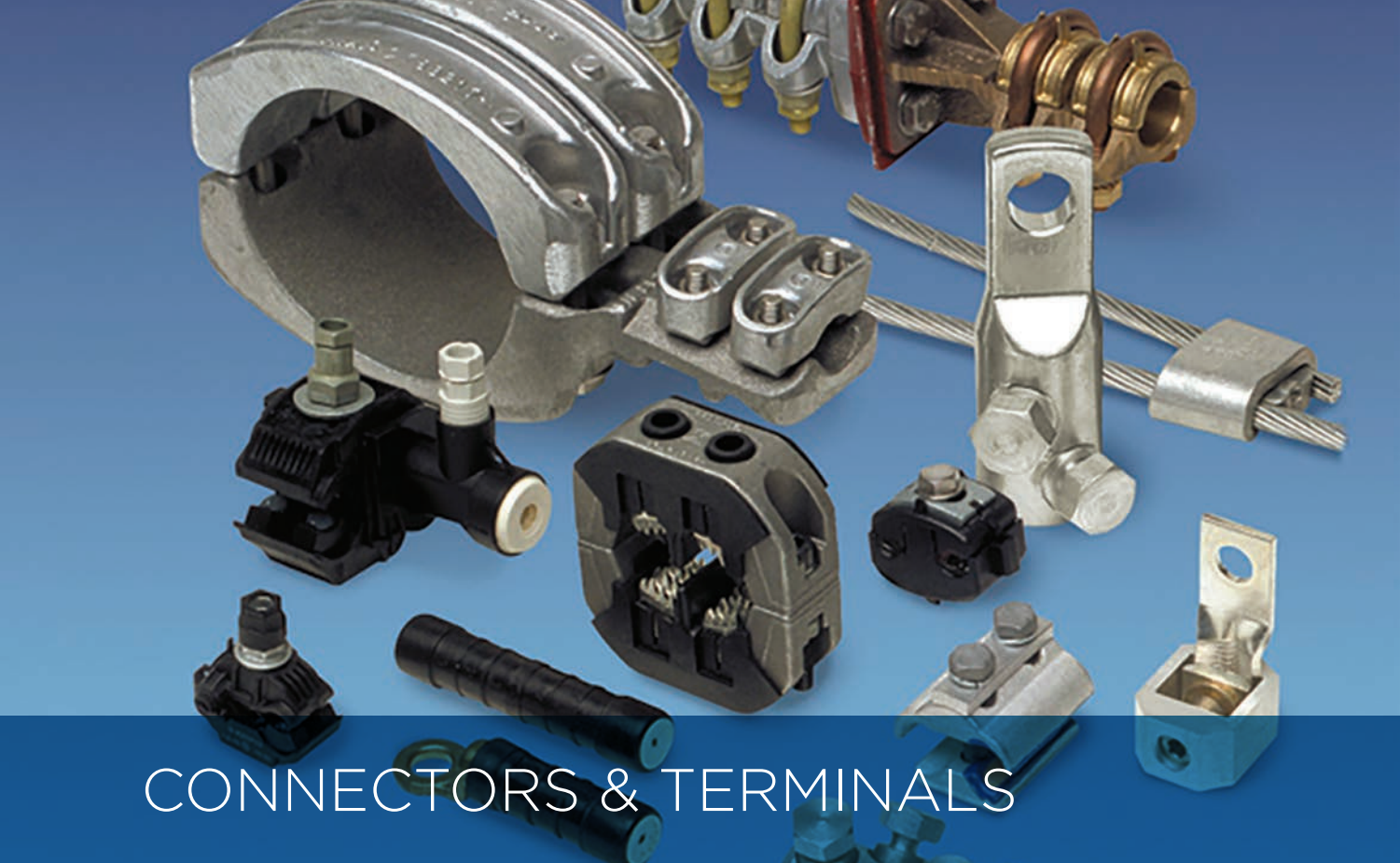
Compression tool

Metal tool case including an easy to handle compression tool for wedge and contact ring and all necessary adaptation rings.
Reference number: IT-1000-025



Parts to be used for compression of contact elements

Parts to be used for removal of the contact elements



CONNECTORS & TERMINALS

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AUTOPRESS L62 hydraulic crimping tool

General Description

The AUTOPRESS L62 press is designed for indentation or hexagonal crimping of the following connectors:

- "C" from C6 to C50
- XCT, XTX.C, XCT.EQ copper tubular lugs, terminal connectors and XG7T copper joint sleeves from 6 to 400 mm²
- DIN copper lugs / sleeves from 10 to 240 mm²

Features & Benefits

- Ergonomic design and light weight allows crimping to be done one handed
- Electronic speed control in the trigger
- Quick opening and closing head, 180° rotating head with hydraulic pressure off
- Possibility of using D62 dies in 130 kN tools like SIMABLOC C120+ type and Autopress C120
- Automatic release with an audible "click" when force of 62 kN is reached. Return of piston by releasing the trigger
- A 18 V 1.5 Ah battery is delivered with the tool. Battery with power load indicator. About 120 crimping operations possible before recharging



XCT/XCT.C

XCT.EQ

XG7T

Selection Information: dimensions shown in millimeters

Product references

Designation Tcprn	
Autopress 62 in carrying case with 1 battery w/o led and one hour charger	2107725-1
Battery 1.5 Ah	2107576-4
Battery 3.0 Ah	2107576-2
"30 minute " charger	2107607-2

Crimping die selection (depending on connectors)

This hydraulic press is designed to take 6E..., 6R... type dies. The list below is not exhaustive.



XCT/XCT.C

XCT.EQ

XG7T

Cross-sectional Area (mm ²)	Die Reference	TCPN
6	6E6 Cu	1667700-1
10	6E10 Cu	1667701-1
16	6E16 Cu	1667702-1
25	6E25 Cu	1667703-1
35	6E35 Cu	1667704-1
50	6E50 Cu	1667705-1
70	6E70 Cu	1667706-1
95	6E95 Cu	1667707-1
120	6E120 Cu	1667708-1
150	6E150 Cu	1667709-1
185	6E185-Cu	1667710-1
240	6E240Cu	1667711-1
300	6E300Cu	2107737-1
400	6E400Cu	2107738-1



Unipress 6-120



Autopress 80



Autopress C120



Insulation piercing connectors

General Description

Insulation Piercing Connectors (IPCs) provide electrical connection for aluminum and copper stranded conductors without stripping and removing insulation from the conductors. During installation the IPC establishes electrical contact, protects, and seals the contact interface, and electrically insulates the connection, eliminating the need for weather-proofing and re-insulating.

KZ/DZ Piercing Connector are suitable for 1 kV & below insulated cables and suitable for Aluminium conductor.

Copper conductor and Copper-Aluminium transition.

MV Insulation Piercing Connectors are suitable for 10 kV overhead line and suitable for aluminium conductor, Copper conductor and copper-aluminium transition.

Flame Retardant(FR) Insulation Piercing Connector are suitable for 1 kV & below insulated cables and suitable for Aluminium conductor, Copper conductor and Copper-Aluminium transition.



Features & Benefits

- Wide conductor range, bare and insulated cables, and suitable for aluminum and copper conductors
- Shear-head design ensures good contact properties and avoids damaging cables.
- Blades made of special tinned copper or harden Aluminium alloy
- Low torque, easy to install, no special tools necessary
- Quick, reliable, and safe connections on energized conductors (not under load)
- Superior insulation and sealing performance ensures the IPCs performance in corrosive environment
- Flame retardant UL94-V0 class, halogen free for bodies, sealing and end cap (Only for FR IPCs)

Selection Information: dimensions shown in millimeters

1 kV IPC Selection Table

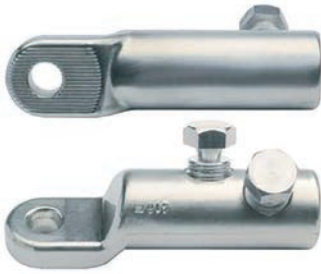
Conductor (mm ²)		Description	Screw Qty	Shear Head Size	Rated Current (A)	LxWxH (MM)
Main	Tap					
16-95	4-35	KZ2-95	1	13	138	52×47×87
50-150	6-35	KZ2-150	1	13	138	52×47×87
25-95	25-95	KZ3-95	1	13	207	61×52×93
50-150	50-150	KZ4-95	1	13	239	61×52×93
120-240	25-120	DZ6	1	17	239	68×42×100

1 kV IPC Selection Table

Main (mm ²)	Tap (mm ²)	Description	Screw Qty	Shear Head Size	Rated Current (A)	LxWxH (MM)
16-95	16-70	MV95/70	1	13	320	95×61×52
95-240	35-95	MV240/95	1	13	393	129×80×55
120-240	95-185	MV240/185	1	17	600	130×84×62
185-300	150-240	MV300/240	2	17	712	135×84×121

1 kV FR IPC Selection Table

Conductor (mm ²)		Description	Screw Qty	Shear Head Size	Rated Current(A)	LxWxH (MM)
Main	Tap					
16-95	4-35	FR KZ2-95	1	13	138	52×47×87
50-150	6-35	FR KZ2-150	1	13	138	52×47×87
25-95	25-95	FR KZ3-95	1	13	207	61×52×93
50-150	50-150	FR KZ4-150	1	13	239	61×52×93
120-240	25-120	FR DZ6	1	17	239	68×42×100



Aluminum ShearBolt terminal lugs and connectors

General Description

TE Connectivity's aluminum ShearBolt connectors are range-taking mechanical terminal connectors. Just six connectors will accommodate a wide range of aluminum and copper conductors from 25 mm² stranded and solid to 500 mm² circular stranded class 2.

The primary application of Aluminum ShearBolt terminal connectors is for low and medium voltage application up to 42 kV. ShearBolt connectors are ideally suited for aluminum to aluminum, aluminum to copper and copper to copper applications making them the universal connector solution. The only tool required to install the connector is a standard ratchet wrench with the appropriate sized hexagonal sockets. The connector design incorporates shear head bolts, which ensures that the correct torque is applied to each bolt and consequently the optimal contact force is generated to minimize connection resistance. The removable inserts in the connector body centralize smaller conductor sizes. For larger sizes, inserts are not required and are easily removed with a standard screwdriver. ShearBolt connectors meet the electrical and mechanical requirements IEC 61238-1. ShearBolt connectors are designed to be compatible with TE's Raychem brand cable accessories. A holding tool is recommended to avoid core bending of conductors and can be ordered from TE Connectivity. TE's cordless impact wrench can also be used to install the connector. These two convenient and quick tools have been tested and qualified to install ShearBolt connectors.

Features & Benefits

- Bodies and bolts made of special aluminium alloy provide good contact properties
- Compact design requires little installation space, particularly for large sizes
- No elongation during installation, make it easier to design relevant accessories
- Chamfered edges are suitable for up to 42 kv voltage and adaptable to existing termination designs
- Shear bolts with predetermined shear torque ensures that the correct torque is applied to each bolt and consequently to the end of each conductor
- Easy installation with standard socket spanner. Holding tool recommended to avoid core bending

Selection Information: dimensions shown in millimeters

Lugs

Dimensions

Product Reference	Cross-sectional Range mm ²	Palm hole Diameter mm LB	Dimensions mm				Contact Bolts Quantity	Head Size AF mm
			L1	L2	D1	D2		
BLMT-25/95-13	25-95	13	60	30	24	12.8	1	13
BLMT-25/95-17	25-95	17	60	30	24	12.8	1	13
BLMT-35/150-13	35-150	13	86	35	28	15.8	1	17
BLMT-35/150-17	35-150	17	86	35	28	15.8	1	17
BLMT-95/240-13	95-240	13	112	60	33	20	2	19
BLMT-95/240-17	95-240	17	112	60	33	20	2	19
BLMT-120/300-13	120-300	13	115	65	37	24	2	22
BLMT-120/300-17	120-300	17	115	65	37	24	2	22
BLMT-185/400-13	185-400	13	137	80	42	25.5	3	22
BLMT-185/400-17	185-400	17	137	80	42	25.5	3	22
BLMT-185/400-21	185-400	21	137	80	42	25.5	3	22
BLMT-500/630-13	500-630	13	150	95	50	33	3	27
BLMT-500/630-17	500-630	17	150	95	50	33	3	27
BLMT-500/630-21	500-630	21	150	95	50	33	3	27

Application Information: Dimensions in metrics

Product Reference		Application Range						
		Conductor Type						
		Al Circular Stranded	Al Circular Solid	Al Sector Stranded	Al Sector Solid	Cu Circular Stranded	Cu Circular Solid	Cu Sector Stranded
BLMT-25/95-XX	Cross-sectional range (mm ²)	25-95	25-95	25-70		16-95	10-50	25-70
	Cross-sectional range (mm ²)			95**				95**
	Conductor diameter (mm)	5.7-12.5	5.5-11			4.8-12.5	3.6-8	
BLMT-35/150-XX	Cross-sectional range (mm ²)	35-150	35-150	50-95	50-120	35-150	35-50	50-95
	Cross-sectional range (mm ²)			120*-150**				120*-150**
	Conductor diameter (mm)	6.8-15	6.5-14			6.6-15	6.5-8	
BLMT-95/240-XX	Cross-sectional range (mm ²)	95-240	95-240	95-150	95-150	95-240		95-150
	Cross-sectional range (mm ²)			185*-240**	185(90°)			185*-240**
	Conductor diameter (mm)	11-19.2	10.5-18			11-19.2		
BLMT-120/300-XX	Cross-sectional range (mm ²)	120-300	150-300	120-185	120-240	120-300		120-185
	Cross-sectional range (mm ²)			240*-300**				240*-300**
	Conductor diameter (mm)	12.7-23.1	12.9-19.8			12.7-22.6		
BLMT-185/400-XX	Cross-sectional range (mm ²)	185-400	185-400	185-240	185-240	185-400		185-240
	Cross-sectional range (mm ²)			300*-400**	300(90°)			300*-400**
	Conductor diameter (mm)	15.5-24.6	14.8-24.6			15.5-24.6		
BLMT-500/630-XX	Cross-sectional range (mm ²)	500-630	500-630			500-630		
	Cross-sectional range (mm ²)							
	Conductor diameter (mm)	25.3-32.5	24.0-28.6			25.3-32.5		

* - slightly rounded with pliers

** - pressed round

XX - Palm hole

Product Reference	Cross-sectional Range	Blocked	Dimensions				Contact Bolts	
			mm L1	L2	D1	D2	Quantity	Head Size AF mm
BSMB-10/35	10-35	yes	45	20	19	8.5	2	10
BSM-25/95	25-95	yes	65	30	24	12.8	2	13
BSM-25/95-U	25-95	no	65		24	12.8	2	13
BSMB-35/150	35-150	yes	80	35	28	15.8	2	17
BSMU-35/150	35-150	no	80		28	15.8	2	17
BSM-95/240	95-240	yes	125	60	33	20	4	19
BSM-95/240-U	95-240	no	125		33	20	4	19
BSMB-95/240-34	95-240	yes	125	60	34	22	4	19
BSMB-120/300	120-300	yes	140	65	37	24	4	22
BSMU-120/300	120-300	no	140		37	24	4	22
BSM-185/400	185-400	yes	170	80	42	25.5	6	22
BSM-185/400-U	185-400	no	170		42	25.5	6	22
BSMB-500	500	yes	190	90	46	30	6	27
BSMU-500	500	no	190	90	46	30	6	27
BSMB-630	630	yes	200	95	50	33	6	27

Product Reference		Application Range						
		Conductor Type		Al	Al	Cu	Cu	Cu
		Al Circular Stranded	Al Circular Solid	Sector Stranded	Sector Solid	Circular Stranded	Circular Solid	Sector Stranded
BSMB-10/35	Cross-sectional range (mm ²)	10-35	10-50	10-25	10-35	10-35	10-35	10-25
	Cross-sectional range (mm ²)			35**				35**
	Conductor diameter (mm)	3.7-7.5	3.4-7.8			3.7-7.5	3.4-6.7	
BSM-25/95	Cross-sectional range (mm ²)	25-95	25-95	25-70		16-95	10-50	25-70
BSM-25/95-U	Cross-sectional range (mm ²)			95**				95**
	Conductor diameter (mm)	5.7-12.5	5.5-11			4.8-12.5	3.6-8	
BSMB-35/150	Cross-sectional range (mm ²)	35-150	35-150	50-95	50-120	35-150	35-50	50-95
BSMU-35/150	Cross-sectional range (mm ²)			120*-150**				120*-150**
	Conductor diameter (mm)	6.8-15	6.5-14			6.6-15	6.5-8	
BSM-95/240	Cross-sectional range (mm ²)	95-240	95-240	95-150	95-150	95-240		95-150
BSM-95/240-U	Cross-sectional range (mm ²)			185*-240**	185(90°)			185*-240**
	Conductor diameter (mm)	11-19.2	10.5-18			11-19.2		
BSMB-95/240-34	Cross-sectional range (mm ²)	95-240	95-240	95-150	95-185	95-240		95-150
	Cross-sectional range (mm ²)			185-240*				185-240*
	Conductor diameter (mm)	11-20.8	10.5-18			11-19.2		
BSMB-120/300	Cross-sectional range (mm ²)	120-300	150-300	120-185	120-240	120-300		120-185
BSMU-120/300	Cross-sectional range (mm ²)			240*-300**				240*-300**
	Conductor diameter (mm)	12.7-23.1	12.9-19.8			12.7-22.6		
BSM-185/400	Cross-sectional range (mm ²)	185-400	185-400	185-240	185-240	185-400		185-240
BSM-185/400-U	Cross-sectional range (mm ²)			300*-400**	300(90°)			300*-400**
	Conductor diameter (mm)	15.5-24.6	14.8-24.6			15.5-24.6		
BSMB-500	Cross-sectional range (mm ²)	500	500			500		
BSMU-500	Cross-sectional range (mm ²)							
	Conductor diameter (mm)	25.3-28.9	24-25.1			25.3-28.6		
BSMB-630	Cross-sectional range (mm ²)	630	630			630		
	Cross-sectional range (mm ²)							
	Conductor diameter (mm)	28.7-32.5	27.3-28.4			28.7-32.5		

* - slightly rounded with pliers

** - pressed round



Copper lugs longitudinally sealed Inside and outside MV and LV terminations for copper cables

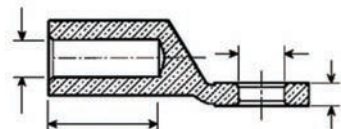
General Description

Application

- Inside and outside MV and LV terminations for copper cables.
- Grounding.

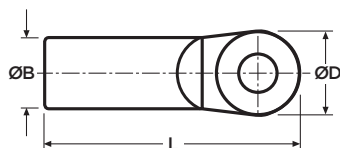
Description

- The lug is made of forged electrolytic copper and longitudinally sealed.
- To be crimped by hexagonal technic.



Features & Benefits

- Conductors sizes: 16 to 400 mm²: -Wide range for copper cables.
- Made of forged electrolytic copper: -Specially made for high current.
- Sealed type: -Suitable for outdoor application



Selection Information: dimensions shown in millimeters

Cross Section mm ²	Designation	PN	RPN	ØA mm	ØB mm	Type 1 ØC mm	ØD mm	Type 2 B mm	F mm	L mm	P mm	Weight (g)	Standard Packaging
16	DPD7 16	0-0709095-1	662374-000	5.5	12.2	25	12.8	-	29	67	5	54	3
25	DPD7 25	0-0709214-1	944560-000	7	12.2	25	12.8	-	29	67	5	44	3
25	DPD7 25 D14.5	0-0709214-2	921506-000	7	12.2	25	14.5	-	29	67	5	44	3
25	DPD7 25 D16	0-0709214-3	159302-000	7	12.2	25	16	-	29	67	5	44	3
29	DPD7 29	0-0709903-1	890200-000	7.8	12.2	25	12.8	-	29	67	5	44	3
29	DPD7 29/25-D14.5E	0-0709290-1	506140-000	7.8	12.2	25	14.5	-	29	67	5	40	10
35	DPD7 35	0-0709215-1	530402-000	8.5	12.2	25	12.8	-	29	67	5	44	3
50	DPD7 50	0-0709216-1	149964-000	9.5	12.2	25	12.8	-	29	67	5	38	3
70	DPD7 70	0-0709086-1	419996-000	12.5	21	30	12.8	-	33	79	6	124	3
95	DPD7 95	0-0709217-1	207728-000	13.5	21	30	12.8	-	33	79	6	118	3
120	DPD7 120	0-0709087-2	461028-000	15	21	35	14.5	-	33	83	7	136	3
150	DPD7 150	0-0709218-2	467958-000	16.5	21	35	14.5	-	33	83	7	124	3
185	DPD7 185/50x50 NP	0-0709088-1	572986-000	19	26	-	-	50	35	104	7	308	3
185	DPD7 185/50x50 D12	0-0709088-3	628460-000	19	26	-	12	50	35	104	7	308	3
185	DPD7 185/50x50 D14.5	0-0709088-5	169076-000	19	26	-	14.5	50	35	104	7	308	3
185	DPD7 185/50x50 D16	0-0709088-6	911388-000	19	26	-	16	50	35	104	7	308	3
185	DPD7 185/50x50 D18	0-0709088-7	-	19	26	-	18	50	35	104	7	308	3
240	DPD7 240/50x50 NP	0-0709219-1	950600-000	21	26	-	-	50	35	104	7	280	3
240	DPD7 240/50x50 D14.5	0-0709219-3	818140-000	21	26	-	14.5	50	35	104	7	280	3
240	DPD7 240/50x50 D16	0-0709219-4	441308-000	23	26	-	16	50	35	104	7	280	3
300	DPD7 300/60x60 NP	0-0709089-1	289358-000	23	32	-	-	60	45	127	9	582	3
300	DPD7 300/60x60 D14	0-0709089-3	542702-000	23	32	-	14	60	45	127	9	582	3
300	DPD7 300/60x60 D16.5	0-0709089-4	141148-000	23	32	-	16.5	60	45	127	9	582	3
350	DPD7 350/60x60 D14.5	0-0709220-1	-	25	32	-	14.5	60	45	127	9	516	3
400	DPD7 400/60x60 NP	0-0709221-1	384642-000	26	32	-	-	60	45	127	9	516	3
400	DPD7 400/60x60 D14.5	0-0709221-2	-	26	32	-	14.5	60	45	127	9	516	3
400	DPD7 400/60x60 D20	0-0709221-4	019968-000	26	32	-	20	60	45	127	9	516	3

NP: undrilled.

Tin-plated

Cross Section mm ²	Designation	PN	RPN	ØA mm	ØB mm	Type 1 ØC mm	ØD mm	Type 2 B mm	F mm	L mm	P mm	Weight (g)	Standard Packaging
70	DPD7 70/50x40 D14E	0-0708365-1	288060-000	12.5	21	-	14	50	45	112	7	-	3
95	DPD7 95/50x40 D14E	0-0708366-1	064510-000	13.5	21	-	14	50	45	112	7	-	3
185	DPD7 185/50x40 D12.8E	0-0708367-1	863114-000	18.5	26	-	12.8	50	45	112	7	-	3
185	DPD7 185/50x40 D18E	0-0708367-2	612172-000	18.5	26	-	18	50	45	112	7	-	3
240	DPD7 240/50x40 D18E	0-0708368-1	703690-000	21	26	-	18	50	45	112	7	-	3



Bimetallic lugs for aluminium conductors

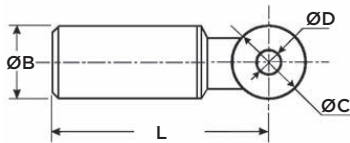
General Description

Application

- Bimetallic lugs for aluminium conductors
- MV terminations.
- LV connection on busbar inside electrical panel.

Description

- The lug is made of aluminium barrel link to a copper palm by friction welding technology.
- For external application, the alu-cu area should be protected against humidity.
- Accept cables according to NFC 32013 and IEC 228.
- To be crimped by deep stepped indentation

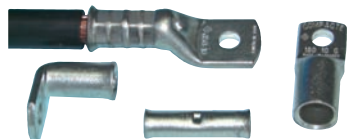


Features & Benefits

- Range from 16 to 1600 mm². One technology for all the sizes of cables.
- Friction welding technology.
- Age resistant current passage from the aluminium shift to the solid copper plate.
- Crimped deep step indentation. High quality connections independent installer's skills.
- Single connector model for a given conductor cross-sectionnal area (independent of the core compression ratio).
- Aluminium barrel and solid copper Best technical solution to connect palm. aluminium conductor to a copper bar.
- Compliance with specification C33090-1, electrical test performances in accordance, with NFC 63-061 class A and IEC 1238-1 class A.

Selection Information: dimensions shown in millimeters

Cross Section mm ²	Designation	PN	RPN	Connector Size (mm)			L	Weight (g)	Standard Packaging
				ØB	ØC	ØD			
16	XCX 16	0-0719929-1	761570-000	16	20	10.5	72	40	3
25	XCX 25	0-0719930-1	812766-000	16	20	10.5	72	40	3
35	XCX 35	0-0719924-1	005880-000	16	25	12.8	73.5	45	3
50	XCX 50	0-0719923-1	203304-000	20	25	12.8	73.5	65	3
70	XCX 70	0-0719922-1	224166-000	20	25	12.8	73.5	65	3
95	XCX 95	0-0719921-1	831348-000	20	25	12.8	73.5	60	3
120	XCX 120	0-0719782-1	288864-000	25	30	12.8	94	130	3
150	XCX 150	0-0719783-1	128036-000	25	30	12.8	94	125	3
185	XCX 185	0-0739006-1	558578-000	32	30	12.8	94	210	3
240	XCX 240	0-0739007-1	117094-000	32	30	12.8	94	200	3
300	XCX 300	0-1306957-1	341018-000	40	36	16.5	137	380	3
400	XCX 400	0-1306962-1	140868-000	40	36	16.5	137	340	3
500	XDX 500	0-0708270-1	-	47	60 x 60	*	200	860	3
630	XDX 630	0-0708270-2	063918-000	47	60 x 60	4 Ø 9 30	200	800	3
800	XDX 800	0-0708273-1	867280-000	60	80 x 80	*	260	-	3
1000	XDX 1000	0-0708273-2	655044-000	60	80 x 80	*	260	-	3
1200	XDX 1200	0-0708275-1	587504-000	65	80 x 80	4 Ø 11 40	271	-	3
1600	XDX 1600	-	-	70	125 x 125	9 Ø 11 45	322	-	3



Copper tubular terminals and splices

General Description

XCT Tubular terminals and XG7T splices are ideally suited to connect electrical copper wire to equipment's terminals or to another conductor. XCT and XG7T range includes ring tongue terminals, right angle terminals, compact narrow tongue terminal and splices.

Made of highly conductive electrolytic copper with a bright tin finish, the full range can be used for rigid stranded wire (Class 2) and flexible wires (Class 5). The wire size and stud holes are clearly marked in metric sizes. The connection can be realized with either hexagonal or indent crimping tools.

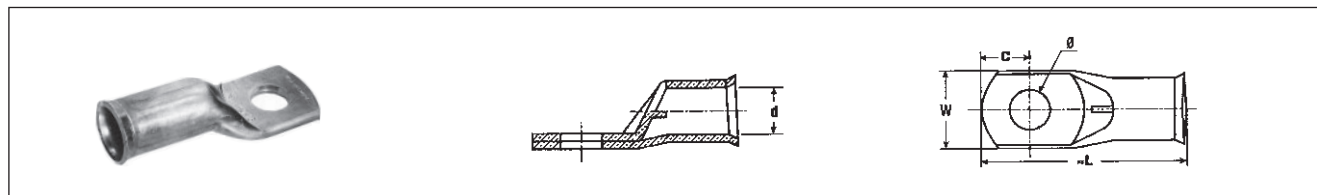
Indent crimping tool Unipress 6-120 and Hexagonal crimping tool Autopress L62 have been tested and qualified to install XCT and XG7T terminals and splices.



Features & Benefits

- Full range for cross section conductors from 1.5 mm² to 630 mm²
- A funnel entry design and an inspection hole ensure easy of handling
- Offer outstanding resistance to oxidation and corrosion
- Compliance with NFC 20 130 French Standard

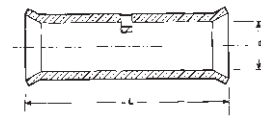
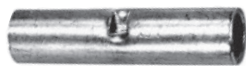
Selection Information: dimensions shown in millimeters



Designation	PN	RPN	Capacity (mm ²)	Dimensions (mm)					Stud M	Weight (kg)	Standard Packaging
				Ø	W	d	C	L			
XCT 1,5-3	0-0710971-1	747476-000	1,5	3,2	6	1,8	3,25	17	3	0,0007	100
XCT 1,5-4	0-0710972-1	583886-000		4,3	6,5	1,8	4	17	4	0,0009	100
XCT 1,5-5*	0-0710973-1	264854-000		5,3	7,5	1,8	4,75	18	5	0,0009	100
XCT 1,5-6*	0-0711674-1	338120-000		6,4	9	1,8	6,5	19	6	0,0010	100
XCT 2,5-4	0-0710974-1	527554-000	2,5	4,3	8	2,2	4,5	18	4	0,0013	100
XCT 2,5-5	0-0710975-1	146900-000		5,3	8,5	2,2	5	19	5	0,0013	100
XCT 2,5-6*	0-0710976-1	380270-000		6,4	9	2,2	6,5	20	6	0,0015	100
XCT 4-4	0-0710977-1	612772-000	4	4,3	9	2,7	4,75	21	4	0,0024	100
XCT 4-5	0-0710978-1	898102-000		5,3	9	2,7	4,75	24	5	0,0026	50
XCT 4-6	0-0710979-1	665128-000		6,4	12	2,7	6,5	25	6	0,0027	50
XCT 6-4	0-0710032-1	977850-000	6	4,2	10	3,3	7	31	4	0,0043	100
XCT 6-5	0-0710032-2	350506-000		5,2	10	3,3	7	31	5	0,0043	100
XCT 6-6	0-0710032-4	107672-000		6,4	13	3,3	7	31	6	0,0044	100
XCT 6-8	0-0710032-6	588770-000		8,3	13	3,3	9	35	8	0,0045	100
XCT 10-4*	0-0710031-1	007658-000	10	4,2	11	4,2	7	33	4	0,0060	100
XCT 10-5	0-0710031-2	484566-000		5,2	11	4,2	7	33	5	0,0065	100
XCT 10-6	0-0710031-4	522246-000		6,4	11	4,2	7	33	6	0,0065	100
XCT 10-8	0-0710031-6	246220-000		8,3	14	4,2	10	38	8	0,0074	100
XCT 10-10	0-0710031-8	234052-000		10,3	14	4,2	10	38	10	0,0075	100
XCT 16-5	0-0710030-1	894412-000	16	5,2	12	5,3	7	33,5	5	0,0086	100
XCT 16-6	0-0710030-3	025722-000		6,4	12	5,3	7	33,5	6	0,0087	100
XCT 16-8	0-0710030-5	657484-000		8,3	16	5,3	9	39	8	0,0092	100
XCT 16-10	0-0710030-7	204354-000		10,3	16	5,3	11	43	10	0,0099	100
XCT 16-12*	0-0710030-8	634476-000		12,8	16	5,3	11	43	12	0,0094	100

Designation	PN	RPN	Capacity (mm ²)	Dimensions(mm)					Stud M	Weight (kg)	Standard Packaging
				Ø	W	d	C	L			
XCT 25-5*	0-0710026-1	477850-000	25	5,2	13	6,6	7	35	5	0,0108	100
XCT 25-6	0-0710026-3	592958-000		6,4	13	6,6	7	35	6	0,0110	100
XCT 25-8	0-0710026-5	572356-000		8,3	16	6,6	9	40	8	0,0117	100
XCT 25-10	0-0710026-7	428136-000		10,3	16	6,6	11	44	10	0,0116	100
XCT 25-12*	0-0710026-8	081140-000	35	12,2	16	6,6	11	44	12	0,0120	100
XCT 35-6	0-0710027-1	118978-000		6,4	15	7,9	7	39	6	0,0140	50
XCT 35-8	0-0710027-2	415846-000		8,3	17	7,9	11	46	8	0,0150	50
XCT 35-10	0-0710036-3	792910-000		10,3	17	7,9	11	46	10	0,0171	50
XCT 35-12*	0-0710036-4	186864-000	50	12,8	17	7,9	11	46	12	0,0154	50
XCT 50-6*	0-0710025-3	326608-000		6,4	18	9,2	13,5	53	6	0,0200	25
XCT 50-8	0-0710025-2	392352-000		8,3	18	9,2	13,5	53	8	0,0260	25
XCT 50-10	0-0710025-5	361896-000		10,3	18	9,2	13,5	53	10	0,0300	25
XCT 50-12	0-0710025-7	375724-000	60	12,8	19	9,2	13,5	53	12	0,0230	25
XCT 60-8*	0-0709817-1	059648-000		8,3	19	10,5	11,3	52,5	8	0,0218	25
XCT 60-10	0-0709817-2	344944-000		10,3	19	10,5	11,3	52,5	10	0,0202	25
XCT 60-12	0-0709817-3	604036-000		12,8	19	10,5	13,8	52,5	12	0,0200	25
XCT 70-8	0-0710028-1	554532-000	70	8,3	21	11	13,5	58	8	0,0396	25
XCT 70-10	0-0710028-3	348884-000		10,3	21	11	13,5	58	10	0,0374	25
XCT 70-12	0-0710028-5	357652-000		12,8	21	11	13,5	58	12	0,0376	25
XCT 70-16*	0-0710028-8	922802-000		16,5	21	11	16,5	60,5	16	0,0362	25
XCT 95-8	0-0709819-1	236648-000	95	8,3	23	13,1	16,3	70	8	0,0588	25
XCT 95-10	0-0709819-3	081216-000		10,3	23	13,1	16,3	70	10	0,0572	25
XCT 95-12	0-0709819-5	222660-000		12,8	23	13,1	16,3	70	12	0,0560	25
XCT 95-14	0-0709819-7	997296-000		14,5	23	13,1	16,3	70	14	0,0548	25
XCT 95-16	0-0709819-8	863992-000	120	16,5	23	13,1	16,3	70	16	0,0529	25
XCT 120-10	0-0709820-1	200996-000		10,3	28	14,5	16,3	76	10	0,0812	25
XCT 120-12	0-0709820-3	272142-000		12,8	28	14,5	16,3	76	12	0,0788	25
XCT 120-14	0-0709820-4	703044-000		14,5	28	14,5	16,3	76	14	0,0772	25
XCT 120-16	0-0709820-6	373472-000	150	16,5	28	14,5	16,3	76	16	0,0758	25
XCT 150-10	0-0709821-2	006084-000		10,3	30	16,2	16,3	81,5	10	0,1035	10
XCT 150-12	0-0709821-3	606450-000		12,8	30	16,2	16,3	81,5	12	0,1005	10
XCT 150-14	0-0709821-4	320160-000		14,5	30	16,2	16,3	81,5	14	0,0985	10
XCT 150-16	0-0709821-5	928422-000	185	16,5	30	16,2	16,3	81,5	16	0,0965	10
XCT 185-12	0-0709822-2	921870-000		12,8	33	18	16,3	88	12	0,1245	10
XCT 185-14	0-0709822-3	910610-000		14,5	33	18	16,3	88	14	0,1230	10
XCT 185-16	0-0709822-4	641892-000		16,5	33	18	16,3	88	16	0,1200	10
XCT 240-14	0-0709823-3	654064-000	240	14,5	37	20,6	19,3	98,5	14	0,1735	10
XCT 240-16	0-0709823-4	712702-000		16,5	37	20,6	19,3	98,5	16	0,1720	10
XCT 240-20	0-0709823-5	633156-000		21	37	20,6	19,3	98,5	20	0,1590	10
XCT 300-14	0-0709818-1	794296-000	300	14,5	41	23,1	21	102,5	14	0,1750	10
XCT 300-16	0-0709818-3	085036-000		16,5	41	23,1	21	102,5	16	0,1730	10
XCT 300-20	0-0709818-4	990666-000		21	41	23,1	21	102,5	20	0,1670	10
XCT 400-16	0-0709887-1	268954-000	400	16,5	47	26	22	120	16	0,2800	3
XDT 500 60X56 NP*	0-0708370-1	006246-000	500	-	55	29,2	-	145	-	0,7360	1
XDT 630 60x61 NP*	0-0708371-1	541750-000	630	-	60	33,2	-	150	-	0,7300	1

NP = without hole, (*) = palm sizes, not in compliance with NFC 20 130



Designation	PN	RPN	Capacity (mm ²)	Dimensions (mm)		Weight (kg)	Standard Packaging
				d	L		
XG7T 1,5	0-0710982-1	522928-000	1,5	1,8	15	0,0012	100
XG7T 2,5	0-0710983-1	984046-000	2,5	2,2	18	0,0013	100
XG7T 4	0-0710984-1	914422-000	4	2,7	22	0,0031	100
XG7T 6	0-0709834-1	016836-000	6	3,3	31	0,0040	50
XG7T 10	0-0709835-1	062518-000	10	4,2	39	0,0040	50
XG7T 16	0-0709836-1	845692-000	16	5,3	39	0,0103	50
XG7T 25	0-0709837-2	929958-000	25	6,6	39	0,0128	50
XG7T 35	0-0709838-1	516670-000	35	7,9	39	0,0169	50
XG7T 50	0-0709839-1	977042-000	50	9,2	50	0,0262	25
XG7T 60	0-0709840-1	232750-000	60	10,5	47	0,0170	25
XG7T 70	0-0709841-1	961138-000	70	11	52	0,0390	25

Designation	PN	RPN	Capacity (mm ²)	Dimensions (mm)		Weight (kg)	Standard Packaging
				d	L		
XG7T 95	0-0709842-1	513764-000	95	13,1	65	0,0564	25
XG7T 120	0-0709843-1	120650-000	120	14,5	71	0,0780	10
XG7T 150	0-0709844-1	263742-000	150	16,2	78	0,1015	10
XG7T 185	0-0709845-1	918180-000	185	18	86	0,1250	10
XG7T 240	0-0709846-1	610494-000	240	20,6	94	0,1660	10
XG7T 300	0-0709847-1	597942-000	300	23,1	102	0,1802	5
XG7T 400	0-0709574-1	246948-000	400	26	102	0,2062	5

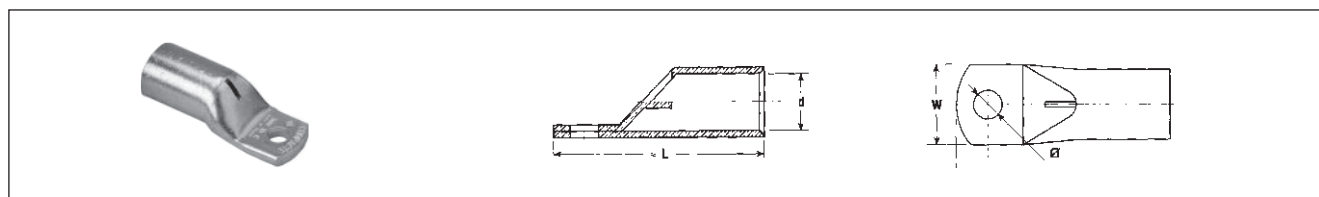
XCT••EQ, : Right angle Terminals



Designation	PN	RPN	Capacity (mm ²)	Dimensions(mm)					Stud M	Weight (kg)	Standard Packaging
				Ø	W	d	C	H			
XCT 6-6 EQ	0-0708470-1	331510-000	6	6,5	13	3,3	7,5	14,4	6	-	100
XCT 10-6 EQ	0-0708471-1	476454-000	10	6,5	11	4,2	6,5	12,2	6	0,0050	100
XCT 10-8 EQ	0-0708471-2	318714-000	10	8,5	12	4,2	10	12,2	8	0,0060	100
XCT 16-6 EQ	0-0708472-1	267314-000	16	6,5	12	5,3	6,25	13	6	0,0070	100
XCT 16-8 EQ	0-0708472-2	736286-000	16	8,5	16	5,3	9	12,8	8	0,0080	100
XCT 25-6 EQ	0-0708412-1	862906-000	25	6,5	13	6,6	6,25	13,5	6	0,0117	100
XCT 25-8 EQ	0-0708412-2	545748-000	25	8,5	16	6,6	10	13,5	8	0,0132	100
XCT 35-6 EQ	0-0708473-1	391712-000	35	6,5	15	7,9	7,5	14	6	0,0163	50
XCT 35-8 EQ	0-0708473-2	349164-000	35	8,5	17	7,9	10	14,5	8	0,0140	50
XCT 35-10 EQ	0-0708473-3	108500-000	35	10,5	17	7,9	12	22	10	-	50
XCT 50-6 EQ	0-0708474-1	517876-000	50	6,5	17	9,2	6,25	28	6	-	50
XCT 50-8 EQ	0-0708474-2	475098-000	50	8,5	18	9,2	10	18,3	8	0,0288	25
XCT 50-10 EQ	0-0708474-3	352900-000	50	10,5	18	9,2	12	18,5	10	0,0242	25
XCT 70-10 EQ	0-0708476-1	412716-000	70	10,5	21	11	12	19,5	10	0,0398	25
XCT 70-12 EQ	0-0708476-2	955970-000	70	13	21	11	13	19,5	12	-	25
XCT 95-10 EQ	0-0708477-1	690846-000	95	10,5	23	13,1	12	35	10	-	25
XCT 95-12 EQ	0-0708477-2	406338-000	95	13	23	13,1	13	35	12	0,0400	25
XCT 120-10 EQ	0-0708478-1	838050-000	120	10,5	28	14,5	12	38	10	-	25
XCT 150-12 EQ	0-0708479-1	002186-000	150	13	28	16,2	15	40	12	-	10

Other dimensions on request.

XCT•C Compact Narrow Tongue terminals



Designation	PN	RPN	Capacity (mm ²)	Dimensions(mm)					Stud M	Weight (kg)	Standard Packaging
				Ø	W	d	C	L			
XCT,C 120-10	0-0708461-1	458994-000	120	10,3	24,5	14,3	11,5	63	10	0,0644	25
XCT,C 150-10	0-0708462-1	913502-000	150	10,3	24,5	16	11,5	64,5	10	0,0800	10
XCT,C 185-10	0-0708463-1	691256-000	185	10,3	24,5	17,8	11,5	72,5	10	0,0980	10
XCT,C 240-10	0-0708464-1	666084-000	240	10,3	31	20,4	11,5	74	10	0,1230	10
XCT,C 300-10	0-0708465-1	499082-000	300	10,3	31	22,9	11,5	83	10	0,1380	10

Other dimensions on request.

- In case of use with flexible conductor, it is necessary to use next larger section :
- Ex : flexible wire 35 mm²: use the lug (or sleeve) with marking: 50 mm²



Waterproof pre-insulated mechanical connectors for service cables

General Description

These waterproof insulated mechanical connectors are suitable for all types of LV-ABC conductors as well as connections to service and lighting cable cores. They are used when a customer service line is changed or reconnect to a customer after payment. End cap is included to seal open sides. The bolts (13 mm) are being tightened until the heads shear off. Available with a piercing contact and as second version which requires stripping of the insulation.



Features & Benefits

- Suitable for aluminium and copper conductors, solid and stranded
- Stripping version can be installed and removed under load (max. 90 A)
- Polymeric tightening bolts allow safe installations on hot lines
- Tested for watertightness at a voltage of 6 kV for 30 min in a waterbath (NFC 33020, CENELEC prEN 50483-4 class 1)
- Exceeds requirements according to NFC 33020, NFC 33021 and NFC 20 540
- Components not losable, end cap attached to body
- Stripping version re-openable, piercing version not re-openable
- Insulation material made of weather and UV resistant glass fibre reinforced polymer



Selection Information: dimensions shown in millimeters

Cross section (mm ²)		Ordering description	Type	I _{max.} * (A)	Torque (Nm)	Weight (kg/100 pcs)
min.	max.					
4	35	BPC 35 -35	stripping/stripping	90	10	8,5
4	35	BPC 35 -P35	stripping/piercing	90	10	8,5
4	35	BPC P35 -P35	piercing/piercing	-	10	8,5
4	50	BPC P50	piercing/piercing	-	10	8,5



Anchor and suspension clamps for service cables

General Description

PA 25x100

The clamp is designed to anchor insulated service lines with 2 or 4 conductors. The clamp is composed of a body, 2 wedges and removable and adjustable bail.

PA 9-17 and PAS

The clamps are equipped with an adapted wedge for anchoring of round insulated service lines with up to 4 conductors.

RA 25

The clamp is designed for suspension applications of insulated service lines with 2 or 4 conductors.



Features & Benefits

PA 25x100

- Tool free installation with wedges sliding inside the body
- Easy to open bail permits fixing to brackets and pigtails
- Adjustable length of bail in three steps, max. length of clamp 208 mm
- Exceeds requirements according to NF C 33 042
- Clamp made of weather and UV resistant polymer
- Adjustable link made of hot dip galvanized steel

PA 9-17 and PAS

different from clamp PA 25x100

- Adjustable length of bail in four steps, max. length of clamp 220 mm

RA 25

- For angles of the line up to 90°
- Tool free installation with core separator
- Easy to open bail permits fixing to brackets and pigtails
- Exceeds requirements according to NF C 33 042
- Clamp is made of weather and UV resistant polymer



Selection Information: dimensions shown in millimeters

Anchor clamp for insulated overhead conductors (self-supporting)

Cross Section (mm ²)		Ordering	Breaking Load	Weight
min.	max.	Description	(kN)	(kg/10 ks)
2 x 16	4 x 25	PA 25x100	2,0	1,0

Anchor clamps with rigid bail for round cables

Diameter (mm)		Ordering	Breaking Load	Weight
min.	max.	Description	(kN)	(kg/10 ks)
9	17	PA 9-17/GALVA	2,0	1,4
18	25	PAS 35	2,0	1,3

Suspension clamp for insulated overhead conductors and cables

Cross Section (mm ²)		Ordering	Breaking Load	Weight
min.	max.	Description	(kN)	(kg/10 ks)
2 x 16	4 x 25	RA 25	2,0	0,9



Anchor clamps for self supporting LV-ABC lines

General Description

The clamps are designed to anchor self supporting LV-ABC lines with 2 to 4 cores. The wedge type clamp is self-adjusting. Pilot wires or street lighting conductors are led alongside the clamp. The insertion of conductors is facilitated by an integrated spring, which helps open the clamp. The version with movable arms in addition simplifies the installation.



Features & Benefits

- Single M12 bolt and self-locking nut allow clamp to be fixed also to closed eye screws and brackets
- Short length of approx. 320 mm
- Exceeds requirements according to ESI 43-14 and VDE 0211 and in future to CENELEC prEN 50483-2
- Clamp made of weather and UV-light resistant glass fibre reinforced polymer and hot dip galvanized steel

Selection Information: dimensions shown in millimeters

Cross Section (mm ²)	Ordering Description	Breaking Load (kN)	Weight (kg/10 ks)
With fixed arm			
4 x 10 - 35	HEL-5505	12,0	5,2
4 x 25 - 50	HEL-5506	28,0	10,0
4 x 70 - 95	HEL-5507	43,0	11,0
4 x 120	PA 4 120	60,0	20,0
With movable arm			
4 x 25 - 50	HEL-5503	28,0	10,0
4 x 70 - 95	HEL-5504	43,0	11,0



Suspension clamps for self supporting LV-ABC lines

General Description

The clamps are designed to suspend self supporting LV-ABC lines. They can be also used for LV-ABC lines with bare and insulated neutral messenger.

Features & Benefits

Suspension clamp PS

- Can be installed in straight direction and in line deviation angle up to 30°
- Tool free installation, equipped with wing nut
- Exceeds requirements according to ESI 43-14 and VDE 0211
- Made of weather and UV-light resistant elastomer and hot dip galvanized steel
- Fits to hooks and pigtails up to a diameter of 21 mm
- Operating load 2,5 kN

Universal suspension clamp USC

- Range taking: 4 x 25-120 mm²
- Can be installed in straight direction and in line deviation angle up to 40° for 4 x 25 – 50 mm² and up to 20° for 4 x 70 – 120 mm²
- Qualified according to CENELEC prEN 50483-2
- Reopen clamp allows easy positioning of the cables
- Fits to all common hooks and pigtails Not lose parts
- Made of weather and UV-light resistant thermoplastic and steel with Geomet (Chromium free) protection
- Versions with shear head and wing nuts are available on request

Rolling suspension clamp RSC

- Deviation angle up to 90°
- Assembly rolls can be used to run out a conductor during line mounting
- Not lose parts
- Made of weather and UV-light resistant elastomer and hot dip galvanized steel
- Equipped with a stainless steel reinforced ring in the hook attachment
- Easy to install with a spanner
- Fits to hooks and pigtails up to a diameter of 20 mm

Selection Information: dimensions shown in millimeters

Cross section (mm ²)	Bundle Diameter (mm)	Ordering Description	Breaking Load (kN)	Weight (kg/10 ks)
Suspension clamps				
2 x 50 - 4 x 35	21 - 25	PS 250/435	7,5	4,1
2 x 95 - 4 x 50	26 - 30	PS 450	7,5	3,8
4 x 70	31 - 35	PS 470	7,5	3,6
4 x 95	36 - 40	PS 495	7,5	3,5
4 x 120	40 - 43	PS 4120	7,5	4,4
Universal suspension clamp				
4 x 25 - 120 + 2 x 25	up to 42	USC 25-120	18,0	5,0
Rolling suspension clamp				
4 x 25 - 120 + 2 x 25	22 - 42	RSC 25-120	2,4*	5,0

* Slippage load

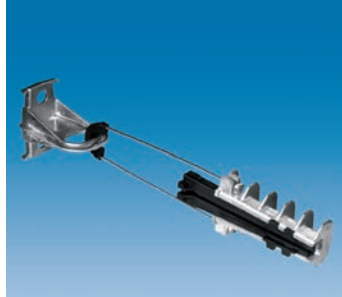


Anchor clamps for LV-ABC lines with insulated neutral messenger

General Description

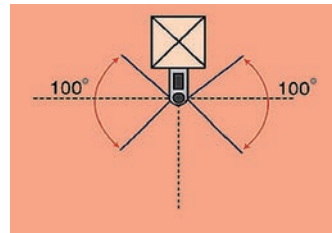
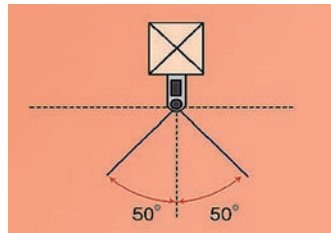
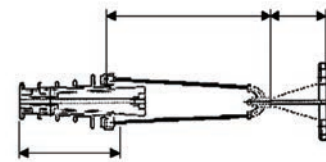
The clamps are designed to anchor LV-ABC lines with insulated neutral messenger. The clamp consists of an aluminium alloy cast body and self-adjusting plastic wedges which clamp the neutral messenger without damaging its insulation.

The flexible stainless steel bail protected by plastic wear-resistant saddle allows installations of up to 3 clamps on a bracket. The clamp and the bracket are available either separately or together as assembly.



Features & Benefits

- Tool free installation
- Not lose parts
- Exceeds requirements according to CENELEC prEN 50483-2 and NFC 33 041 and 042
- Clamp body made of corrosion resistant aluminium alloy, bail of stainless steel, wedges of weather and UV resistant polymer
- Universal fixing of bracket by 2 bolts M14 or stainless steel straps of 20 x 0,7 mm.
- Bracket made of corrosion resistant aluminium alloy
- Maximum line deviation angles of 50° for single and 100° for double anchoring:



Selection Information: dimensions shown in millimeters

Neutral messenger Cross section (mm ²)	Diameter (mm)	Ordering description	Breaking load (kN)	Weight (kg/10 ks)
Anchor clamp without bracket				
25 - 35 8 - 11	PA 1000	10,0	3,2	
50 - 70	12 - 14	PA 1500x20	15,0	3,4
50 - 70	12 - 14	PA 2000	20,0	4,1
95	14 - 16	PA 95-2000	20,0	4,1
Anchor clamp with bracket				
25 - 35	8 - 11	EA 1000	10,0	5,7
50 - 70	12 - 14	EA 1500	15,0	5,9
50 - 70	12 - 14	EA 2000	20,0	6,4
95	14 - 16	EA 95-2000	20,0	6,4
Bracket				
-	-	CA 1500-2	15,0	2,0
-	-	CA 1500/2000	20,0	2,3



Aluminum ShearBolt splice connectors

General Description

TE Connectivity's Aluminum ShearBolt connectors are range-taking mechanical connectors. Just six connectors will accommodate a wide range of aluminum and copper conductors from #2 AWG compact stranded to 1000 kcmil standard stranded class B, from 25 mm² stranded and solid to 500mm² circular stranded class 2. The primary application of Aluminum ShearBolt connectors is for underground splices up to 42 kV. ShearBolt connectors are ideally suited for aluminum to aluminum, aluminum to copper and copper to copper applications making them the universal connector solution. The only tool required to install the connector is a standard ratchet wrench with the appropriate sized hexagonal sockets. The connector design incorporates shear head bolts, which ensures that the correct torque is applied to each bolt and consequently the optimal contact force is generated to minimize connection resistance. The solid center stop (available on most sizes) inside the connector ensures proper conductor positioning and eliminates oil leakage when connecting oil impregnated conductors. Two removable inserts in the connector body centralize smaller conductor sizes. For larger sizes, inserts are not required and are easily removed with a standard screwdriver. ShearBolt connectors meet the electrical requirements (Class A) of ANSI C119.4 and exceed the mechanical requirements of a class 3 connector by a large margin of safety. ShearBolt connectors meet the electrical and mechanical requirements (Class A) of IEC 61238-1. ShearBolt connectors are designed to be compatible with TE's Raychem brand cable accessories and insulation products. A holding tool is recommended to avoid core bending of conductors and can be ordered from TE Connectivity. TE's cordless impact wrench can also be used to install the connector. These two convenient and quick tools have been tested and qualified to install ShearBolt connectors.



Features & Benefits

- Wide application range up to 1000 kcmil (500 mm²) with just 6 range-taking connectors.
- Bodies and bolts made of special aluminium alloy provide good contact properties even if in the connection between copper and aluminium conductors.
- Compact design requires little installation space, particularly for large sizes.
- No elongation during installation, make it easier to design relevant accessories.
- Chamfered edges are suitable for up to 42 kv voltage and adaptable to existing joint designs.
- Shear bolts with predetermined shear torque ensures that the correct torque is applied to each bolt and consequently to the end of each conductor.
- Easy installation with standard socket spanner.

Selection Information: dimensions shown in inches (millimeters)

Catalog Number	Conductor Range	OD Range	Length	Connector O.D.	Stop
ASBS-2-3/0	2 AWG compact stranded to 3/0 AWG standard stranded	.268-.470 (6.8-11.9)	2.5 (65)	.95 (24)	Disc
ASBS-2-350	2 AWG compact stranded to 350 kcmil standard stranded	.268-.681 (6.8-17.3)	3.9 (100)	1.22 (31)	Solid
ASBS-3/0-500	3/0 AWG compact stranded to 500 kcmil standard stranded	.423-.813 (10.7-20.6)	4.9 (125)	1.3 (34)	Disc
ASBS-3/0-500-S	3/0 AWG compact stranded to 500 kcmil standard stranded	.423-.813 (10.7-20.6)	4.9 (125)	1.3 (34)	Solid
ASBS-500-750	500 kcmil compact stranded to 750 kcmil standard stranded	.736-.998 (18.7-25.3)	6.0 (152)	1.52 (39)	Solid
ASBS-350-750	350 kcmil compact stranded to 750 kcmil standard stranded	.616-.998 (15.6-25.3)	6.7 (170)	1.67 (42.5)	Solid
ASBS-600-1000	600 kcmil compact stranded to 1000 kcmil standard stranded	.813-1.152 (20.6-29.2)	8.0 (203)	1.75 (44.4)	Solid

Selection Information: dimensions shown in metrics

Catalog Number	Conductor Range	Max OD Range	Length	Connector O.D.	Stop
BSMB-10/35	10 mm ² -35 mm ²	8.5	45	19	Yes
BSM-25/95	25 mm ² -95 mm ²	12.8	65	24	Yes
BSM-25/95-U	25 mm ² -95 mm ²	12.8	65	24	No
BSMB-35/150	35 mm ² -150 mm ²	15.8	80	28	Yes
BSMU-35/150	35 mm ² -150 mm ²	15.8	80	28	No
BSM-95/240	95 mm ² -240 mm ²	20	125	33	Yes
BSM-95/240-U	95 mm ² -240 mm ²	20	125	33	No
BSMB-95/240-34	95 mm ² -240 mm ²	22	125	34	Yes
BSMB-120/300	120 mm ² -300 mm ²	24	140	37	Yes
BSMU-120/300	120 mm ² -300 mm ²	24	140	37	No
BSM-185/400	185 mm ² -400 mm ²	25.5	170	42	Yes
BSM-185/400-U	185 mm ² -400 mm ²	25.5	170	42	No
BSMB-500	500 mm ²	30	190	46	Yes
BSMU-500	500 mm ²	30	190	46	No
BSMB-630	630 mm ²	33	200	50	Yes

Application Information: Dimensions in inches

Catalog Number	PII Number*	Socket Size	Test Reports	Conductor Combination
ASBS-2-3/0	408-8990	1/2	Note 1	Note 1
ASBS-2-350	408-8990	11/16	502-47292(I) 502-47300(I) 502-47340(I)	4/0 kcmil Cu to 350 kcmil AAC 350 kcmil AAC to 350 kcmil AAC 350 kcmil CU to 350 kcmil CU
ASBS-3/0-500	408-8990	3/4	502-47331(I) 502-47331(I)	500 kcmil AAC to 500 kcmil AAC 500 kcmil CU to 500 kcmil CU
ASBS-3/0-500-S	408-10429	3/4	502-47331(I) 502-47331(I)	500 kcmil AAC to 500 kcmil AAC 500 kcmil CU to 500 kcmil CU
ASBS-350-750	408-8990	7/8	502-47329(I)	750 kcmil AAC to 750 kcmil AAC
ASBS-500-750	408-8990	3/4	502-47288(I) 502-47294(I)	500 kcmil CU to 750 kcmil CU 750 kcmil AAC to 750 kcmil AAC
ASBS-600-1000	408-8990	7/8	502-47289(I) 502-47344(I) 502-47305(I)	750 kcmil CU to 1000 kcmil AAC 1000 kcmil CU to 1000 kcmil CU 1000 kcmil AAC to 1000 kcmil AAC

*Installation Instructions Reference Number

Note: The part number was not tested as ANSI C119.4 allows a smaller size connector of the same design to be added without additional testing.

Application Information by conductor type: Dimensions in metrics

Catalog Number	Conductor Range	Al Circular stranded	Al Circular solid	Al Sector stranded	Al Sector solid	Cu Circular stranded	Cu Circular solid	Cu Sector stranded
BSMB-10/35	Cross section (sqmm) Cross section (sqmm) Diameter (mm)	10-35 3.7-7.5	10-50 3.4-7.8	10-25 35**	10-35	10-35 3.7-7.5	10-35 3.4-6.7	10-25 35**
BSM-25/95 BSM-25/95-U	Cross section (sqmm) Cross section (sqmm) Diameter (mm)	25-95 5.7-12.5	25-95 5.5-11	25-70 95**	16-95	10-50 4.8-12.5	25-70 3.6-8	50-95 95**
BSMB-35/150 BSMU-35/150	Cross section (sqmm) Cross section (sqmm) Diameter (mm)	35-150 6.8-15	35-150 6.5-14	50-95 120*-150**	50-120	35-150 6.6-15	35-50 6.5-8	50-95 120*-150**
BSM-95/240 BSM-95/240-U	Cross section (sqmm) Cross section (sqmm) Diameter (mm)	95-240 11-19.2	95-240 10.5-18	95-150 185*-240**	95-150 185(90°)	95-240 11-19.2		95-150 185*-240**
BSMB-95/240-34	Cross section (sqmm) Cross section (sqmm) Diameter (mm)	95-240 11-20.8	95-240 10.5-18	95-150 185-240*	95-185 11-19.2	95-240		95-150 185-240*
BSMB-120/300 BSMU-120/300	Cross section (sqmm) Cross section (sqmm) Diameter (mm)	120-300 12.7-23.1	150-300 12.9-19.8	120-185 240*-300**	120-240	120-300 12.7-22.6		120-185 240*-300**
BSM-185/400 BSM-185/400-U	Cross section (sqmm) Cross section (sqmm) Diameter (mm)	185-400 15.5-24.6	185-400 14.8-24.6	185-240 300*-400** 15.5-24.6	185-240 300(90°)	185-400		185-240 300*-400**
BSMB-500	Cross section (sqmm) Diameter (mm)	500 25.3-28.9	500 24-25.1			500 25.3-28.6		
BSMB-630	Cross section (sqmm) Diameter (mm)	630 28.7-32.5	630 27.3-28.4			500 28.7-32.5		

* - slightly rounded with pliers

** - pressed round



RAYSULATE

BPTM/BBIT busbar insulating tube	88
HVBT raysulate high voltage busbar insulation tape voltage class 25 kV	89
HVIS raysulate high voltage insulation sheets voltage class 36 kV max.	90
HVBC raysulate high voltage busbar connection	91
HVCE raysulate high voltage creepage extenders	92
MVLC medium voltage line cover	93
MVCC medium voltage conductor covers	94
BCAC bushing connection animal cover	95
BCIC bus connection insulating covers	96
BISG bus insulator squirrel guard	99
IBIC I-beam insulating cover	100
LVBT low voltage busbar insulation tape voltage, class 1 kV	101
LVIT low voltage busbar insulation tubing voltage, class 1 kV	102



BPTM/BBIT

Busbar insulating tube

General Description

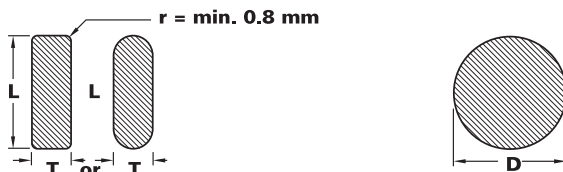
These heat-shrinkable tubes are extremely flexible, high expansion ratio, so each size of tubing fits a range of busbar sizes. Both BBIT and BPTM tubing are ideal for original equipment assembly, and for retrofit applications where access to one end is available

BPTM (24 kV class) Medium-wall tubing for use on straight or bent bars where some clearance reduction or 25 kV insulation is required.

BBIT (36 kV class) Heavy-wall tubing for use on straight or bent bars where maximum clearance reduction or 35 kV insulation is required

Selection Information: dimensions shown in millimeters

Product selection



Product Size	Rectangular Bars, L + T (mm)		Round Bars, D (mm)		Inside Diameter (mm)		Spool Length m
	min.	max.	min.	max.	H min.	h max.	
BPTM 15/6	12	18	6.5	12	15	6	30
BPTM 30/12	22	38	13.5	25	30	12	30
BPTM 50/20	36	65	22	43	50	20	30
BPTM 75/30	55	95	33	63	75	30	20
BPTM 100/40	70	130	44	86	100	40	25
BPTM 120/50	90	165	55	105	120	50	25
BPTM 175/70	125	235	80	150	175	70	15
BPTM 205/110	200	276	127	190	205	110	10
BPTM 235/130	235	315	150	220	235	130	20
BBIT 25/10	17	28	11	20	25	10	25
BBIT 40/16	28	45	18	32	40	16	20
BBIT 65/25	44	69	28	47	65	25	15
BBIT 100/40	69	102	44	72	100	40	15
BBIT 150/60	102	148	65	105	150	60	15
BBIT 175/80	133	196	85	125	175	80	10

Note :

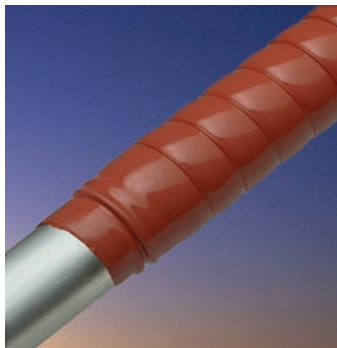
BPTM Maximum longitudinal change after free recovery: + 5% -10%.

Maximum eccentricity (as supplied): 40%, (after free recovery) $\leq 75/30$ 10% $\geq 100/40$ 15%. BBIT Maximum longitudinal change after free recovery: $\pm 5\%$. Maximum eccentricity: 35% (as supplied), 15% (after free recovery) Installation instructions EPP 0618 5/96 and Material Safety Data Sheet available on request.

Technical reports (others information can be provided as request.)

EDR-5535
EDR-5537

BBIT tube qualification report
BPTM tube qualification report



HVBT

Raysulate high voltage busbar insulation tape voltage class 25 kV

General Description

HVBT tape is a heat-shrinkable, adhesive-coated tape which provides insulation enhancement and protection against accidental flashover.

HVBT tape is designed to combine the integrity of a heat-shrinkable tubing with the versatility of a wraparound product.

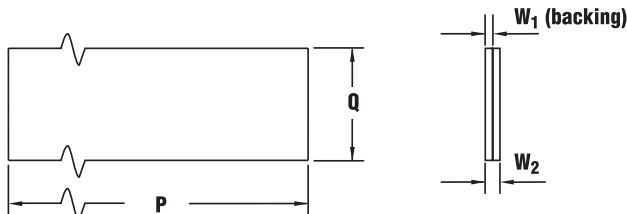
A single layer of HVBT tape, two-thirds overlapped, will provide AC voltage withstand (flashover protection) to at least 17.5 kV increasing to 25 kV if a second layer is applied.

Selection Information: dimensions shown in millimeters

Product Selection Rectangular Busbars Width (mm)	Recommended Product	HVBT Length Needed per Metre of Busbar
25	HVBT-12-A	10.0
50	HVBT-14-A	7.6
75	HVBT-14-A	11.4
100	HVBT-14-A	15.6
150	HVBT-14-A	25.0
200	HVBT-16-A	15.6

Product Selection Rectangular Busbars Width (mm)	Recommended Product	HVBT Length Needed per Metre of Busbar
12	HVBT-12-A	5.0
25	HVBT-14-A	5.0
50	HVBT-14-A	10.0
75	HVBT-14-A	16.7
100	HVBT-16-A	10.0

Ordering information



Ordering description	Dimensions Q a min.	W ₁ a min.	W ₁ b min.	W ₁ c min.	UOM: roll of length, P (m)
HVBT-12-A	25	0.38	0.56	0.86	10
HVBT-14-A	50	0.38	0.56	0.86	10
HVBT-15-A	75	0.38	0.56	0.86	10
HVBT-16-A	100	0.38	0.56	0.86	10

Note :

Dimensions in mm unless otherwise stated. a = as supplied b = after free recovery. Maximum longitudinal change after free recovery: -30%. Installation instructions EPP 0619 5/96 and Material Safety Data Sheet available on request.

Technical reports (Others information can be provided as request.)

UVR 8023 – Qualification report for HVBT

UVR 8147 – Testing of HVBT tape to demonstrate its capability as electrical insulation on busbars



HVIS

Raysulate high voltage insulation sheets voltage class 36 kV max.

General Description

HVIS sheets is an adhesive coated, heat-shrinkable sheet which provides insulation enhancement and protection against accidental flashover.

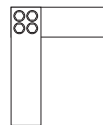
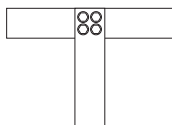
When heated the HIVIS sheet shrinks in two directions to tightly conform to complex shapes.

A Raychem void-filling mastic, S1061, can be added to ensure that even protruding shapes are insulated. A Raychem sealing mastic, S1085, can also be applied to provide an environmentally sealed connection.

Selection Information: dimensions shown in millimeters

Product selection

For rectangular busbars max. thickness 15 mm

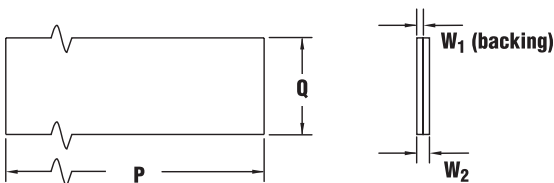


T-connection				Flat Elbow Connection		
Busbar Width	Cut Size Needed (mm)	No. of Installations per HIVIS-05 Sheet	HVIS-10 Rolls	Cut Size Needed (mm)	No. of Installations per HIVIS-05 Sheet	HVIS-10 Rolls
25	275 x 225	4	88	275 x 175	4	114
50	325 x 250	4	80	325 x 225	4	88
75	400 x 275	2	50	325 x 250	2	52
100	450 x 325	2	44	450 x 275	2	44
175	550 x 425	1	23	550 x 325	1	30

Note:

This table should be used as a guideline only. Please experiment with one or two joints before adopting final cut size. The busbars are assumed to be insulated to 25 mm from the joint. Cut size should extend a minimum of 100 mm on each leg of the joint before shrinking and should overlap existing insulation by 65 mm after shrinking.

Ordering information



Ordering description	Dimensions P a (m) nom.	Q a nom.	W ₁ b min.	W ₂ a min.	UOM
HVIS-05	0.5	660	1.5	2.4	sheet
HVIS-10	10.0	660	1.5	2.4	roll
S1061-8-300	0.3	60	-	-	piece
S1085-1-300	0.3	20	-	-	piece
HVIS-TOOLS-01	(basic clamp and bracket kit)				kit
HVIS-TOOLS-02	(extended clamp and bracket kit)				kit

Note :

Dimensions in mm unless otherwise stated. a = as supplied b = after free recovery. Longitudinal and transverse change after free recovery: -25% ±10%. Installation instructions EPP 0623 5/96 and Material Safety Data Sheet available on request. When required, typically one piece of sealing mastic, S1085, is applied on each leg of the joint and one or two pieces of void-filling mastic, S1061, used to cover uneven shapes.

Technical reports (Others information can be provided as request.)

UVR 8114 - Qualification report for HIVIS sheets



HVBC

Raysulate high voltage busbar connection

General Description

The HVBC kit contains heat-shrinkable insulating tubing and sealant strips for insulating and environmentally sealing high-voltage in-line cable-to-busbar connections. For multiple cable connections, the kit also contains a heat-shrinkable sealing boot.

HVBC kits may be used in applications up to 15 kV in accordance with ANSI/IEEE specifications, and up to 36 kV in accordance with IEC applications.

Selection Information: dimensions shown in millimeters

Catalog Number of Cable Size Range			Cable Size Range mm ²	
Bus Width: 50-100 mm	Bus Width: 125-150 mm	Numbers of Cable	min	max
HVBC-41	HVBC-61	1	100	500
HVBC-42	HVBC-62	2	100	500
HVBC-43	HVBC-63	3	100	500
HVBC-44	HVBC-64	4	100	500

Bolt Pad
BP-46

Order information

Select the appropriate catalog number. Confirm selection with dimensions. One HVBC kit insulates one phase of an in-line cable-to-bus connection.

- Maximum bolt length: 50 mm.
- Maximum busbar thickness: 15 mm.
- Maximum bare bus length: 225 mm.

Shielded cable must be terminated before installing the HVBC products; use TE Connectivity's APKT/EPKT terminations

Note :

Standard package: 3 kits/box.

Technical reports (Others information can be provided as request.)

Related test report: EDR-5103.



HVCE

Raysulate high voltage creepage extenders

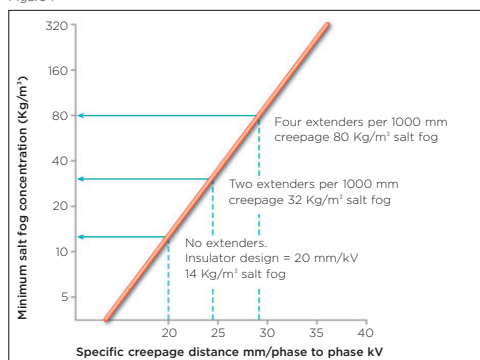
General Description

Raysulate heat shrink extenders increase the flashover performance of insulators by reducing the surface electric stress, reducing the leakage current and increasing the electric strength of the insulators. Installation of creepage extenders:

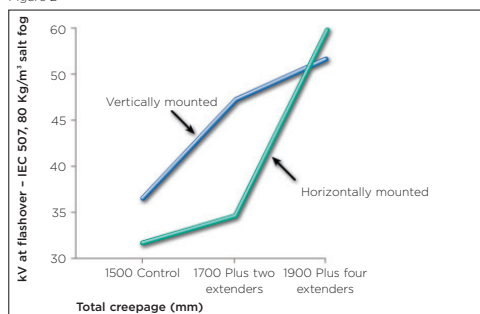
- Increases creepage length
- Improves insulator shape
- Adds high performance polymeric material to the creepage path

Application technical information :

Effect of creepage distance on salt fog concentration withstand value
Figure 1



Flashover voltage versus number of extenders on 66 kV post insulator
Figure 2



Insulator Voltage Class		No. of Creepage Extenders to move to		
		II	III	IV
12/17.5	I	1	2	**
	II	-	1	2
	III	-	-	1
24	I	1	2	**
	II	-	1	3
	III	-	-	2
36	I	2	3	**
	II	-	2	4
	III	-	-	2
72	I	3	**	**
	II	-	4	**
	III	-	-	4
145	I	5	**	**
	II	-	7	**
	III	-	-	8

**Recommend new insulator fitted

Selection Information: dimensions shown in millimeters

Ordering information

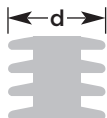
- 1 XX denotes colour (01 = red)
- 2 On insulators close to the maximum diameter in the application range, the creepage extender will droop when installed. For further information, see the qualification report UVR 8139.
- 3 The ordering unit of measure is pieces.

Non standard sizes

In many cases, creepage extenders for other sizes are available or can be designed. Contact your local sales representative for details.

Ordering example

To order a red creepage extender for a shed of diameter 110 mm, simply order:
1 piece of HVCE-120/100-01



Dimensions in mm (inches)		Application Range		
Size	Min. Internal Dia. of the Extender (as supplied)	Max. Shed Dia. of Insulator (d)	Min. Shed Dia. of Insulator (d)	Nominal Creepage Extension per Extender
HVCE-100/80-01	115 (4.5)	100 (4.0)	80 (3.2)	100 (4.0)
HVCE-120/100-01	135 (5.3)	120 (4.7)	100 (4.0)	100 (4.0)
HVCE-140/120-01	155 (6.1)	140 (5.5)	120 (4.7)	100 (4.0)
HVCE-160/140-01	180 (7.1)	160 (6.3)	140 (5.5)	100 (4.0)
HVCE-183/161-01	205 (8.1)	183 (7.2)	161 (6.3)	100 (4.0)
HVCE-205/184-01	230 (9.0)	205 (8.1)	184 (7.2)	100 (4.0)
HVCE-226/206-11	241 (9.5)	226 (8.9)	206 (8.1)	100 (4.0)
HVCE-247/227-11	262 (10.3)	247 (9.7)	227 (8.9)	100 (4.0)
HVCE-268/248-11	283 (11.1)	268 (10.5)	248 (9.8)	100 (4.0)
HVCE-289/269-11	304 (12.0)	289 (11.4)	269 (10.6)	100 (4.0)
HVCE-310/290-11	325 (12.8)	310 (12.2)	290 (11.4)	100 (4.0)
HVCE-331/311-11	346 (13.6)	331 (13.0)	311 (12.2)	100 (4.0)
HVCE-352/332-11	367 (14.4)	352 (13.8)	332 (13.1)	100 (4.0)
HVCE-373/353-11	388 (15.3)	373 (14.7)	353 (13.9)	100 (4.0)
HVCE-394/374-11	409 (16.1)	394 (15.5)	374 (14.7)	100 (4.0)



MVLC

Medium voltage line cover

General Description

The MVLC line cover provides state-of-the-art insulation to help prevent electrical outages caused by trees or wildlife coming into contact with distribution lines.

The MVLC line cover material is UV stable as well as tracking and erosion resistant, and is electronically cross-linked to create an extremely robust insulation system, ensuring many years of reliable operation in the harshest environments.

Selection Information: dimensions shown in inches (millimeters)



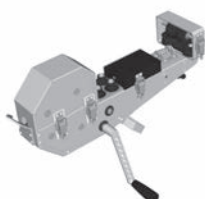
MVLC-18 Tool



MVLC-Hand-Tool-02



MVLC-38 Tool



MVLC-14 Tool

Ordering Information

Conductor Size	Voltage Class	Description	UOM: m (ft) Spool Length*	Overhead Installation Tool
Up to 99 mm ² (up to 3/0 kcmil)	15 kV	MVLC-14-A/U	100 m (330 ft)	**
Up to 99 mm ² (up to 3/0 kcmil)	25 kV	MVLC-14-A/241	100 m (330 ft)	**
Up to 185 mm ² (up to 397 kcmil)	15 kV	MVLC-18-A/U	75 m (247 ft)	MVLC-18-TOOL-01
Up to 185 mm ² (up to 397 kcmil)	25 kV	MVLC-18-A/241	75 m (247 ft)	MVLC-18-TOOL-02
Up to 800 mm ² (up to 1590 kcmil)	15 kV	MVLC-38-A/U	50 m (165 ft)	**
Up to 800 mm ² (up to 1590 kcmil)	25 kV	MVLC-38-A/241	50 m (165 ft)	**

Note :

Non-Impact Hydraulic Drill available. * 6ft cut lengths also available. MVLC-Hand-Tool-02 will install both MVLC-18 and MVLC-38 products. MVLC-Hand-Tool-14 will install MVLC-14 products only.

** Contact your local sales representataive for additional information.



MVLC-14 Hand Tool

Technical Reports

EDR-5308 MVLC Electrical Testing (-18)

EDR-5309 MVLC Material Qualification to PPS 3010/42

EDR-5316 Summary of Wind and Ice/Snow Load testing of MVLC at EA Technology

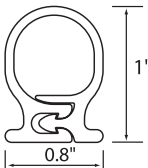
Product Selection

Product	Weight (Nominal)
MVLC-14	0.27 kg/m (0.18 lbs/ft)
MVLC-18	0.40 kg/m (0.27 lbs/ft)
MVLC-38	0.52 kg/m (0.35 lbs/ft)

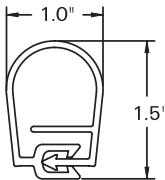
For Busbar Applications

2"	use 1-MVLC-38 & 1-MVLC-18
2.5"	use 2-MVLC-38
3"	use 2-MVLC-38
4"	use 2-MVLC-38 & 1-MVLC-18

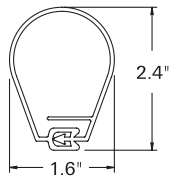
Nominal Dimensions



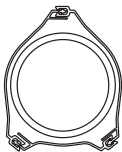
MVLC-14



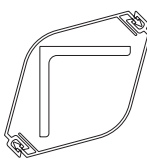
MVLC-18



MVLC-38



4" busbar with 2-MVLC-38
1-MVLC-18



2.5" L busbar with 2-MVLC-38



2 MVLC-38 on busbar with BCIC



MVCC

Medium voltage conductor covers

General Description

Raysulate MVCC medium voltage conductor covers 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.

Features & Benefits

- Covers are flexible allowing for installation on tight bends which makes it ideal for substation applications
- Covers are designed to protect energized conductors from flashovers due to contact from birds and animals
- Suitable for applications up to 25 kV phase to ground
- Four sizes are currently available and will fit conductors with diameters up to 45 mm.

Selection Information: dimensions shown in millimeters

Selection Information:

Catalog Number	Conductor Diameter Use Range UOM: mm	Color	Supplied Length UOM: M
MVCC-10/.40 (B100)	up to 11	Red	1 piece 30.4
MVCC-G-10/.40 (B100)	up to 11	Gray	1 piece 30.4
MVCC-19/.75 (B50)	11 - 19	Red	2 piece 7.6
MVCC-G-19/.75 (B50)	11 - 19	Gray	2 piece 7.6
MVCC-25/1.0 (B25)	19 - 28	Red	1 piece 7.6
MVCC-G-25/1.0 (B25)	19 - 28	Gray	1 piece 7.6
MVCC-45/1.75 x 4 (B24)	28 - 44	Red	6 piece 1.2
MVCC-G-45/1.75 x 4 (B24)	28 - 44	Gray	6 piece 1.2

Note :

Product testing results apply to MVCC-10/.40 and MVCC-G-10/.40 product

Technical reports (Others information can be provided as request.)

EDR-5461 Medium Voltage Conductor Cover Electrical Testing



BCAC

Bushing connection animal cover

General Description

Our hot-stickable insulating cover is designed to prevent animal caused outages on pole-top transformer equipment ranging from 15 to 35 kV.

The BCAC cover uses a scissor action design to allow for live installations on bushing skirts ranging in size from 1.7" (43 mm) through 2.7" (68 mm) in core diameter and 3.0" (75 mm) through 4.75" (120 mm) in shed diameter.

Selection Information: dimensions shown in millimeters



BCAC-7D/10



BCAC-8D/14

Catalog Number	Maximum Shed Diameter	Cover Height
BCAC-5D/8 (B12)	4.8 (122)	8.0 (203)
BCAC-7D/10 (B6)	6.8 (172)	10.5 (266)
BCAC-8D/14 (B6)	8.0 (203)	14.0 (355)
BCAC-G-5D/8 (B12)	4.8 (122)	8.0 (203)

Also available in gray material, BCAC-G-5D/8.



Fuse Cutouts

The BCAC-G-CUTOUT hot-stickable insulating cover is designed to protect fused cutout switch applications up to 25 kV. The unique omega shaped attachment area easily clips onto the cutout insulator between the first and second skirt. The insulated conductor is captured securely as well to ensure retention even in high winds. Two different covers available for 100 and 200 amp applications.



Lightning Arresters

Distribution surge arrester caps protect against unwanted animal and bird outages. The unique design covers the first skirt which improves the level of protection. The cap is easily installed and attaches to both the stud and the conductor so that it will stay secure even in high winds. Two different covers are available. The BCAC-G-AR-5D-2 fits the Ohio Brass Arrester. The BCAC-G-AR-3.75D-2 fits the Cooper Arrester.



Reclosers

These insulating covers are designed for reclosers operating from 15 to 35 kV. The one piece, hinged parts are easily and quickly installed around both the vertical and horizontal bushing skirts and secured using supplied push pin latches. Two different covers are available to fit both the ABB (BCIC-REC-CLOSER-100) and Cooper type (BCIC-REC-CLOSER-COVER) reclosers.



Terminations

The BCAC-4D/13-2 covers a wide variety of termination sizes. The cover is easily installed on top of the first termination skirt. No trimming is required and the cover fits terminations ranging in size from #1 to 750 kcmil. Extensive testing has ensured that the cover will not damage or deteriorate the terminations.



BCAC CAP universal insulating cover for insulator, surge arrester...etc.

Note :

Standard package: 12 or 6 units per box, depending on size of cover. (One BCAC will install on one insulator.)

Technical reports (Others information can be provided as request.)

EDR-5339—Bushing Connection Animal Cover (BCAC 5D/8) Mechanical/Electrical Evaluation
UVR 8209—Material test report



BCIC

Bus connection insulating covers

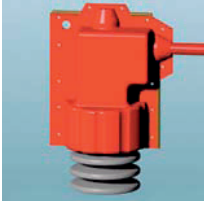
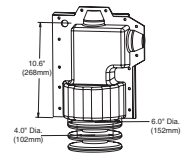
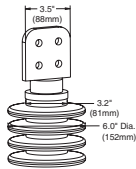
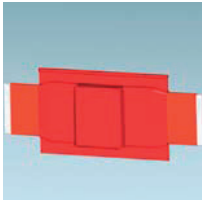
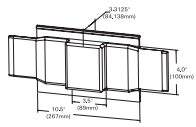
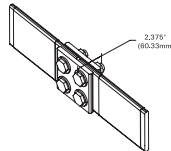

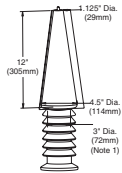


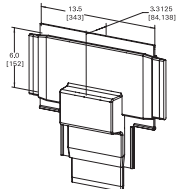
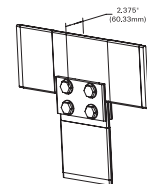

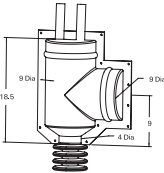
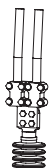
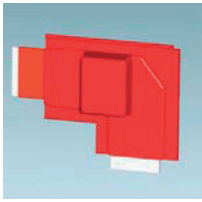
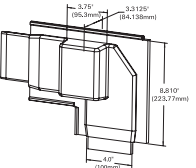
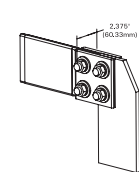
General Description

BCIC covers are designed to protect energized conductors or busbar from flashovers due to contact from birds, squirrels and other wildlife. BCIC parts are made from a UV stable, track resistant, high performance TE Connectivity's material to ensure years of reliable service.

Installation can be made quickly in the field by trimming the entry and exit holes to the required dimensions. The BCIC covers can be re-entered for other maintenance needs and then reused, thus lowering overall lifetime costs.

BCIC covers are custom engineered to meet customers applications.

Selection Information: dimensions shown in millimeters

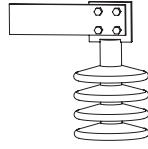
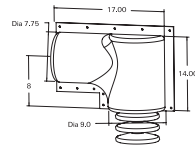
Bushing covers	Installed product	Hardware configuration	Bushing covers	Installed product	Hardware configuration
					
BCIC-441I	Note: 4" (100mm) Bottom Port Opening	Uses 13 BCIC Latches	BCIC-100/4-1-ST	BUS Bar Size 4" x .50"	Uses BCIC Closure In Kit
					
BCIC-SG-101-H2	Note: Bottom and Top Opening	Uses 5 BCIC Latches	BCIC-150/6-1-ST	BUS Bar Size 6" x .50"	Uses BCIC Closure In Kit
					
BCIC-9D/19-3		Uses 11 BCIC Latches	BCIC-100/4-L	BUS Bar Size 4" x .50"	Uses BCIC Closure In Kit

For profiles not shown, please contact local sales.

Bushing covers

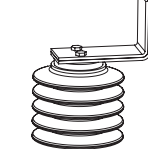
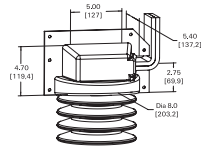
Installed product

Hardware configuration



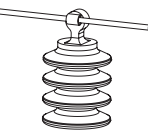
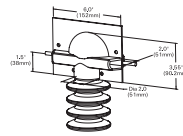
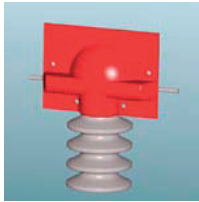
BCIC-10D/18-3

Uses 11 BCIC Latches



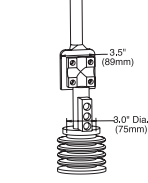
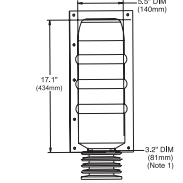
BCIC-8D/6-3

Uses 6 BCIC Latches



BCIC-3D/6-3

Uses 4 BCIC Latches



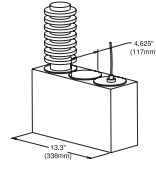
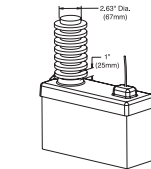
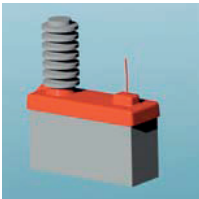
BCIC-5.5D/16

Uses 7 BCIC Latches

Bushing covers

Installed product

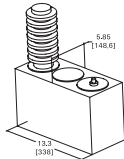
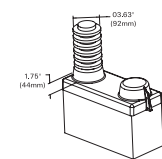
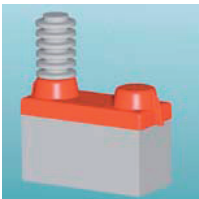
Hardware configuration



BCIC-0270

Note: Single Bushing Capacitor Cover

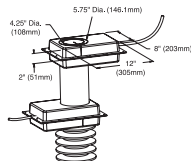
Uses 2 BCIC Latches



BCIC-0370

Note: Single Bushing Capacitor Cover

Uses 2 BCIC Latches



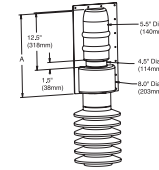
BCIC-8/12/2

Note: Field trimmed part

Bushing covers

Installed product

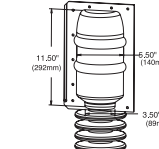
Hardware configuration



BCIC-8D/15H0
BCIC-8D/18-H0

Dia. A = 16.2" (411)
Dia. A = 19.2" (488)

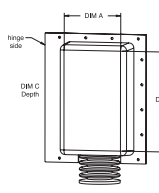
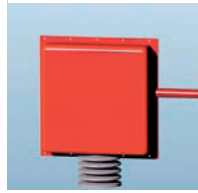
Uses 10 BCIC Latches



BCIC-5.5D/11

Bushing Range Dia. 2-3.5 in.
Note: No Opening

Uses 9 BCIC Latches



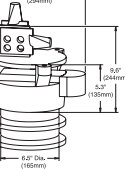
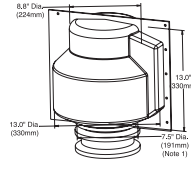
	Dim A	Dim B	Dim C	
BCIC-12/12/5-H	12 (305)	12 (305)	5 (127)	Uses 12 BCIC Latches
BCIC-14/19/6-U	14 (356)	19 (483)	6 (152)	Uses 16 BCIC Latches
BCIC-24/11/12-U	11 (279)	24 (610)	12 (304)	Uses 16 BCIC Latches
BCIC-4/12/4-H	4 (102)	12 (305)	4 (102)	Uses 12 BCIC Latches
BCIC-7/12/7-H	7 (178)	12 (305)	7 (178)	Uses 12 BCIC Latches
BCIC-4/16/4-H	4 (102)	16 (406)	4 (102)	Uses 12 BCIC Latches

Note: Must be field cut.

Bushing covers

Installed product

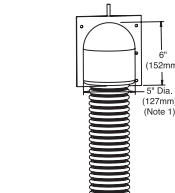
Hardware configuration



BCIC-13D/13-H0

Note: No Opening
Must Be Field Cut

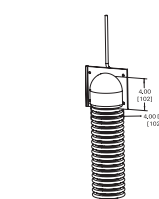
Uses 10 BCIC Latches



BCIC-5D/6


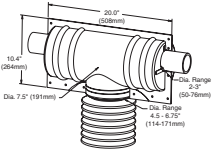
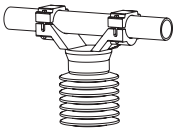

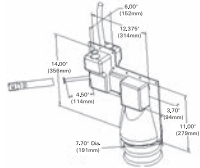
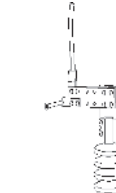

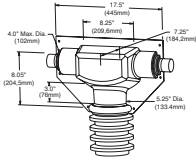
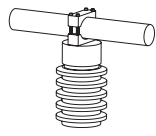

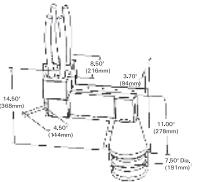
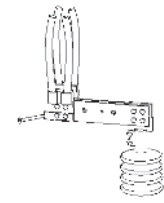
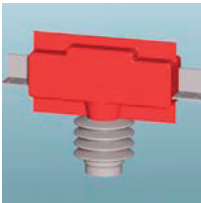
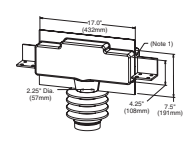
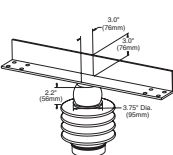

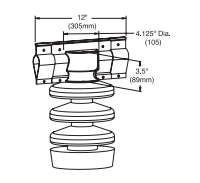
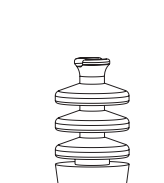
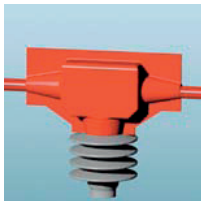
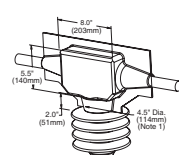
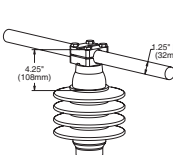

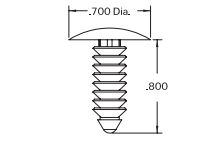
Note: No Opening
Must Be Field Cut

Uses 5 BCIC Latches



BCIC-4D/4

Uses 5 BCIC Latches

Bushing covers	Installed product	Hardware configuration	Bushing covers	Installed product	Hardware configuration
					
BCIC-75D/18-3	Bus Bar Dia. 2-3" (50-75mm) Angle Bus Double 3" (75mm)	Uses 8 BCIC Latches	BCIC-75D/11-DB		Uses 15 BCIC Latches
					
BCIC-SG-201	Max. Bus Bar Dia. 4" (100mm)	Uses 10 BCIC Latches	BCIC-75D/17-DB		Uses 19 BCIC Latches
					
BCIC-TR205-L	Note: No Opening Must Be Field Cut	Uses 10 BCIC Latches	BCIC-3212-01	Note: Bottom Port Has Opening	Uses 8 BCIC Latches
					Std. Pack = 250 Latches or 1000 Latches
BCIC-TR205-R	Note: 4.5 (114) Dia. Bottom Port Opening	Uses 10 BCIC Latches	BCIC-LATCH		



BISG

Bus insulator squirrel guard

General Description

Reliable outage prevention

BISG discs have been successfully eliminating outages from squirrels, raccoons, opossums, cats, and other animals in substations for years. The BISG guard has been designed to provide the same great protection with added features.

High performance material

Superior high voltage outdoor materials are used in the new BISG guard design. The rugged, track resistant, UV-stable polymer ensures long-term performance even in the most extreme environmental conditions. Available in red or gray material.

Selection Information: dimensions shown in millimeters



Selection Information: dimensions in millimeters

Catalog Number	Insulator Core Diameter Range	Application
BISG-60/115-02 (BIO)	25 - 115	Standard
BISG-60/115-03-HOT (BIO)	25 - 115	Live installation

Ordering Information

1. Standard package: 10 BISG assemblies per box. (One BISG will install on one insulator.)
2. Each standard pack contains plastic bolts and installation instructions.
3. Related test report: EDR-5310.
4. Available in red or gray material.



IBIC I-beam insulating cover General Description

The IBIC cover provides high performance insulation to prevent electrical outages caused by accidental flashover on electrified rail networks and in utility power distribution networks.

The IBIC cover is strategically positioned to insulate the vulnerable areas most at risk, usually those closest to HV contact wires or HV busbars. Selective insulation by this method eliminates accidental flashover, improves reliability, and prevents expensive asset damage.

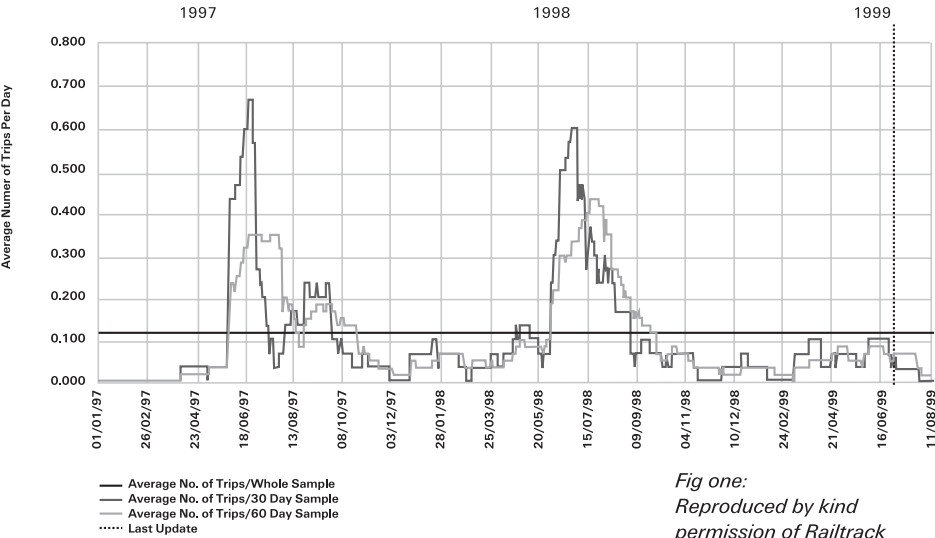
Selection Information: dimensions shown in millimeters

Product Selection

Product Description	I-Beam Application Range	Weight	Length/Pc
IBIC-20/125-1000-01	200 mm (8") - 125 mm (5") wide Max. Flange thickness - 19 mm (3/4")	1 Kg	1 meter

Tech information

Fig one shows actual data of a section of 25 kV electrified railway in the UK known for its high incidence of bridging caused by birds (open structure photo overleaf is a typical example). Bird strikes show huge increases annually from May to July (see 1997 & 1998). Strategic positioning of IBIC eliminates this problem (see 1999).



Technical reports (Others information can be provided as request.)

Material test report UVR 8209
 Electrical test report EDR 5333



LVBT

Low voltage busbar insulation tape voltage, class 1 kV

General Description

LVBT tape is a black, general purpose, adhesive coated, heat-shrinkable insulation tape for applications up to 1 kV. Designed to be compatible with other products in the Raychem low voltage insulation range, it is suitable for complex busbar geometries and restricted access areas.

Features & Benefits

- Compatible with all other products in the Raychem low voltage insulation range
- Gives excellent electrical performance
- Continuous operating temperature rating up to 70°C
- Flame retarded
- Quick and easy to install using readily available tools
- UV resistant making it suitable for indoor and outdoor applications
- Electrical and mechanical performance are retained after cleaning with hydrocarbon solvents
- Good thermal emissivity and contact with busbars means no derating is needed
- Can be stored indefinitely up to temperatures of 50°C without loss of performance

Selection Information: dimensions shown in millimeters

Product selection

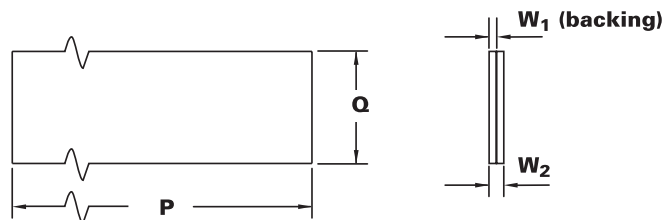
Rectangular Busbars Width (mm)	Product Description	Length Insulated/Roll (m)
25	LVBT-1-R	1.2
50	LVBT-2-R	1.5
75	LVBT-2-R	1.1
100	LVBT-2-R	0.8
150	LVBT-2-R	0.6
200	LVBT-4-R	0.9

Rectangular Busbars Width (mm)	Product Description	Length Insulated/Roll (m)
12	LVBT-1-R	2.4
25	LVBT-2-R	2.4
50	LVBT-2-R	1.2
75	LVBT-2-R	0.8
100	LVBT-4-R	1.2

Note:

Dimensions in mm unless otherwise stated.

Ordering information



Ordering Description	Q a min	W ₁ a min	W ₁ b min	W ₂ b min	UOM: Roll of Length, P (m)
LVBT-1-R	25	0.4	0.6	1.0	8
LVBT-2-R	50	0.4	0.6	1.0	8
LVBT-4-R	100	0.4	0.6	1.0	8

Note :

Dimensions in mm unless otherwise stated. a = as supplied b = after free recovery. Maximum longitudinal change after free recovery: -50 %. Installation instructions EPP 0621 5/96 and material Safety Data Sheet available on request.

Technical reports (Others information can be provided as request.)

LVBT tape uses the same backing material as LVIT tubing and the same adhesive as HVBT tubing, please refer to the following test reports:

UVR 8148 - Qualification report for LVIT tubing

UVR 8023 - Qualification report for HVBT tubing



LVIT

Low voltage busbar insulation tubing voltage, class 1 kV

General Description

LVIT tubing is a black, medium wall, flame retarded heat-shrinkable tubing suitable for insulating busbars up to 1 kV.

This highly flexible tubing can be used on a variety of curved and bent busbars of both circular and rectangular cross-section.

LVIT tubing is suitable for both enclosed and exposed busbars and for connections in switchgear, substations, motor control centres and other electrical equipment.

Selection Information: dimensions shown in millimeters

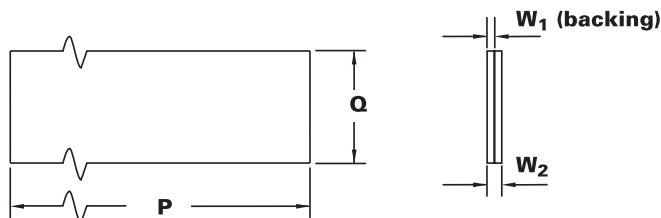
Product selection

Rectangular Busbars Width (mm)	Product Description	Length Insulated/Roll (m)	Rectangular Busbars Width (mm)	Product Description	Length Insulated/Roll (m)
25	LVBT-1-R	1.2	12	LVBT-1-R	2.4
50	LVBT-2-R	1.5	25	LVBT-2-R	2.4
75	LVBT-2-R	1.1	50	LVBT-2-R	1.2
100	LVBT-2-R	0.8	75	LVBT-2-R	0.8
150	LVBT-2-R	0.6	100	LVBT-2-R	1.2
200	LVBT-4-R	0.9			

Note:

Dimensions in mm unless otherwise stated.

Ordering information



Ordering Description	Q a min	W ₁ a min	W ₁ b min	W ₂ b min	UOM: Roll of Length, P (m)
LVBT-1-R	25	0.4	0.6	1.0	8
LVBT-2-R	50	0.4	0.6	1.0	8
LVBT-4-R	100	0.4	0.6	1.0	8

Note :

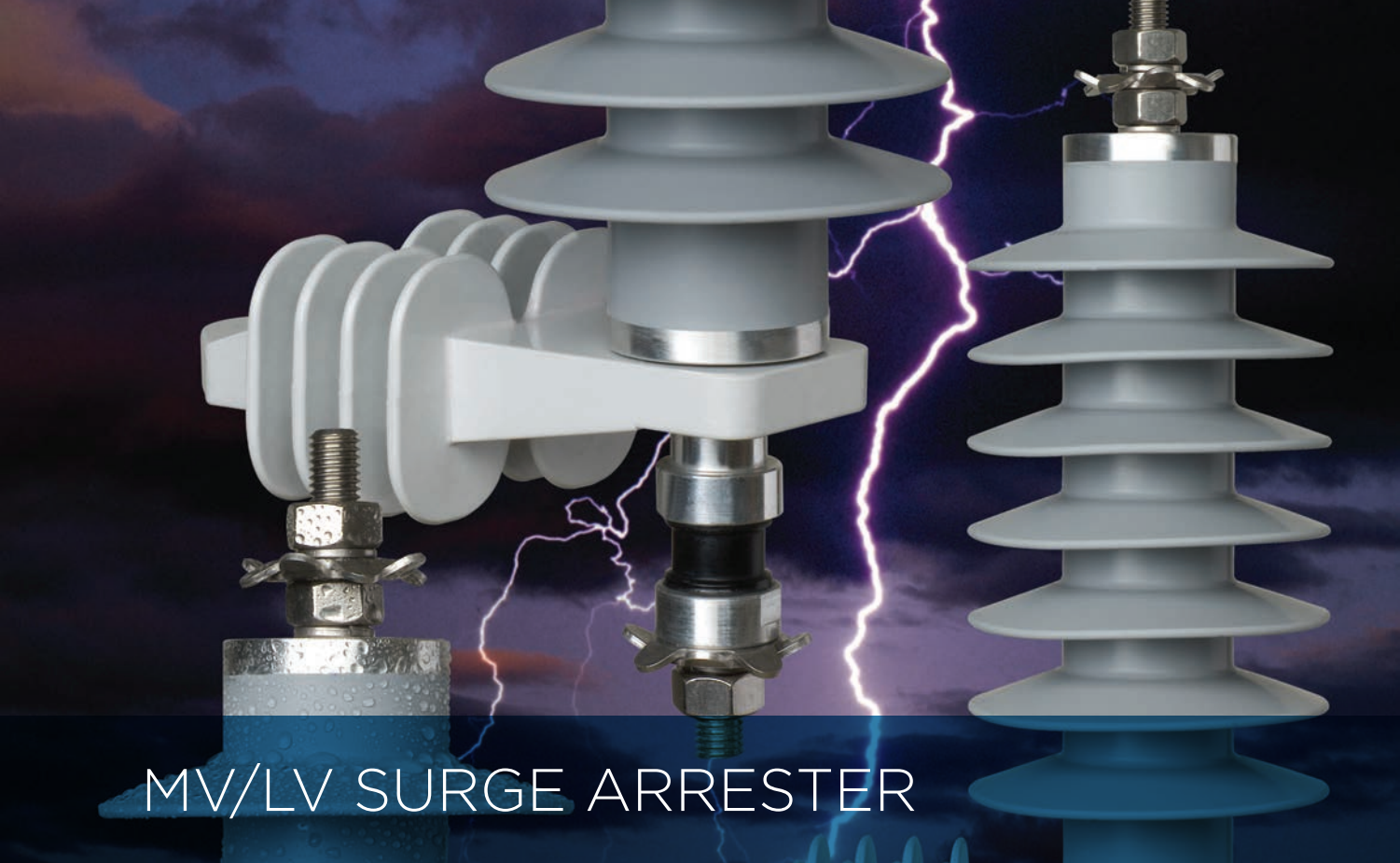
Dimensions in mm unless otherwise stated. W, H = as supplied w, h = after free recovery. Maximum longitudinal change after free recovery: +5% -15%. Maximum eccentricity: 40% (as applied). Fit the larger size of LVIT tubing if two sizes fit the required application. Installation instructions EPP 0620 5/96 and Material Safety Data Sheet available on request.

Technical reports (Others information can be provided as request.)

UVR 8148 -Qualification report for LVIT tubing

UVR 8153 -LVIT tubing testing for Hong Kong Electric

UVR 8165 -Damp heat cycling on LVIT tubing



MV/LV SURGE ARRESTER

LV SA metal-oxide low voltage arresters	104
DAO distribution metal oxide surge arrester DAO series, (IEC).....	105
DA1 distribution metal oxide surge arrester DA1 series, (IEC).....	107
OCP open cage polymeric series	109
DAH distribution metal oxide surge arrester DAH series (IEEE) heavy duty	111
DAR distribution metal oxide surge arrester DAR series (IEEE) riser pole	113
CLX MV surge arresters CLX for covered conductors	115
HE60MD surge arresters for D.C. railway applications	116



LV SA **Metal-oxide low voltage arresters** **General Description**

TE's Raychem low voltage surge arresters provide protection for low-voltage overhead lines, consumer in-house supplies, distribution transformers and other systems.

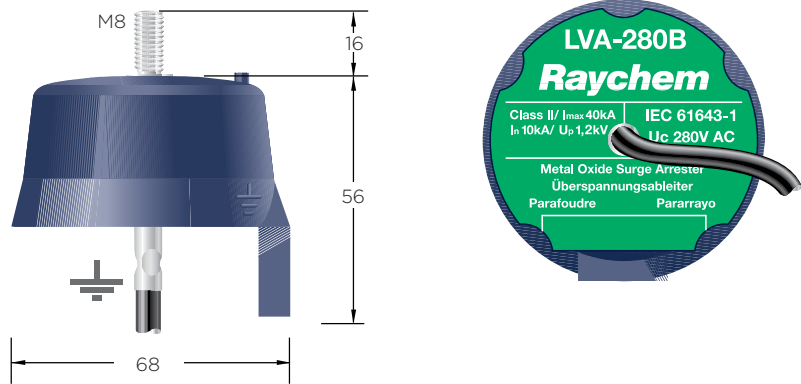
The varistor has a very short response time (typically <100 ns) and can safely handle high-current impulses up to 100 kA, 4/10 µs. The arrester's nominal discharge current is 10 kA.

The LVA surge arresters are in compliance with requirements Class II as defined by IEC 61643-1.

Selection Information: dimensions shown in millimeters

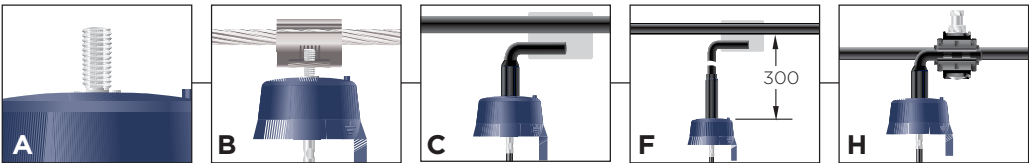
Ordering Information

Dimensions

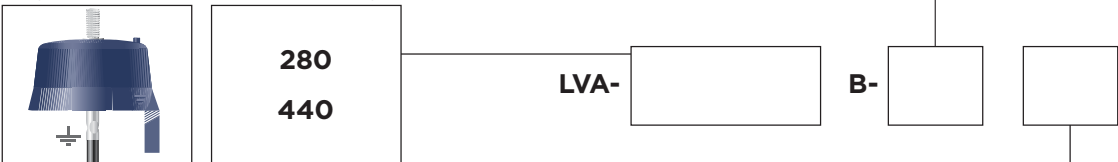


Accessories for LVA arresters

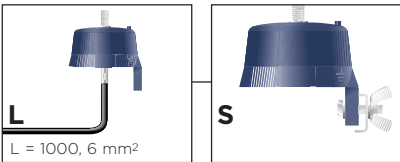
Line connection



Surge arrester continuous/rated voltage (V)



Ground lead



Ordering example: LVA-280B-BL
 Surge arrester for continuous/rated voltage 280V for connection to bare conductor and with insulated stranded earth wire (6 mm²)

Dimensions in mm

Contact us for further information at: TE_ASEAN_Energy@te.com

Technical Data

Residual Voltage (kV)

Type	Continuous Voltage Uc (V)	Lightning Current Impulse 8/20 µs					
		1 kA	2 kA	5 kA	10 kA	20 kA	
LVA-280 B	280	0.73	0.77	0.85	1.0	1.1	no lead (Acc. S)
	280	0.76	0.82	0.96	1.2	1.58	with 15 cm lead
LVA-440 B	440	1.26	1.32	1.44	1.6	1.79	no lead (Acc. S)
	440	1.29	1.38	1.55	1.8	2.21	with 15 cm lead



DAO

Distribution metal oxide surge arrester DAO series, (IEC)

General Description

Development of polymeric composite housed surge arresters in the early 1980's and since then has a proven service experience across the globe, operating in the worlds toughest environments.

The DAO series is qualified to the latest revision of IEC 60099-4, 2009 and all our reports are independently certified.

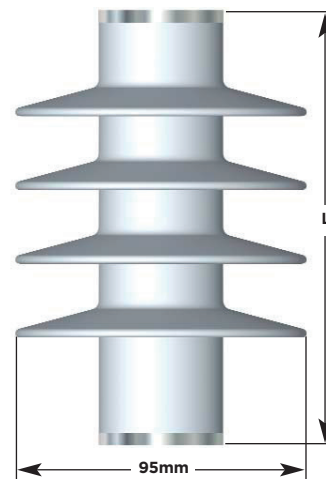
Selection Information: dimensions shown in millimeters

DAO series arrester standard electrical data:

Part Number	Uc kV	Ur kV	Residual Voltage in kV When Tested to the Following Test Waveforms				TOV 100 s kV
			Lightning (8/20 μs)			Steep (1/20 μs)	
			2.5 kA	5 kA	10 kA	5 kA	
DAO-03	2.4	3	8.0	8.6	9.4	9.5	3.24
DAO-06	4.8	6	15.9	17.1	18.7	19.1	6.48
DAO-09	7.2	9	23.9	25.7	28.1	28.6	9.72
DAO-12	9.6	12	31.8	34.2	37.5	38.1	12.96

DAO series arrester standard housing parameters:

Housing Code	Number of Sheds	Creepage mm	Flash over Distance mm	Dry Impulse Withstand Voltage (1.2 / 50) kV	Power Frequency Voltage Withstand (wet) kV	Height mm	Weight (approx.) kg
A	4	320	150	95	38	147	1.0



Summary of DAO series surge arrester technical characteristics

DAO series Ur (kV)	3 - 12
Rated discharge current (8/20 μ s) In (kA)	5
Operating duty impulse withstand current (4/10 μ s) (kA)	65
Long duration current impulse (2000 μ s) (A)	150
10 second TOV, (UTOV)	1.4 * Uc
High current short circuit (kA)	16
Arrester technology	ZnO gapless Mould in place
Mechanical data	
Cantilever (Nm)	150 Nm
Tension (N)	1000 N
Torque (Nm)	30 Nm

DAO series arrester ordering information and accessory selection table:

BOW-DAO-

Y	Y	M	-	1	2	3	4	5	6	-	P
---	---	---	---	---	---	---	---	---	---	---	---

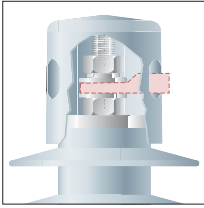
Naming convention cross reference:

DAO = series type: DAO for 5kA arrester.

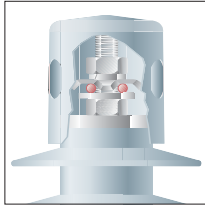
YY = Ur (EPP 1716, page 4)

M = Housing code (EPP 1716, page 4)

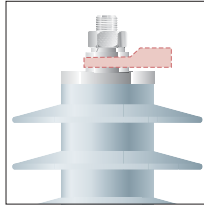
1 Line lead accessories



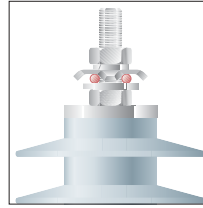
Bxxxxx
Birdcap with
lug connection



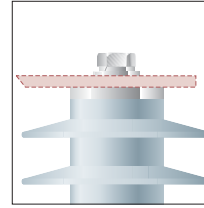
Cxxxxx
Birdcap with
G accessory



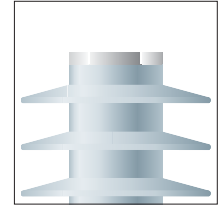
Fxxxxx
25 mm stud
for lug
connection



Gxxxxx
45 mm stud
for line lead
connection



Hxxxxx
25 mm
Cap screw &
spring washer

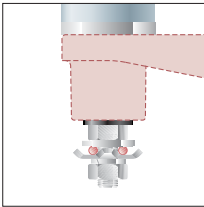


Oxxxxx
No stud. No
accessories

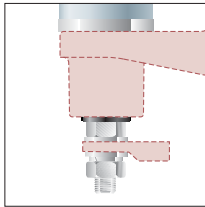
2 Line lead options

x 0 xxxx	No Line Lead Wire
x 1 xxxx	0.5 m 16 mm ² Copper Line Lead & one M10 lug
x 2 xxxx	1m 16 mm ² Copper Line Lead & one M10 lug

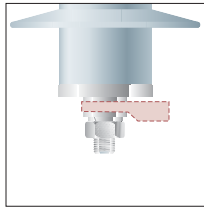
3 Earth lead accessories:



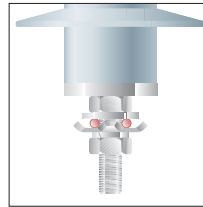
xx**C**xxx
Disconnect +
G accessory



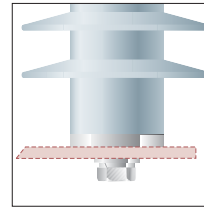
xx**E**xxx
Disconnect +
F accessory



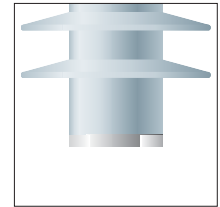
xx**F**xxx
25 mm stud
for lug
connection



xx**E**xxx
45 mm stud
for line lead
connection



xx**H**xxx
25 mm
Cap screw &
spring washer

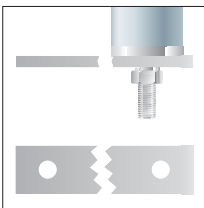


xx**O**xxx
No Stud. No
accessories

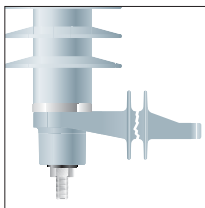
4 Earth lead options

xxx 0 xx	No Earth Lead Wire
xxx 1 xx	0.5 m 16 mm ² copper earth lead & one M10 lug
xxx 2 xx	1 m 16 mm ² copper earth lead & one M10 lug

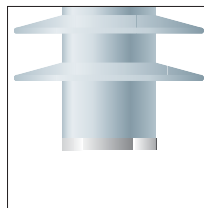
5 Mounting brackets:



xxxx**A**x
Straight 2 hole
mounting bracket



xxxx**B**x
Insulating
bracket

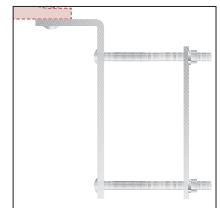


xxxx**N**x
No mounting
accessories

6 Mounting bracket options:



xxxxx**0**
No option



xxxxx**1**
NEMA cross
arm bracket

P Packaging

I	Individual packing
S	3 pack
B	Bulk packing

Ordering Example: BOW-DAO-12A-F0F0N0-S

Additional accessories are available on request from TE_ASEAN_Energy@te.com



DA1

Distribution metal oxide surge arrester DA1 series, (IEC)

General Description

Development of polymeric composite housed surge arresters in the early 1980's and since then has a proven service experience across the globe, operating in the worlds toughest environments.

The DA1 series is qualified to the latest revision of IEC 60099-4, 2006 and all our reports are independently certified.

Selection Information: dimensions shown in millimeters

DA1 series arrester standard electrical data:

Part Number	Uc kV	Ur kV	Residual Voltage in kV When Tested to the Following Test Waveforms						TOV 100s kV
			Lightning (8/20 μs)			Steep (1/20 μs)	Switching (30/60 μs)		
			5 kA	10 kA	20 kA	10 kA	125 A	500 A	
DA1-04	3.2	4	10.0	10.6	11.6	11.1	8.0	8.4	3.9
DA1-06	4.8	6	14.9	15.9	17.4	16.7	12.0	12.7	5.8
DA1-08	6.4	8	19.9	21.2	23.2	22.3	15.9	16.9	7.8
DA1-10	8.0	10	24.9	26.5	29.1	27.9	19.9	21.1	9.8
DA1-12	9.6	12	29.9	31.8	34.9	33.4	23.9	25.3	11.7
DA1-15	12.0	15	37.3	39.8	43.6	41.8	29.9	31.6	14.7
DA1-18	14.4	18	44.8	47.7	52.3	50.2	35.9	38.0	17.6
DA1-21	16.8	21	52.3	55.7	61.0	58.5	41.9	44.3	20.5
DA1-22	17.6	22	54.8	58.3	63.9	61.3	43.9	46.4	21.6
DA1-24	19.2	24	59.7	63.6	69.7	66.9	47.8	50.6	23.5
DA1-27	21.6	27	67.2	71.6	78.4	75.2	53.8	56.9	26.4
DA1-30	24.0	30	74.7	79.5	87.2	83.6	59.8	63.3	29.4
DA1-33	26.4	33	82.1	87.5	95.9	92.0	65.8	69.6	32.3
DA1-36	28.8	36	89.6	95.4	104.6	100.3	71.8	75.9	35.2
DA1-39	31.2	39	97.1	103.4	113.3	108.7	77.7	82.2	38.2
DA1-42	33.6	42	104.5	111.3	122.0	117.0	83.7	88.6	41.1
DA1-45	36	45	112.0	119.3	130.7	125.4	89.7	94.9	44.1

DA1 series arrester standard electrical data:

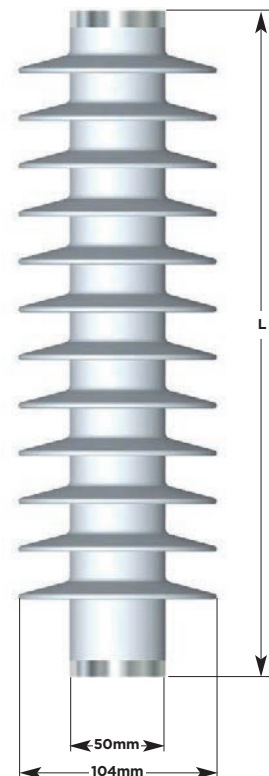
Housing Code	Number of Sheds	Creepage mm	Flash over Distance mm	Dry Impulse Withstand Voltage (1.2 / 50) kV	Power Frequency Voltage Withstand (wet) kV	Height mm	Weight (approx.) kg
A	4	329	152	134	50	147	1.2
B	5	404	177	160	56	172	1.4
C	7	553	227	194	66	222	1.8
D	8	627	252	205	75	247	2.0
E	9	702	277	229	92	272	2.2
F	10	776	302	247	102	297	2.6
G	12	925	352	273	122	347	2.9
H	14	1074	402	295	135	397	3.4

Housing and Ur compatibility:

Ur	Housing Code: A	B	C	D	E	F	G	H
Creepage:	329	404	553	627	702	776	925	1074
4	☑	☑						
6	☑	☑						
8	☑	☑	☑					
10	☑	☑	☑					
12	☑	☑	☑	☑				
15		☑	☑	☑	☑			
18		☑	☑	☑	☑	☑		
21			☑	☑	☑	☑	☑	
22			☑	☑	☑	☑	☑	
24			☑	☑	☑	☑	☑	
27				☑	☑	☑	☑	☑
30				☑	☑	☑	☑	☑
33					☑	☑	☑	☑
36					☑	☑	☑	☑
39						☑	☑	☑
42							☑	☑
45							☑	☑

☑ standard housing

☐ optional housing



DA1 series arrester ordering information and accessory selection table:

BOW-DA1-

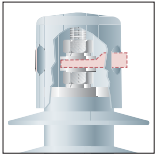
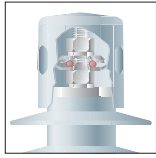
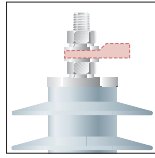
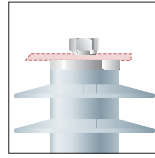
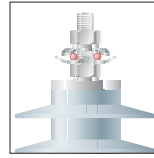
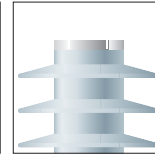
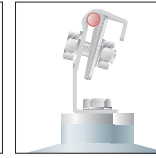
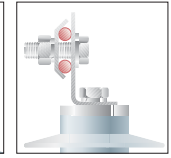
Y	Y	M	-	1	2	3	4	5	6	-	P
---	---	---	---	---	---	---	---	---	---	---	---

Naming convention cross reference:

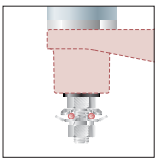
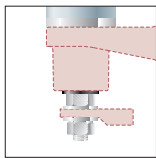
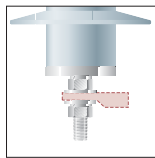
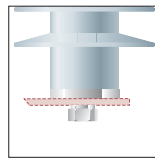
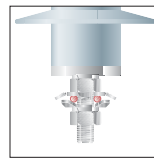
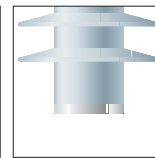
DA1 = series type: DA1 for 10kA, class I arrester.

YY = Ur (EPP 1496, page 5)

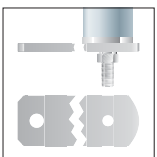
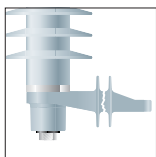
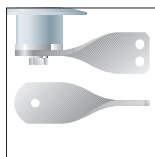
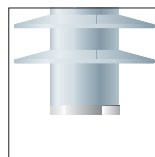
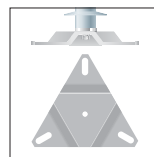
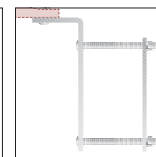
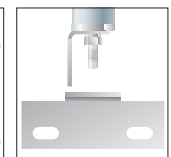
M = housing code (EPP 1496, page 5)

1 Line lead accessories**B** xxxxx
Birdcap with
F accessory**E** xxxxx
Birdcap with
M accessory**F** xxxxx
45 mm stud
for lug
connection**H** xxxxx
Cap screw &
spring
washer**M** xxxxx
45 mm stud
for line lead
connection**O** xxxxx
No stud. No
accessories**P** xxxxx
S-clamp**Q** xxxxx
L-clamp**2 Line lead options**

x O xxxx	No line lead wire
x 1 xxxx	0.5 m 16 mm ² copper line lead & one M12 lug
x 2 xxxx	1 m 16 mm ² copper line lead & one M12 lug
x 3 xxxx	1 m 16 mm ² copper line lead & no lug
x 4 xxxx	0.5 m 35 mm ² copper line lead & one M12 lug
x 5 xxxx	1 m 35 mm ² copper line lead & one M12 lug
x 6 xxxx	1 m 35 mm ² copper line lead & no lug

3 Earth lead accessories:xx **D** xxx
Disconnect +
M accessoryxx **E** xxx
Disconnect +
F accessoryxx **F** xxx
45 mm stud
for lug
connectionxx **H** xxx
M12*25 Cap
screw &
spring
washerxx **M** xxx
45 mm stud
for line lead
connectionxx **O** xxx
No stud. No
accessories**4 Earth lead options**

xxx O xx	No earth lead wire
xxx 1 xx	0.5 m 16 mm ² copper earth lead & one M12 lug
xxx 2 xx	1 m 16 mm ² copper earth lead & one M12 lug
xxx 3 xx	1 m 16 mm ² copper earth lead & no lug
xxx 4 xx	0.5 m 35 mm ² copper earth lead & one M12 lug
xxx 5 xx	1 m 35 mm ² copper earth lead & one M12 lug
xxx 6 xx	1 m 35 mm ² copper earth lead & no lug

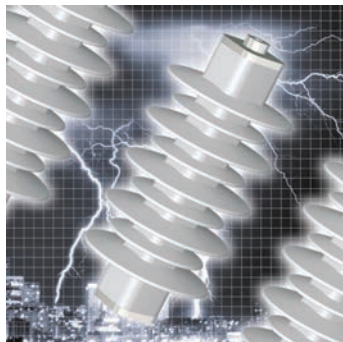
5 Mounting brackets:xxxx **A** x
Straight 2
hole
Mounting
Bracketxxxx **B** x
Insulating
bracketxxxx **C** x
DIN metal
bracket,
(galvanised)xxxx **N** x
No mounting
accessoriesxxxx **P** x
Pedestal
mounting
basexxxxx **O**
No optionxxxxx **1**
NEMA cross
arm bracketxxxxx **6**
T - mounting
bracket**P Packaging**

I	Individual packing
S	3 pack
B	Bulk packing

6 Mounting bracket options:

Ordering example: BOW-DA1-12A-FOE0B0-I

Additional accessories are available on request from TE_ASEAN_Energy@te.com



OCP

Open cage polymeric series

General Description

OCP silicone surge arresters have been designed and tested to meet our customers toughest environmental conditions and to meet the requirements of IEC60099-4. Our gapless zinc oxide polymeric arresters have been in service since 1994 and now the OCP ranges builds on this experience and know how.

OCP cores are manufactured using superior ZnO varistors, which display excellent thermal and current handling characteristics due to the guaranteed homogeneity of the varistor volume.

Selection Information: dimensions shown in millimeters

OCP0	U Continuous kV(r.m.s)	U Rated kV(r.m.s)	U Residual in kV When Tested to the Following Impulse Waveforms			
			Lightning (8/20 μ s)		Steep Lightning (1/20 μ s)	
			2.5 kA	5 kA	10 kA	5 kA
3	3	3.7	9.12	9.78	10.68	10.18
4	4	5.0	12.16	13.04	14.24	13.57
5	5	6.2	15.20	16.30	17.80	16.96
6	6	7.5	18.24	19.56	21.36	20.35
8	8	10.0	24.32	26.08	28.48	27.14
9	9	11.2	27.36	29.34	32.04	30.53
10	10	12.5	30.40	32.60	35.60	33.92
12	12	15.0	36.48	39.12	42.72	40.70
15	15	18.7	45.60	48.90	53.40	50.88
18	18	22.5	54.72	58.68	64.08	61.06
20	20	25.0	60.80	65.20	71.20	67.84
21	21	26.2	63.84	68.46	74.76	71.23
22	22	27.5	66.88	71.72	78.32	74.62
24	24	30.0	72.96	78.24	85.44	81.41
29	29	36.3	88.16	94.54	103.24	98.37

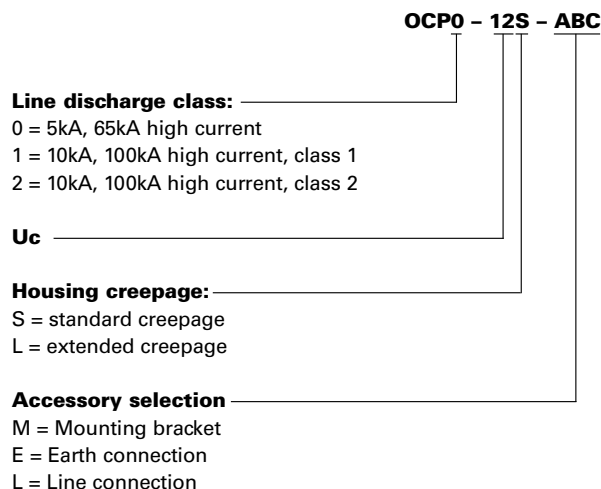
OCP1	U Continuous kV(r.m.s)	U Rated kV(r.m.s)	U Residual in kV When Tested to the Following Impulse Waveforms				
			Lightning (8/20 μ s)			Steep Lightning (1/20 μ s)	Switching (30/60 μ s)
			5 kA	10 kA	20 kA	10 kA	125 A 500 A
3	3	3.7	9.77	10.37	11.48	11.28	7.81 8.08
4	4	5.0	13.03	13.83	15.31	15.04	10.42 10.77
5	5	6.2	16.29	17.29	19.14	18.80	13.02 13.46
6	6	7.5	19.55	20.75	22.97	22.56	15.62 16.15
8	8	10.0	26.06	27.66	30.62	30.08	20.83 21.54
9	9	11.2	29.32	31.12	34.45	33.84	23.44 24.23
10	10	12.5	32.58	34.58	38.28	37.60	26.04 26.92
12	12	15.0	39.10	41.50	45.94	45.12	31.25 32.30
15	15	18.7	48.87	51.87	57.42	56.40	39.06 40.38
18	18	22.5	58.64	62.24	68.90	67.68	46.87 48.46
20	20	25.0	65.16	69.16	76.56	75.20	52.08 53.84
21	21	26.2	68.42	72.62	80.39	78.96	54.68 56.53
22	22	27.5	71.68	76.08	84.22	82.72	57.29 59.22
24	24	30.0	78.19	82.99	91.87	90.24	62.50 64.61
29	29	36.3	94.48	100.28	111.00	109.04	75.52 78.07

OCP2	U Continuous kV(r.m.s)	U Rated kV(r.m.s)	U Residual in kV When Tested to the Following Impulse Waveforms				
			Lightning (8/20 μ s)			Steep Lightning (1/20 μ s)	Switching (30/60 μ s)
			5 kA	10 kA	20 kA	10 kA	125 A 500 A
3	3	3.7	9.18	9.72	10.84	10.10	7.37 7.76
4	4	5.0	12.24	12.96	14.46	13.47	9.83 10.35
5	5	6.2	15.30	16.20	18.07	16.84	12.29 12.94
6	6	7.5	18.36	19.44	21.68	20.21	14.75 15.53
8	8	10.0	24.48	25.92	28.91	26.94	19.66 20.70
9	9	11.2	27.54	29.16	32.53	30.31	22.12 23.29
10	10	12.5	30.60	32.40	36.14	33.68	24.58 25.88
12	12	15.0	36.72	38.88	43.37	40.42	29.50 31.06
15	15	18.7	45.90	48.60	54.21	50.52	36.87 38.82
18	18	22.5	55.08	58.32	65.05	60.62	44.24 46.58
20	20	25.0	61.20	64.80	72.28	67.36	49.16 51.76
21	21	26.2	64.26	68.04	75.89	70.73	51.62 54.35
22	22	27.5	67.32	71.28	79.51	74.10	54.08 56.94
24	24	30.0	73.44	77.76	86.74	80.83	58.99 62.11
29	29	36.3	88.74	93.96	104.81	97.67	71.28 75.05

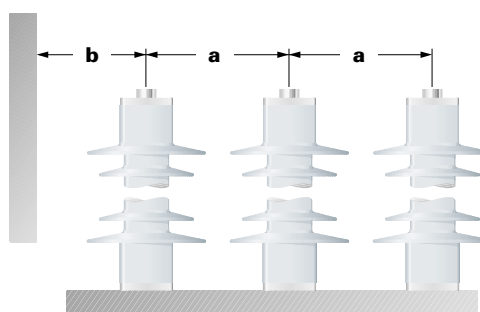
	OCP0	OCP1	OCP2
Uc	3-29 kV	3-29 kV	3-29 kV
I _N	5 kA	10k A	10k A
High current impulse	65 kA	100 kA	100 kA
Long duration energy (2 shots / kJ/kV Uc)	1.2 kJ/kV Uc	4.1 kJ/kV Uc	6.0 kJ/kV Uc
Long duration waveform	200 A / 1 ms	350 A / 2 ms	530 A / 2 ms
10 second TOV(U _{TOV} / Uc)	1.44	1.43	1.35
High current short circuit	20 kA	25 kA	40 kA
Core technology	OCP	OCP	OCP

OCP series naming and order query description:

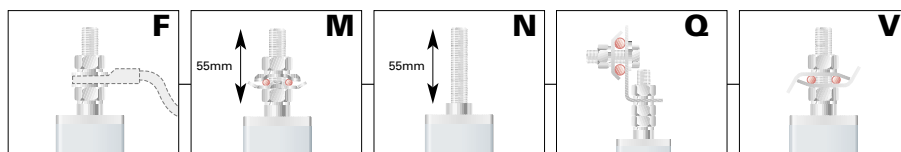
Example: OCP = "Open Cage Polymeric"



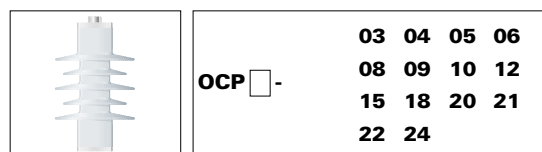
System Voltage Um	ph/ph (a)	ph/ground (b)
12	185	165
24	315	295
36	445	425



Line lead accessories

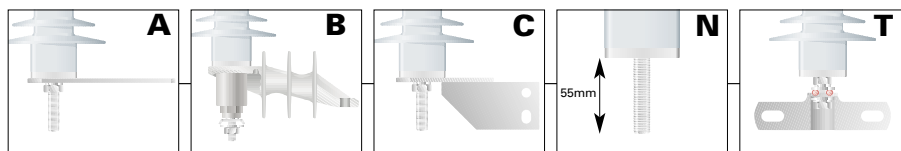


Arrester Type = Continuous Operating Voltage U_c in kV

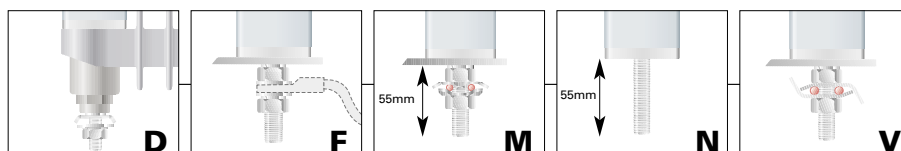


OCP - 12 -

Mounting accessories



Ground lead accessories



Additional accessory options available on request. Please contact: TE_ASEAN_Energy@te.com with your specific requirement.



DAH

Distribution metal oxide surge arrester

DAH series (IEEE) heavy duty

General Description

Development of polymeric composite housed surge arresters in the early 1980's and since then has proven service experience across the globe, operating in the world's toughest environments. DA Series surge arresters provide active over voltage protection that contributes directly to improved reliability of your system, reducing lost minutes and protecting expensive assets.

The DAH series is qualified to the latest revision of IEEE C62.11, (2005) and all reports are independently certified.

Selection Information: dimensions shown in millimeters

DAH series arrester standard electrical data:

Part Number	Ur kV	MCOV kV	Front of Wave	Residual Voltage in kV When Tested to the Following Test Waveforms Lightning (8/20 µs)						Switching
				1.5 kA	3 kA	5 kA	10 kA	20 kA	40 kA	500 A
DAH-04	3.5	2.95	11.1	8.9	9.4	9.8	10.5	11.6	12.6	8.3
DAH-06	6.0	5.10	19.1	15.3	16.1	16.9	18.0	19.9	21.6	14.2
DAH-09	9.0	7.65	28.6	22.9	24.2	25.3	27.0	29.9	32.4	21.3
DAH-10	10.0	8.40	31.8	25.5	26.8	28.1	30.0	33.2	36.0	23.6
DAH-12	12.0	10.2	38.1	30.5	32.2	33.7	36.0	39.8	43.2	28.4
DAH-15	15.0	12.7	47.7	38.2	40.3	42.1	45.1	49.8	54.0	35.5
DAH-18	18.0	15.3	57.2	45.8	48.3	50.6	54.1	59.7	64.8	42.5
DAH-21	21.0	17.0	66.7	53.5	56.4	59.0	63.1	69.7	75.6	49.6
DAH-24	24.0	19.5	76.3	61.1	64.4	67.4	72.1	79.6	86.4	56.7
DAH-27	27.0	22.0	85.8	68.7	72.5	75.8	81.1	89.6	97.2	63.8
DAH-30	30.0	24.2	95.3	76.4	80.5	84.3	90.1	99.5	108.0	70.9
DAH-36	36.0	29.0	114.4	91.6	96.6	101.1	108.1	119.4	129.6	85.1

DAH series arrester standard housing parameters:

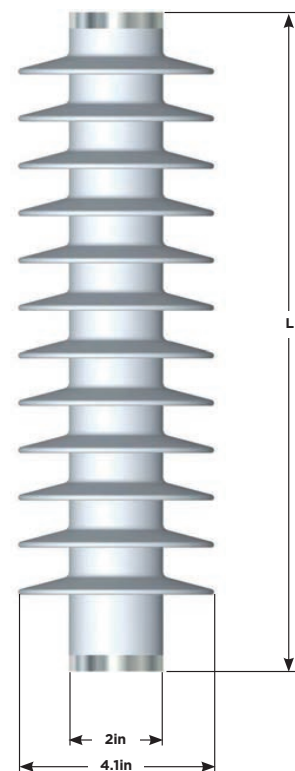
Housing Code	Leakage	Flash over Distance	Dry Lightning (1.2 / 50)	10s Wet Withstand	Height	Weight
	Inches	Inches	kV	kV	Inches	lb
A	12.95	5.98	150	45	5.79	2.64
B	15.9	6.97	170	55	6.77	2.97
C	21.77	8.94	199	74	8.74	3.96
E	27.64	10.9	219	86	10.7	4.84
F	30.55	11.89	253	95	11.72	5.72
G	36.42	13.86	254	115	13.7	6.45

Housing and Ur compatibility:

Ur	Housing Code: Leakage:	A 12.95	B 15.9	C 21.77	E 27.64	F 30.55	G 36.42
3.5		☒	☒				
6		☒	☒				
9		☒	☒				
10		☒	☒	☒			
12		☒	☒	☒			
15			☒	☒	☒		
18				☒	☒	☒	
21				☒	☒	☒	
24					☒	☒	
27						☒	☒
30						☒	☒
36						☒	☒

☒ standard housing

☒ optional housing



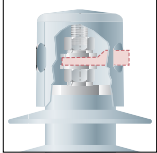
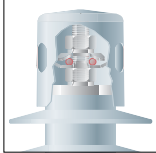
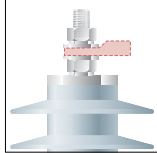
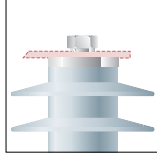
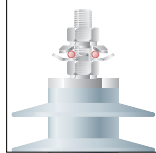
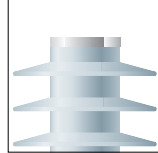
DAH Series Arrester Ordering Information:

Z	Z	Z	-	Y	Y	M	-	1	2	3	4	5	6	-	P
---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

Naming convention cross reference:

ZZZ = series type: DAH for 10kA, heavy duty arrester
 YY = Ur
 M = Housing code (see page 5)

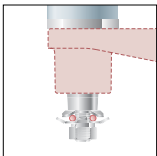
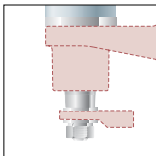
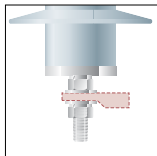
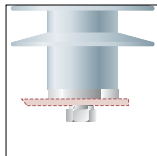
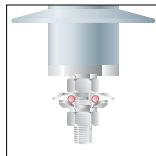
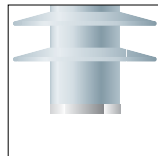
1 Line lead accessories

					
Bxxxx Birdcap with F accessory	Exxxx Birdcap with M accessory	Fxxxx 1.7" stud for lug connection	Hxxxx Cap screw & spring washer	Mxxxx 1.7" stud for line lead connection	Oxxxx No stud. No accessories

2 Line lead options

x0xxxx	No line lead wire
x1xxxx	18" No. 6 AWG copper line lead with one 3/8" lug
x2xxxx	36" No. 6 AWG copper line lead with one 3/8" lug
x3xxxx	36" No. 6 AWG copper line lead with no lug
x4xxxx	18" No. 4 AWG copper line lead with one 3/8" lug
x5xxxx	36" No. 4 AWG copper line lead with one 3/8" lug
x6xxxx	36" No. 4 AWG copper line lead with no lug
x8xxxx	36" No. 6 AWG copper line lead with two 3/8" lugs

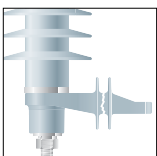
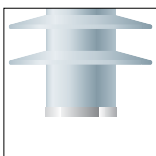
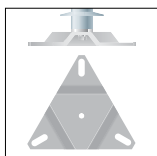
3 Ground lead accessories:

					
xxDxxx Disconnect + M accessory	xxExxx Disconnect + F accessory	xxFxxx 1.7" stud for lug connection	xxHxxx 3/8"*1" Cap screw & spring washer	xxMxxx 1.7" stud for line lead connection	xxOxxx No stud. No accessories


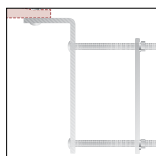
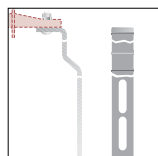
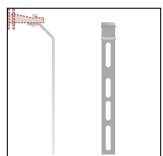
4 Ground lead options

xxx0xx	No ground lead Wire
xxx1xx	18" No. 6 AWG copper ground lead with one 3/8" lug
xxx2xx	36" No. 6 AWG copper ground lead with one 3/8" lug
xxx3xx	36" No. 6 AWG copper ground lead with no lug
xxx4xx	18" No. 4 AWG copper ground lead with one 3/8" lug
xxx5xx	36" No. 4 AWG copper ground lead with one 3/8" lug
xxx6xx	36" No. 4 AWG copper ground lead with no lug
xxx8xx	36" No. 6 AWG copper ground lead with two 3/8" lugs
xxx9xx	12" No. 6 AWG copper ground strap

5 Mounting brackets:

		
xxxxBx Insulating bracket	xxxxNx No mounting accessories	xxxxPx Ped- estal mount- ing base

6 Mounting bracket options:

			xxxxx2 8.7"	
xxxxx0 No option	xxxxx1 NEMA cross arm bracket	Transformer mounting bracket	xxxxx3 11"	xxxxx5 Transformer mounting bracket 14.5"
			xxxxx4 12.25"	

Packaging

I	Individual packing
S	3 pack
B	Bulk packing

Additional accessories are available upon request



DAR

Distribution metal oxide surge arrester

DAR series (IEEE) riser pole

General Description

Development of polymeric composite housed surge arresters in the early 1980's and since then has proven service experience across the globe, operating in the world's toughest environments. DA Series surge arresters provide active over voltage protection that contributes directly to improved reliability of your system, reducing lost minutes and protecting expensive assets.

The DAR series is qualified to the latest revision of IEEE C62.11, (2005) and all reports are independently certified.

Selection Information: dimensions shown in millimeters

DAR series arrester standard electrical data:

Part Number	Ur kV	MCOV kV	Front of Wave	Residual Voltage in kV When Tested to the Following Test Waveforms Lightning (8/20µs)						Switching
				1.5 kA	3 kA	5 kA	10 kA	20 kA	40 kA	
DAR-04	3.5	2.95	10.3	8.3	8.7	9.1	9.8	10.8	11.7	7.7
DAR-06	6	5.1	17.7	14.2	15.0	15.7	16.8	18.5	20.1	13.2
DAR-09	9	7.65	26.6	21.3	22.5	23.5	25.1	27.8	30.2	19.8
DAR-10	10	8.4	29.6	23.7	25.0	26.1	27.9	30.8	33.5	22.0
DAR-12	12	10.2	35.5	28.4	29.9	31.3	33.5	37.0	40.2	26.4
DAR-15	15	12.7	44.3	35.5	37.4	39.2	41.9	46.3	50.3	33.0
DAR-18	18	15.3	53.2	42.6	44.9	47.0	50.3	55.5	60.3	39.6
DAR-21	21	17.0	62.1	49.7	52.4	54.9	58.7	64.8	70.4	46.2
DAR-24	24	19.5	70.9	56.8	59.9	62.7	67.0	74.0	80.4	52.8
DAR-27	27	22.0	79.8	63.9	67.4	70.5	75.4	83.3	90.5	59.4
DAR-30	30	24.4	88.7	71.0	74.9	78.4	83.8	92.5	100.5	66.0
DAR-36	36	29.0	106.4	85.2	89.8	94.0	100.6	111.1	120.6	79.1

DAR series arrester standard housing parameters:

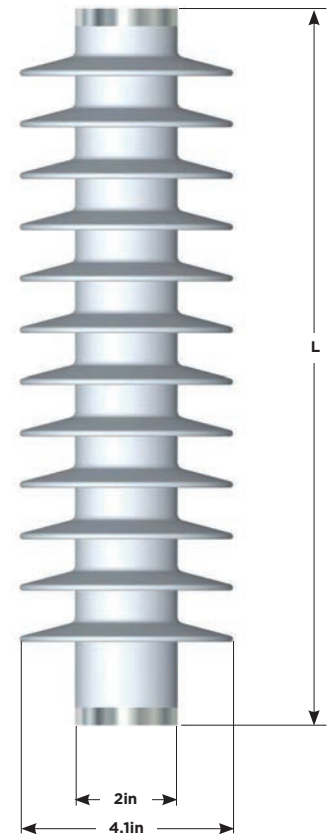
Housing Code	Leakage	Flash over Distance	Dry Lightning (1.2 / 50)	10s Wet Withstand	Height	Weight
	inches	inches	kV	kV	inches	lb
A	12.95	5.98	150	45	5.79	2.64
B	15.9	6.97	170	55	6.77	2.97
C	21.77	8.94	199	74	8.74	3.96
E	27.64	10.9	219	86	10.7	4.84
F	30.55	11.89	253	95	11.72	5.72
G	36.42	13.86	254	115	13.7	6.45

Housing and Ur compatibility:

Ur	Housing Code: Leakage:	A 12.95	B 15.9	C 21.77	E 27.64	F 30.55	G 36.42
3.5		☒	☒				
6		☒	☒				
9		☒	☒				
10		☒	☒	☒			
12		☒	☒	☒			
15			☒	☒	☒		
18				☒	☒	☒	
21				☒	☒	☒	
24					☒	☒	
27						☒	☒
30						☒	☒
36						☒	☒

☒ standard housing

☒ optional housing



Raychem
from TE Connectivity

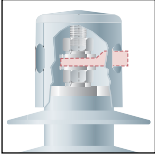
DAR Series Arrester Ordering Information:

Z	Z	Z	-	Y	Y	M	-	1	2	3	4	5	6	-	P
---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

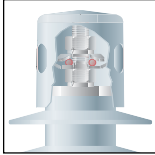
Naming convention cross reference:

ZZZ = series type: DAR for 10 kA, riser pole arrester
 YY = Ur
 M = Housing code (see page 5)

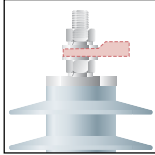
1 Line lead accessories



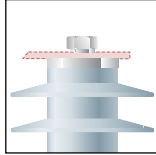
Bxxxx
Birdcap with
F accessory



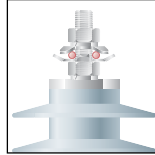
Exxxx
Birdcap with
M accessory



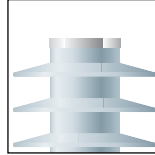
Fxxxx
1.7" stud
for lug
connection



Hxxxx
Cap screw &
spring washer



Mxxxx
1.7" stud
for line lead
connection

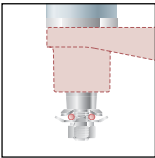


Oxxxx
No stud. No
accessories

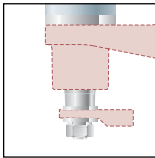
2 Line lead options

x0xxxx	No line lead wire
x1xxxx	18" No. 6 AWG copper line lead with one 3/8" lug
x2xxxx	36" No. 6 AWG copper line lead with one 3/8" lug
x3xxxx	36" No. 6 AWG copper line lead with no lug
x4xxxx	18" No. 4 AWG copper line lead with one 3/8" lug
x5xxxx	36" No. 4 AWG copper line lead with one 3/8" lug
x6xxxx	36" No. 4 AWG copper line lead with no lug
x8xxxx	36" No. 6 AWG copper line lead with two 3/8" lugs

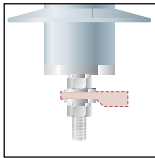
3 Ground lead accessories:



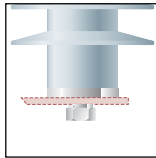
xxDxxx
Disconnect +
M accessory



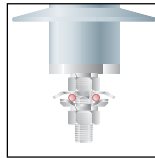
xxExxx
Disconnect +
F accessory



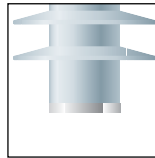
xxFxxx
1.7" stud
for lug
connection



xxHxxx
3/8"*1"
Cap screw &
spring washer



xxMxxx
1.7" stud
for line lead
connection

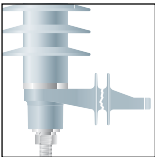


xxOxxx
No stud. No
accessories

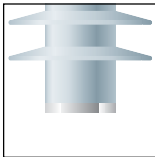
4 Ground lead options

xxx0xx	No ground lead Wire
xxx1xx	18" No. 6 AWG copper ground lead with one 3/8" lug
xxx2xx	36" No. 6 AWG copper ground lead with one 3/8" lug
xxx3xx	36" No. 6 AWG copper ground lead with no lug
xxx4xx	18" No. 4 AWG copper ground lead with one 3/8" lug
xxx5xx	36" No. 4 AWG copper ground lead with one 3/8" lug
xxx6xx	36" No. 4 AWG copper ground lead with no lug
xxx8xx	36" No. 6 AWG copper ground lead with two 3/8" lugs
xxx9xx	12" No. 6 AWG copper ground strap

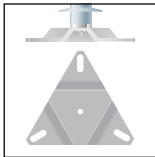
5 Mounting brackets:



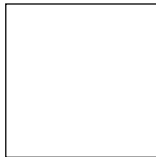
xxxxBx
Insulating
bracket



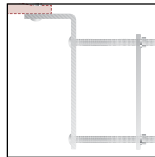
xxxxNx
No mounting
accessories



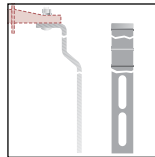
xxxxPx
Pedestal
mounting
base



xxxxx0
No option



xxxxx1
NEMA cross
arm bracket

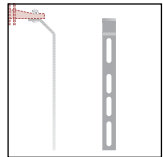


Transformer
mounting
bracket

xxxxx2
8.7"

xxxxx3
11"

xxxxx4
12.25"



xxxxx5
Transformer
mounting
bracket
14.5"

Packaging

I	Individual packing
S	3 pack
B	Bulk packing

Additional accessories are available upon request



CLX

MV surge arresters CLX for covered conductors

General Description

CLX covered conductors prevents melting and falling down to earth when lightning strikes generate overvoltages in overhead lines. CLX guides the lightning discharge current ground, prevents the insulator from flashing over and stops the high energy of the power frequency follow-on current.

The CLX device is installed next to the line / post insulators and can be adapted to the system. The series gap will be realized by different brackets, electrodes and connectors.

Selection Information: dimensions shown in millimeters

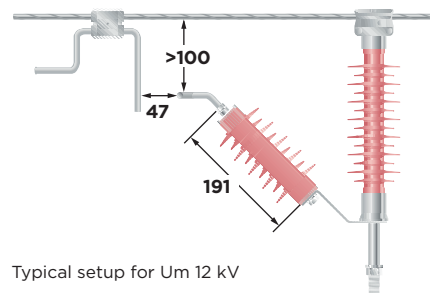
Protective Characteristics

CLX	Um kV	Ures in kV When Tested to Impulse Waveforms				Lightning Impulse Sparkover Voltage	
		Lightning (8/20 μ s)				Standard (1/20 μ s)	Steep (1000 kV/ μ s)
		2.5 kA	5 kA	10 kA	20 kA		
CLX-12NA	12.0	30.0	32.0	35.0	40.0	80.0	140.0
CLX-15NA	15.0	31.0	33.0	36.0	41.0	100.0	175.0
CLX-24NA	24.0	48.0	51.0	57.0	63.0	140.0	250.0
CLX-36NA	36.0	77.0	83.0	91.0	103.0	190.0	400.0
CLX-42NA	42.0	86.0	91.0	136.0	153.0	230.0	450.0

Um: Max. System Voltage; Ures: Residual Voltage / Sparkover Voltage

Metal Oxide Resistive Elements Housing Parameter

CLX	Power Voltage Withstand, Wet (kV)	Flash over Distance (mm)	Creepage Length (mm)	Height L (mm)	Weight (kg)
CLX-12NA	31	182	375	191	1.20
CLX-15NA	31	182	375	191	1.20
CLX-24NA	50	283	715	286	1.90
CLX-36NA	50	283	715	286	1.90
CLX-42NA	81	465	1090	477	3.10



Typical setup for Um 12 kV

Generic technical data:

CLX-xx series	12-42 kV Uc
Rated discharge current (8/20 μ s):	5 kA
Operating duty impulse withstand current (4/10 μ s):	65 kA
High current short circuit: (pre-failing method) (Safe non-shattering failure mode)	16 kA
Energy	line discharge impulse high current impulse
	1.5 kJ/kV Uc 3.6 kJ/kV Uc
Service conditions	Ambient temperature:
	- 60°C to + 60°C



HE60MD Surge arresters for D.C. railway applications General Description

The HE60 surge arrester is used for the protection of DC rail networks against switching and atmospheric overvoltages.

The surge arrester which has a polymeric housing and a void free construction can be used in various types of rail applications.

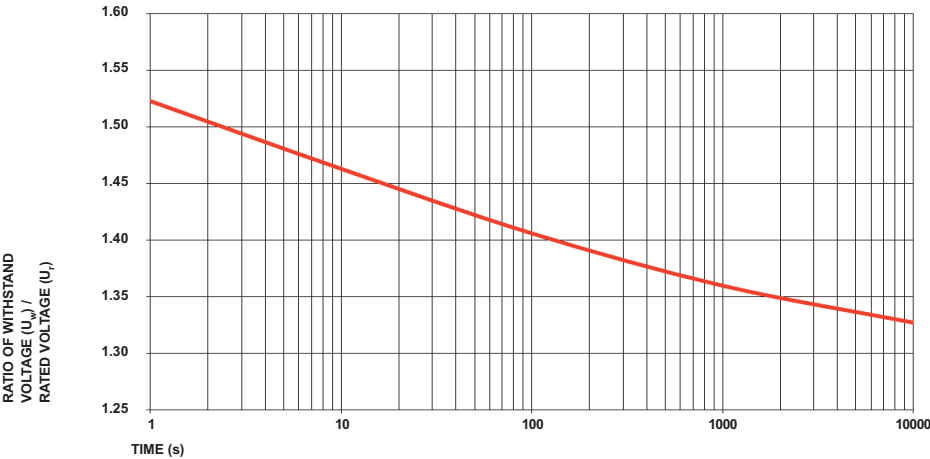
Selection Information: dimensions shown in millimeters

Protective Characteristics

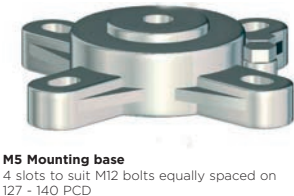
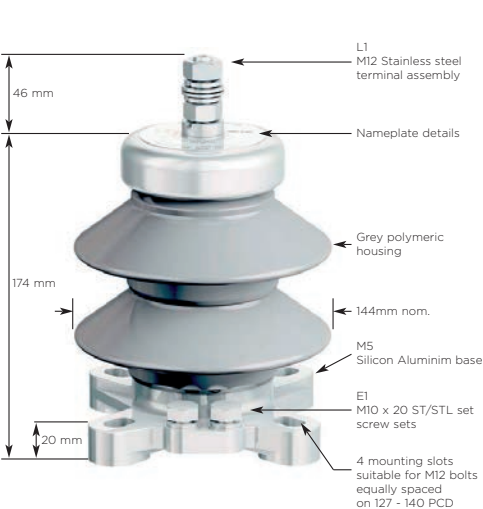
Product Code	Rated Voltage Ur kV	Continuous Operating Voltage Uc. kV	Temporary over voltage Capability for 1 sec Tc kV	Max. Ures Tested with Current Wave							Steep Current (1/20 μs) 20 kA kV
				Switching Surge (30/60 μs)		Lightning Current (8/20 μs)					
				125 A kV	250 A kV	0.5 kA kV	1 kA kV	5 kA kV	10 kA kV	20 kA kV	
HE60MD10	1.3	1.0	2.0	3.8	4.3	4.1	4.3	5.3	6.1	6.8	8.3
HE60MD20	2.6	2.0	4.0	5.7	6.4	6.2	6.5	8.0	9.2	10.2	12.4
HE60MD30	3.9	3.0	5.9	7.5	8.6	8.3	8.6	10.6	12.2	13.6	16.5
HE60MD40	5.2	4.0	7.9	9.4	10.7	10.3	10.8	13.3	15.3	17.0	20.6

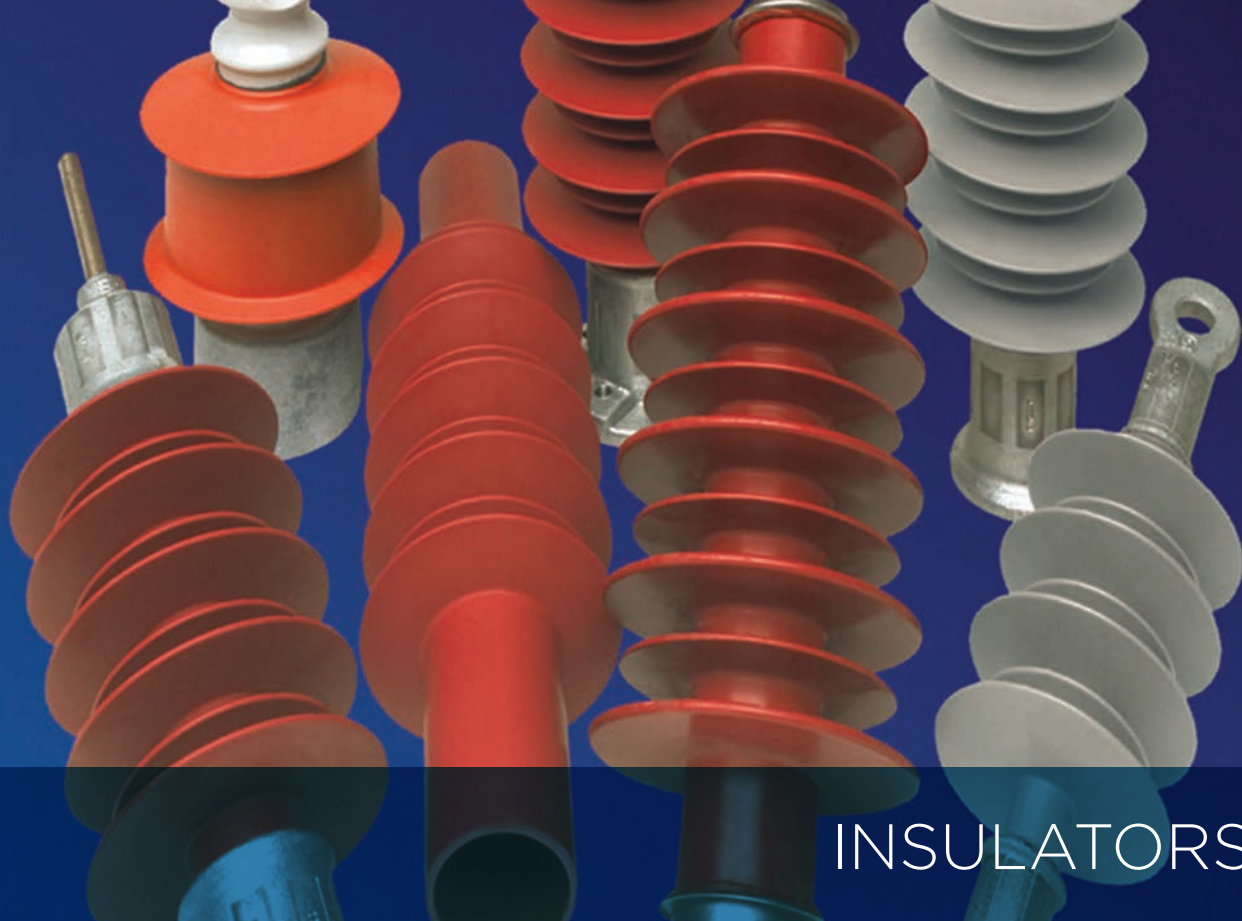
Technical Information :

Power frequency voltage versus time with prior energy



Polymeric DC Traction Surge Arrester

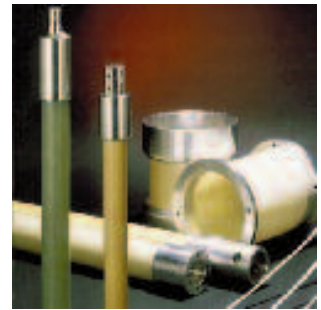
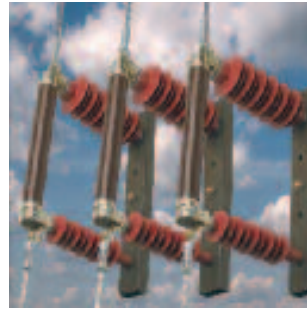




INSULATORS

Line post insulators RLP (F-Neck)	119
Line post insulators RLP (horizontal clamp)	120
Line post insulators (vertical clamp)	121
EPBI Standoff insulators	122
Polymeric station post insulator RAP	123
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Insulators



Our wide range of insulators has earned a worldwide reputation for innovation, quality, service and technical expertise for an array of applications in power networks.

- Porcelain Insulators
- Polymeric Insulators
- Hybrid Insulators



Line post insulators RLP (F-Neck)

General Description

The Raychem polymeric line post insulator RLP combines mechanical strength with excellent pollution performance.

It consists of a protruded fibre glass 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.

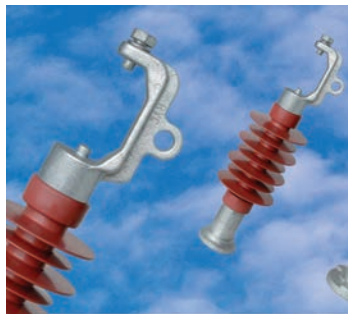
Selection Information: dimensions shown in millimeters

Description	Std Pkg	Pkg Weight	Pkg Volume
RLP-19R-FG-M24NPG-M	45 pcs	177 Kg	0.504 m ³
RLP-30R-FG-M24NPG-M	45 pcs	190 Kg	0.504 m ³
RLP-31R-FG-M24NPG-M	45 pcs	249 Kg	0.504 m ³
RLP-36R-FG-M24NPG-M	45 pcs	258 Kg	0.504 m ³
RLP-43R-FG-M24NPG-M	45 pcs	267 Kg	0.504 m ³

Technical Specification	RLP-19R-FG	RLP-30R-FG	RLP-31R-FG	RLP-36R-FG	RLP-43R-FG
Creepage Distance (mm)	424	697	770	922	1074
Dry Arc Distance (mm)	169	235	260	300	340
No of Sheds	4	7	9	11	13
A (mm)	285	351	375	415	455
B (mm)	100	100	92	92	92
C (mm)	120	120	122	122	122
SCL (kN)	12.5	11.5	12.5	12.5	12.5
MDCL (kN)	5.5	5.5	5.5	5.5	5.5
STL (kN)	25	25	25	25	25
RTL (kN)	12.5	12.5	12.5	12.5	12.5
AC dry flashover voltage (kV)	104	137	150	163	176
AC dry withstand voltage (kV)	95	124	136	146	159
AC wet flashover voltage (kV)	72	91	101	120	129
AC wet withstand voltage (kV)	61	76	81	103	112
Impulse withstand voltage (kV)	137	183	194	219	244

Note: Full qualification according to IEC 61952, and additional environmental testing available on request.

Product	Test Report
RLP-19R-FG-3/4NPG-M	IPMR_077
RLP-30R-FG-3/4NPG-M	IPMR_078
RLP-31R-FG-3/4NPG-M	IPMR_079
RLP-36R-FG-3/4NPG-M	IPMR_080
RLP-43R-FG-3/4NPG-M	IPMR_081



Line post insulators RLP (horizontal clamp)

General Description

The Raychem polymeric line post insulator RLP combines mechanical strength with excellent pollution performance.

It consists of a protruded fibre glass 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.

Selection Information: dimensions shown in millimeters

Description	Std Pkg	Pkg Weight	Pkg Volume
RLP-19R-HG-M24NPG-M	45 pcs	177 Kg	0.504 m ³
RLP-30R-HG-M24NPG-M	45 pcs	190 Kg	0.504 m ³
RLP-31R-HG-M24NPG-M	45 pcs	249 Kg	0.504 m ³
RLP-36R-HG-M24NPG-M	45 pcs	258 Kg	0.504 m ³
RLP-43R-HG-M24NPG-M	45 pcs	267 Kg	0.504 m ³

Technical Specification	RLP-19R-HG	RLP-30R-HG	RLP-31R-HG	RLP-36R-HG	RLP-43R-HG
Creepage Distance (mm)	424	697	770	922	1074
Dry Arc Distance (mm)	169	235	260	300	340
No of Sheds	4	7	9	11	13
A (mm)	320	386	410	450	490
B (mm)	100	100	92	92	92
C (mm)	120	120	122	122	122
SCL (kN)	12.5	11.5	12.5	12.5	12.5
MDCL (kN)	5.5	5.5	5.5	5.5	5.5
STL (kN)	25	25	25	25	25
RTL (kN)	12.5	12.5	12.5	12.5	12.5
AC dry flashover voltage (kV)	104	137	150	163	176
AC dry withstand voltage (kV)	95	124	136	146	159
AC wet flashover voltage (kV)	72	91	101	120	129
AC wet withstand voltage (kV)	61	76	81	103	112
Impulse withstand voltage (kV)	137	183	194	219	244

Note: Full qualification according to IEC 61952, and additional environmental testing available on request.

Product	Test Report
RLP-19R-HG-3/4NPG-M	IPMR_077
RLP-30R-HG-3/4NPG-M	IPMR_078
RLP-31R-HG-3/4NPG-M	IPMR_079
RLP-36R-HG-3/4NPG-M	IPMR_080
RLP-43R-HG-3/4NPG-M	IPMR_081



Line post insulators (vertical clamp)

General Description

The Raychem polymeric line post insulator RLP combines mechanical strength with excellent pollution performance.

It consists of a protruded fibre glass 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.

Selection Information: dimensions shown in millimeters

Description	Std Pkg	Pkg Weight	Pkg Volume
RLP-19R-VG-M24NPG-M	45 pcs	177 Kg	0.504 m ³
RLP-30R-VG-M24NPG-M	45 pcs	190 Kg	0.504 m ³
RLP-31R-VG-M24NPG-M	45 pcs	249 Kg	0.504 m ³
RLP-36R-VG-M24NPG-M	45 pcs	258 Kg	0.504 m ³
RLP-43R-VG-M24NPG-M	45 pcs	267 Kg	0.504 m ³

Technical Specification	RLP-19R-VG	RLP-30R-VG	RLP-31R-VG	RLP-36R-VG	RLP-43R-VG
Creepage Distance (mm)	424	697	770	922	1074
Dry Arc Distance (mm)	169	235	260	300	340
No of Sheds	4	7	9	11	13
A (mm)	299	365	389	429	469
B (mm)	100	100	92	92	92
C (mm)	120	120	122	122	122
SCL (kN)	12.5	11.5	12.5	12.5	12.5
MDCL (kN)	5.5	5.5	5.5	5.5	5.5
STL (kN)	25	25	25	25	25
RTL (kN)	12.5	12.5	12.5	12.5	12.5
AC dry flashover voltage (kV)	104	137	150	163	176
AC dry withstand voltage (kV)	95	124	136	146	159
AC wet flashover voltage (kV)	72	91	101	120	129
AC wet withstand voltage (kV)	61	76	81	103	112
Impulse withstand voltage (kV)	137	183	194	219	244

Note: Full qualification according to IEC 61952, and additional environmental testing available on request.

Product	Test Report
RLP-19R-VG-3/4NPG-M	IPMR_077
RLP-30R-VG-3/4NPG-M	IPMR_078
RLP-31R-VG-3/4NPG-M	IPMR_079
RLP-36R-VG-3/4NPG-M	IPMR_080
RLP-43R-VG-3/4NPG-M	IPMR_081



EPBI standoff insulators

General Description

The Raychem EPBI is a lightweight direct molded composite insulator, using Raychem proprietary EVA insulating material. The EVA is chemically bonded to the FRP core providing impenetrable interface sealing mechanism and the crimped assembly ensures optimal mechanical performance.

Selection Information: dimensions shown in millimeters

Product Series	EPBI - 1000	EPBI - 2000	EPBI - 3000
Part Description	EPBI-19R-PPS-25kN-M01	EPBI-27R-PPS-25kN-M01	EPBI-46R-PPS-25kN-M01
Length L (mm)	226	266	366
Standard min. stud length S (mm)	63	63	63
Standard min. stud length T (mm)	34	34	34
D1 (mm)	38	38	38
D2 (mm)	120	120	120
D3 (mm)	100	100	100
Creepage (mm)	497	687	1169
Number of sheds	4	6	11
Electrical			
Impulse withstand (kV)	159	185	252
Dry arc distance (mm)	205	244	347
Wet withstand (kV)	52	66	104
Mechanical			
Max bending moment (Nm)	580	580	580
MDCL (Nm)	290	290	290
Specified tensile load (kN)	25	25	25
Torque M12 (Nm)	50	50	50



Polymeric station post insulator RAP

General Description

The Raychem polymeric station post insulator RAP combines mechanical strength with excellent pollution performance. It consists of a pultruded fibre glass rod and a non-tracking polymer housing which is directly bonded to the metal end fitting. Corrosion resistant end fittings designed for high cantilever loads are crimped to both ends of the insulator

Selection Information: dimensions shown in millimeters

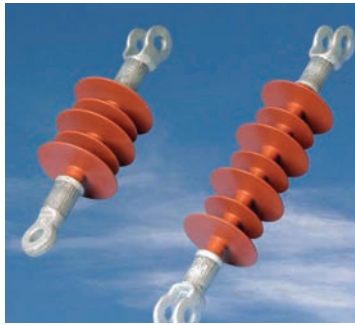
Description	Std Pkg	Pkg Weight	Pkg Volume
RAP-24R-A66-305	45 pcs	106 Kg (106 lbs)	0.510 m ³
RAP-36R-A66-350	45 pcs	115 Kg (254 lbs)	0.510 m ³
RAP-46R-A66-460	45 pcs	134 Kg (296 lbs)	0.510 m ³
RAP-52R-A66-475	45 pcs	139 Kg (307 lbs)	0.510 m ³

Dimensions in mm (inches)	RAP-24R- A66-305	RAP-36R- A66-350	RAP-46R- A66-460	RAP-52R- A66-475
Length	305 (12.0)	350 (13.78)	460 (18.11)	475 (18.7)
Dry arc distance	211 (8.31)	255 (10.0)	360 (14.17)	388 (15.28)
Creepage distance	631 (24.84)	809 (31.85)	1190 (46.85)	1333 (52.48)
No. of sheds	7	9	13	15
Diameter D1	120 (4.72)	120 (4.72)	120 (4.72)	120 (4.72)
Diameter D2	100 (3.94)	100 (3.94)	100 (3.94)	100 (3.94)
Diameter D3	37 (1.46)	37 (1.46)	37 (1.46)	37 (1.46)
Electrical values in kV				
Dry AC withstand (flashover)	90 (100)	100 (>100)	115 (150)	115 (150)
Wet AC withstand (flashover)	50 (60)	75 (85)	110 (125)	110 (125)
Impulse withstand voltage	150	170	250	250
Mechanical values in kN				
Specified Cantilever Load	12	10	7	6
Specified Tensile Load	25	25	25	25

Note :

Tech report : PPR 1506 Summary test report for the PSI-36A-ZM12A-P, PSI-36A-Z2.6A-P, PSI-36ZM12A and PSI-36A-Z2.6A insulators

T97-456 5000h ageing test in accordance with IEC 1109 Annex C on one composite insulator type Post-F 5-4 25 kV



Suspension tension insulators up to 24 kV

General Description

The glass fibre core provides high mechanical strength with tensile values of greater than 70 kN. The Raychem insulator profile utilises the same materials technology that has been employed for over 30 years in Raychem's high voltage terminations. Its proven track and erosion resistance and UV stability have given outstanding performance in the widest possible range of climatic and pollution conditions.

The high tensile strength of glass fibre has been combined with our HV shedded profile, to produce this rugged, lightweight tension insulator for overhead line applications up to 24 kV.

Selection Information: dimensions shown in millimeters

Dimensions in mm and given in inches in brackets ()

R-CT	RST-DS15 R-CT	RST-DS28 R-CT	RST-DS36 R-CT	RST-DS46 R-CT	RST-DS69
Length L	318 (12.5)	425 (16.7)	474 (18.7)	613 (24.1)	759 (29.9)
Dry arc	170 (6.7)	290 (11.42)	348 (13.7)	450 (17.7)	610 (24.01)
Creepage	460 (18.1)	690 (27.1)	900 (35.4)	1300 (51.2)	1810 (72.3)
No. of Sheds	5	7	9	13	18
Diameter D1	102(4.01)	97 (3.8)	112 (4.4)	112 (4.4)	112 (4.4)
Diameter D2	83 (3.27)	78 (3.07)	92 (3.6)	92 (3.6)	92 (3.6)
Diameter D3	22 (0.87)	22 (0.87)	28 (1.1)	28 (1.1)	28 (1.1)

Electrical

Wet AC withstand (kV) (horizontal)	42.1	98	100	130	180
Impulse withstand (kV)	130	226	215	310	350

Mechanical in kN and given in lbs in brackets ()

Specified Mechanical Load SML	75 (16860)	75 (16860)	75 (16860)	75 (16860)	75 (16860)
Routine test load RTL	37.5 (8430)	37.5 (8430)	37.5 (8430)	37.5 (8430)	37.5 (8430)

End fittings:

Top:	Clevis end fitting.
Bottom:	Tongue end fitting.
Material:	Galvanized Steel

The clevis fittings include a 16 mm pin. The ball & socket end fittings are as per IEC120-16A. Other end fitting types are available on request.

The descriptions given above describe insulators with clevis and tongue end fittings. Tongue and clevis end fittings can be supplied in any orientation.

These products are also available with ball & socket end fittings e.g. RST-DS15R-BS is a 15 kV insulator with ball and socket end fittings.

Product range up to and including 69 kV, pollution class II and III according to IEC815.



**TE Connectivity silicone suspension / tension insulators
120 kN up to LIWV 450 kV (BIL)**

General Description

The glass fibre core provides high mechanical strength with tensile values of greater than 120 kN. TE's silicone insulator profile utilises similar designs, materials, technology and know how that has been employed for nearly 40 years in the Raychem, Bowthorpe EMP and Axicom medium and high voltage insulator product portfolios.

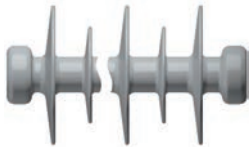



Silicone is a hydrophobic material with a performance today of both proven tracking and erosion resistance and UV stability that gives a good balance of technical performance in a wide range of climatic and pollution conditions.

The construction consists of TE compact creepage design insulator profile which have the same diameter sheds in order to maximise flashover performance in polluted environments over a minimum insulator length.

Selection Information: dimensions shown in millimeters

		LR-CSxxxTByyyy-zzzzMMF					
IEC designation for composite Long Rod							
SML [kN]	eg: 120						
Top Coupling	eg: B, S, T, C, Y, E						
Bottom Coupling	eg: B, S, T, C, Y, E						
LIWV Rating (BIL) [kV]	eg: 145, 170, 250						
Creepage [mm]	eg: 444, 595, 746, 897, 1047, 1198						
Material	eg: Composite						
Housing	eg: Silicone						
Colour	eg: Grey						

Insulator Configuration

Schematic	Schematic	Description	Designation	Operating Length (mm)	Total Length (mm)	Comment
		Insulator Core Silicone Covering FRP Core e-glass Compliant to IEC 61109	Shed No:		Creepage	
			5	154	154	444
			7	206	206	595
			9	258	258	746
			11	310	310	897
			13	362	362	1047
			15	414	414	1198
		Ball and Socket Galvanised Steel*	B	100	113	IEC Spec
					Size 16	
			S	103	112	IEC Spec
					Size 16	
		Tongue and Clevis Galvanised Steel**	T	107.5	129.5	IEC Spec
					Size 16N	
			C	107.5	132	IEC Spec
					Size 16N	
		Y and Eye Galvanised Steel**	E	127	158	IEC Spec
					Size 24	
			Y	122	138	IEC Spec
					Size 19	

* compliant to IEC 120

** compliant to IEC 61466-1



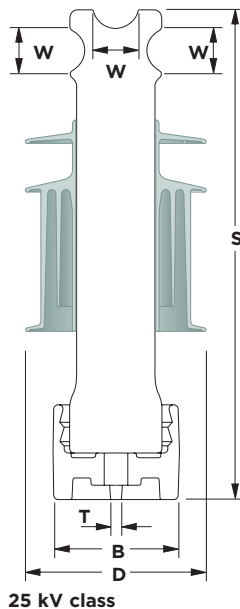
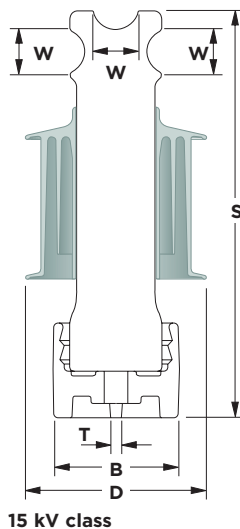
Hybrid line post insulator HSHI-RayBowl-Dbell highly protected creepage

General Description

The Raychem RayBowl line post insulator in a highly protected double bell geometry combines a ceramic core and a silicone elastomer housing to exploit the material property advantages of each component. A proven high strength ceramic core acts as the structural member to provide cantilever strength, while the silicone elastomer housing, in a highly protected geometry, provides the weathering resistance.

The hydrophobic material property of the silicone elastomer reduces leakage current flow. Significant reduced power loss in combination with reduced maintenance costs provides direct economic benefit to the users.

Selection Information: dimensions shown in millimeters



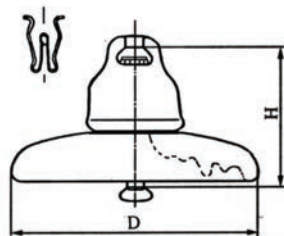
Technical Data

Dimensions	15 kV class		25 kV class	
Section length S (mm) [in]	290	[11.42"]	330	[12.99"]
Creepage distance (mm) [in]	540	[21.26"]	646	[25.43"]
Dry arc distance (mm) [in]	210	[8.28"]	241	[9.50"]
Shed diameter D (mm) [in]	136	[5.35"]	136	[5.35"]
Mounting pin thread T	3/4 UNC		3/4 UNC	
Net weight (kg) [lbs]	3.5	[7.7]	4.5	[9.9]
Wire groove diameter W (mm) [in]	31	[1.22"]	31	[1.22"]
Base diameter B (mm) [in]	86	[3.39"]	86	[3.39"]
Mechanical Ratings				
Cantilever strength (kN) [lb]	12.5	[2800]	12.5	[2800]
Electrical ratings				
Power frequency dry flashover (kV)	92		100	
Power frequency wet flashover (kV)	72		75	
Critical impulse flashover (kV)	145		160	
RIV @ 1000 kHz	<10 μ V @ 15 kV		<10 μ V @ 22 kV	

Ordering Information

Metric Ordering Description	Pin Length	Std Pkg	Pkg Weight	Pkg Volume
HSHI-RAYBOWL-DBELL-15KV	190 mm	3 pcs	12.7 kg	0.03 m ³
HSHI-RAYBOWL-DBELL-15KV-NP	no pin	3 pcs	11.0 kg	0.03 m ³
HSHI-RAYBOWL-DBELL-25KV	190 mm	3 pcs	13.7 kg	0.03 m ³
HSHI-RAYBOWL-DBELL-25KV-NP	no pin	3 pcs	12.0 kg	0.03 m ³

Imperial Ordering Description	Pin Length	Std Pkg	Pkg Weight	Pkg Volume
HSHI-RAYBOWL-DBELL-15KV	4.83"	3 pcs	28.00 LB	1.05 FT ³
HSHI-RAYBOWL-DBELL-15KV-NP	no pin	3 pcs	24.30 LB	1.05 FT ³
HSHI-RAYBOWL-DBELL-25KV	4.83"	3 pcs	30.20 LB	1.05 FT ³
HSHI-RAYBOWL-DBELL-25KV-NP	no pin	3 pcs	26.45 LB	1.05 FT ³



Porcelain disc insulator

General Description

Insulators are made from high quality non porous electrical porcelain and galvanized ferrous (or non-ferrous) end fittings which provide long life and reliable performance over a wide range of environmental conditions. They are made to a number of international standards including ANSI, IEC, BS, AS and GB.

Selection Information: dimensions shown in millimeters

IEC Class		U70BL	U70BL	U80BL	U80BL	U120BS	U120BS	U120BL	U120BL
Standard Coupling to IEC 120		16A	16B	16A	16B	16A	16B	16A	16B
Part Numbers	Brown	2013	2096	2094	2085	2148	2150	2152	2154
	Grey	2012	2144	2147	2146	2149	2151	2153	2155
Porcelain Disc Diameter, D	mm	254	254	254	254	254	254	280	280
Unit Spacing, H	mm	146	146	146	146	146	146	170	170
Creepage Distance	mm	292	292	292	292	292	292	330	330
Combined M & E Strength	kN	70	70	80	80	120	120	120	120
Routine Test Load	kN	28	28	32	32	48	48	48	48
Impulse Withstand Voltage	kVp	110	110	110	110	110	110	110	110
50% Impulse	Pos kVp	120	120	120	120	120	120	120	120
Flashover Voltage	Neg kVp	125	125	125	125	125	125	125	125
Power Frequency	Dry kV	70	70	70	70	70	70	70	70
Withstand Voltage	Pos kV	40	40	40	40	40	40	40	40
Power Frequency	Dry kV	78	78	78	78	78	78	78	78
Flashover Voltage	Wet kV	45	45	45	45	45	45	45	45
Power Frequency Puncture Voltage	kV	110	110	110	110	110	110	110	110
Net Weight, Approx	kg	4.6	4.6	4.6	4.6	6	6	6	6

IEC Class		U70C
Standard Coupling to IEC 120		16C
Part Numbers	Brown	2097
	Grey	2067
Porcelain Disc Diameter, D	mm	254
Unit Spacing, H	mm	146
Creepage Distance, mm	mm	292
Combined M & E Strength	kN	70
Routine Test Load	kN	28
Impulse Withstand Voltage	kVp	110
50% Impulse	Pos kVp	120
Flashover Voltage	Neg kVp	125
Power Frequency	Dry kV	70
Withstand Voltage	Pos kV	40
Power Frequency	Dry kV	78
Flashover Voltage	Wet kV	45
Power Frequency Puncture Voltage	kV	110
Net Weight, Approx	kg	4.6



HIGH VOLTAGE CABLE ACCESSORIES & INSULATORS

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OHVT

High voltage outdoor termination

General Description

TE's Raychem OHVT high voltage outdoor termination is designed for voltage up to 230 kV and to operate under severe environmental conditions. Polymeric insulated cables of various designs can be adopted with respect to shielding and metal sheath. Composite or porcelain housings with different creepage lengths are available covering the most common and also extreme pollution levels. The installation of the termination can be done by trained installer equipped with conventional tools.



Features & Benefits

- Pre-fabricated and factory-tested stress cone, made of high-quality silicone
- Torque-controlled connector
- No special tools required to complete the installation
- Silicone oil filling without preheating
- Isolated base plate for sectionalization
- Solderless grounding connection ensures the effective currency but avoids the heat damage on the cable insulation
- Fittings made of corrosion-resistant alloy
- Type tested according to IEC60840 & GB/T11017, IEC62067 & GB/Z18890

Technical data

		72.5 kV	145 kV	170 kV	245 kV
Rated voltage U ₀ /U (Um)	kV	36/69 (72,5)	76/132 (145)	87/150 (170)	127/220 (245)
Basic impulse level	kV	350	650	750	1050
Max continuous operating temperature	°C	90	90	90	90
Conductor short circuit temperature	°C	250	250	250	250
Short circuit current (sheath)	kA / 1sec	40	40	40	40
Creepage (Pollution class IEC 60815)	mm	≥1813	≥3625	≥3740	≥7930
Withstand voltage support insulators (AC/DC)	kV	10/20	10/20	10/20	10/20

Application Range

		72.5 kV	145 kV	170 kV	245 kV
Max. cable conductor size	sqmm	1200	2500	2500	2500
Max. diameter over cable insulation	mm	76	108	108	119
Max. diameter over outer sheath	mm	120	145	145	160
Base fixing square dimension	mm	300	345	345/360	500



OHVT

High voltage dry type flexible outdoor termination

General Description

TE's Raychem OHVT high voltage dry type flexible outdoor termination is designed for voltage up to 115 kV and to operate under severe environmental conditions. The higher creepage distance is far beyond pollution level IV. Polymeric insulated cables of various designs can be adopted with respect to shielding and metal sheath. Dry insulation without liquid contributes to maintenance-free in service.



Features & Benefits

- Pre-fabricated single piece termination body with premoulded stress cone and sheds
- Higher creepage distance, pollution level IV
- Light weight, easy to install and fast to assemble
- Maintenance free in service
- Solderless grounding connection ensures the effective currency but avoids the heat damage on the cable insulation
- Better anti-moisture with Raychem high-tech mastic and heat-shrink tubes
- Type tested according to IEC60840 & GB/T11017

Technical data

		76 kV	123 kV
Rated voltage U ₀ /U (Um)	kV	50/66 (76)	64/110 (123)
Basic impulse level	kV	450	550
Max continuous operating temperature	°C	90	90
Conductor short circuit temperature	°C	250	250
Short circuit current (sheath)	kA / 1sec	40	40
Creepage (Pollution class IEC 60815)	mm	≥3100	≥4590

Application Range

		76 kV	123 kV
Max. cable conductor size	sqmm	1200	1200
Max. diameter over cable insulation	mm	78	78
Max. diameter over outer sheath	mm	130	130
Total length of product	mm	1650	2080



Heat-shrinkable outdoor/indoor termination

General Description

TE's Raychem 72 kV terminations are suitable for all climates, areas, and environments, even severely polluted areas, as well as for all installation conditions, including top feed installation. Our heat-shrinkable accessories have been used by utilities and industrial companies around the world for more than 35 years. Material technology is at the core of the development of our heat-shrinkable accessories. The materials, used in TE Connectivity Raychem cable accessories, have been extensively optimized with respect to product design and function, manufacturing, and expected service environments.



Features & Benefits

- Compact and modular design with light weight components
- Heat-shrinkable stress control sleeves
- Non-tracking, heat-shrinkable outer insulation
- Water- and corrosion-resistant
- Different creepage distances available
- Suitable for compression and mechanical lugs
- Easy to install without special or expensive tools required
- Unlimited shelf life under normal storage conditions
- Solderless grounding connection ensures the effective currency but avoids the heat damage on the cable insulation
- Tested in accordance with IEEE 48 & IEC 60840

Technical data

		IHVT	OHVT	LHVT
Rated voltage U ₀ /U (U _m)	kV	36/69 (72.5)	36/69 (72.5)	36/69 (72.5)
Basic impulse level	kV	350	350	350
Max continuous operating temperature	°C	90	90	90
Conductor short circuit temperature	°C	250	250	250
Short circuit current (sheath)	kA / 1sec	40	40	40
Creepage (Pollution class IEC 60815)	mm	1600	2300	3100

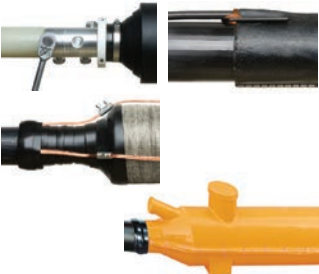
Application Range

		IHVT	OHVT	LHVT
Max. cable conductor size	sqmm	2500	2500	2500
Max. diameter over cable insulation	mm	86	86	86
Max. diameter over outer sheath	mm	110	110	110
Total length of product	mm	1100	1350	1700



EHVS
Cable joint
General Description

TE's Raychem splice EHVS is a pre-fabricated one-piece design for voltage classes up to 230 kV. Polymeric insulated cables of various designs can be adapted with respect to shielding and metal sheath. The silicone rubber joint body with integrated geometrical stress control provides proven electrical function. The splice components combine electrical performance, stress control, moisture sealing and mechanical protection to provide the important functions required for High Voltage products.



Features & Benefits

- Premoulded one-piece joint body, made of high-quality silicone
- Torque-controlled connector
- Alternative solutions of outer sealing and protection
- Special silicone rubber provides perfect compression force for optimized electrical performance
- Moulded thick inner and outer conductive screen
- Solderless grounding connection ensures the effective currency but avoids the heat damage on the cable insulation
- Type tested according to IEC60840 & GB/T11017, IEC62067 & GB/Z18890

Technical data

		145 kV	170 kV	245 kV
Rated voltage U0/U (Um)	kV	76/132 (145)	87/150(170)	127/220 (245)
Basic impulse level	kV	650	750	1050
Max continuous operating temperature	°C	90	90	90
Conductor short circuit temperature	°C	250	250	250
Short circuit current (sheath)	kA / 1sec	40	40	40

Application Range

		145 kV	170 kV	245 kV
Max. cable conductor size	sqmm	2500	2500	2500
Max. diameter over cable insulation	mm	108	108	119
Max. diameter over outer sheath	mm	145	145	160



Heat-shrinkable cable joint

General Description

TE's Raychem 72 kV joint is based on a heat-shrinkable technology. Polymeric insulated cables of various designs can be adapted with respect to shielding and metal sheath. Our heat-shrinkable accessories have been used by utilities and industrial companies around the world for more than 35 years. Material technology is at the core of the development of our heat-shrinkable joints. The materials, used in TE Connectivity Raychem cable accessories, have been extensively optimized with respect to product design and function, manufacturing, and expected service environments.



Features & Benefits

- Compact and modular design with light weight components
- Heat-shrinkable stress control sleeves
- Torque-controlled connector
- Short cut-back dimension
- Water and corrosion-resistant
- Easy to install without special or expensive tools required
- Unlimited storage life-time under normal conditions
- Solderless grounding connection ensures the effective currency but avoids the heat damage on the cable insulation
- Tested in accordance with IEEE 404 & IEC 60840

Technical data

Rated voltage U ₀ /U (Um)	kV	36/69 (72.5)
Basic impulse level	kV	350
Max continuous operating temperature	°C	90
Conductor short circuit temperature	°C	250
Short circuit current (sheath)	kA / 1sec	40

Application Range

Max. cable conductor size	sqmm	2500
Max. diameter over cable insulation	mm	86
Max. diameter over outer sheath	mm	110
Total length of product	mm	1350



PHVS
Dry compact switchgear/transformer termination
General Description

TE's Raychem PHVS dry compact switchgear termination for voltage classes up to 230 kV is designed to be installed in cable entry housings of gas-insulated switchgear (GIS). It complies with IEC 62271-209 or IEC60859, which essentially specify the interfaces between the termination and the switchgear. Adapters are available to match the dimensions of wet (oil-filled) type terminations. A corona shield at the top of the termination then provides the necessary shielding of the terminal if operating in insulating liquids like transformer oil. The termination is easily separable and consists of a plug-in part and an epoxy resin insulator, which can be pre-installed separately in GIS or transformer and cable manufacturer to save installation time on-site and reducing the risk of contamination of the cable entry housing.



Features & Benefits

- Dry interfaces, no oil-filling
- Dimensions comply with pressure-tight resin housing
- Pre-fabricated and factory tested silicone rubber stress cone
- Torque-controlled multi-contact conductor bolt
- No special tools required to install the termination
- Isolated cable gland for sectionalization
- Solderless grounding connection ensures the effective currency but avoids the heat damage on the cable insulation
- Type tested according to IEC60840 & GB/T11017, IEC62067 & GB/Z18890

Technical data

		72.5 kV	145 kV	170 kV	245 kV
Rated voltage U ₀ /U (U _m)	kV	36/69 (72.5)	76/132 (145)	87/150(170)	127/220 (245)
Basic impulse level	kV	350	650	750	1050
Max continuous operating temperature	°C	90	90	90	90
Conductor short circuit temperature	°C	250	250	250	250
Short circuit current (sheath)	kA / 1sec	40	40	40	40

Application Range

		72.5 kV	145 kV	170 kV	245 kV
Max. cable conductor size	sqmm	1200	2500	2500	2500
Max. diameter over cable insulation	mm	78	108	108	119
Max. diameter over outer sheath	mm	120	145	145	160



AXICOM cevolit components

General Description

What are Cevolit components?

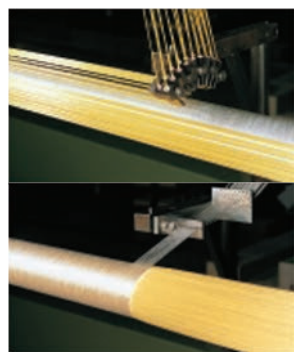
Cevolit Components are hollow or solid insulation parts made of fiber-reinforced epoxy resins with metal connection fittings. They are designed to deliver excellent fit in final assembly. Because they can withstand extreme mechanical and electrical loads, they are suitable for integration in high-voltage equipment wherever high insulation strength combined with high mechanical strength and low weight is an asset. Typical Cevolit components include operating rods, chambers and supports in high-voltage outdoor circuit breakers or encapsulated switchgear. Whatever the application, Cevolit components are custom-manufactured for each customer and each project - and of course always subject to AXICOM's strict quality standards.

What are Cevolit subassemblies?

Cevolit components can be preassembled together with switchgear parts and delivered as ready-to-install subassemblies. The benefits for the customer are higher reliability, enhanced quality, and a greater degree of assembly integration.

Cevolit components are made of composites with various epoxy resin systems and integrated glass, aramid or polyester reinforcing fibers, often in combinations. The components are manufactured according to a proven process: fabrics or filaments are wound dry and then impregnated with epoxy resin in vacuum followed by an overpressure cycle. Both fabrics and filaments can be glass, polyester or aramid, or a combination of these substances. To assure designs that can cope with mechanical loads; the fibers are wound parallel to the force lines as accurately as possible. Axial and/or radial windings as well as criss-cross filament windings make it possible to achieve a structure which precisely matches the anticipated stress.

Components for encapsulated systems which are exposed to strong electric fields are basically impregnated only in vacuum. This method eliminates the occurrence of voids and pinholes and thus prevents partial discharges within the composite. Cevolit components for outdoor breakers that are less exposed to electric fields, are impregnated or wetted during the so-called wet winding process. Solid rods with unidirectional, axial reinforcement fibers are drawn and simultaneously impregnated with epoxy resin using the capillary principle. Because of the optimized combination of materials, AXICOM guarantees reliable wetting in the boundary surfaces of the composite



Features & Benefits

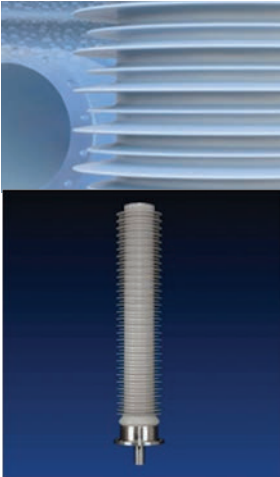
What are the features of Cevolit components?

Thanks to high-performance resin/fiber bonding technologies, Cevolit components provide excellent insulation as well as high mechanical strength despite their low weight. They are also corrosion-resistant and immune to temperature fluctuations. But the main benefit lies in the fact that AXICOM makes them with the composite material blend best suited to the customer's needs. The selection of the fiber material and the structure of the composite can be controlled to reproducibly keep rigidity, mass, density, temperature-resistance and even the coefficient of thermal expansion within defined limits. The fibers used are formulated to yield certain properties. In glass fibers, a low-cost material, tensile and compressive strength values are symmetrical, but these fibers are not resistant to SF6 decomposition products. Chemically inert polyester fibers offer only moderate mechanical resistance but are nonetheless very suitable for many applications, particularly in encapsulated equipment. Aramid fibers are relatively expensive but in turn feature excellent tensile and shear strength values. They are also resistant to many chemicals and very lightweight. Aramid-fiber-reinforced epoxy resins, with their low density and low weight, are ideal for components like operating rods which are exposed to fast acceleration and braking.

What stand behind the quality of Cevolit?

In the electrical engineering industry, the quality and reproducibility of technical properties are highly significant. The Advanced Composites Division at AXICOM, the world's leading manufacturer of components for the electrical engineering industry, has addressed these strict requirements. Thus, it systematically applies the ISO 9001 quality system in all processes, paying special attention to raw materials and supplier qualifications. The traceability of manufacturing processes is extremely important in the context of quality and for the purpose of gaining valuable insights that can lead to process enhancements. The deployment of numerically controlled machines a fully integrated SAP/R3 information technology system, constant ambient conditions as well as absolute cleanliness during the manufacturing phase minimizes subjective defect rates.

With its extensive experience and application-specific know-how, AXICOM is not only a respected source for sophisticated insulation solutions. It has also demonstrated its ability to address a wide range of customer needs and provide comprehensive advice in complex projects. It serves prestigious corporations in the electrical engineering industry such as ABB, Siemens, GEC, Alstom, Schneider Electric and Meidensha.



AXICOM composite hollow insulators

General Description

Axicom composite hollow insulators are made of a glass fibre reinforced resin tube with Silicone Rubber housing. The superior material properties are especially adapted for high voltage applications in outdoor service.

Application Areas:

- bushings for transformers, walls and dead tank breaker
- grading capacitors, chamber and support insulators for life tank breaker
- current and voltage transformers in oil as well as SF6 technology
- cable terminations
- surge arresters
- Station post

Features & Benefits

- Explosion Safety for personnel and installation.
 - in case of inner over pressure.
 - external factors as vandalism.
- Low weight, reduced risk for transport and assembly.
 - (no broken sheds) easier and cheaper handling.
- High safety in seismic areas shock absorbers not necessary.
- High insulating behaviour under moisture stress without additional surface coating.
- Excellent insulating behaviour at simultaneous stress of both, moisture and pollution layer without cleaning or greasing due to the hydrophobicity transfer.
- Proven ageing resistance over 30 years service against:
 - Degradation (temporary reduction of insulating behaviour).
 - Deterioration (remaining reduction of insulating behaviour).
- Significantly shorter delivery times than porcelain insulators.
- Materials are recognized to be safe for health.

How to design your own Axicom Insulator

Step one: Select a diameter out of the range of diameter set.

Step two: According to the mechanical load and length, choose your needed tube type Cevolit® out of three different types.

Step three: The flange design is always very special to the electrical apparatus.

For the convenience different flange designs are available.

Nevertheless other designs are possible.

We have established three standard Cevolit® tube systems for Axicom

Selection Information: dimensions shown in millimeters

Without Protection Layer Against SF6	With Protection Layer Against SF6	MML	MSP	Stiffness
A2312	A2313	+	+++	+
A2314	A2315	++	++	++
A2316	A2317	++	+	+++

Mechanical type tests acc. IEC61462

Bending:	Tube in Phase
1.0 x MML	Reversible elastic
1.5 x MML, residual strain <±5%	Reversible elastic
2.5 x MML, residual strain <±5%, no visible damages	Irreversible plastic
SML ≥ 2.5 x MML, breaking value	Irreversible plastic

MML: Maximum Mechanical Load which is the design load for the equipment manufacturer.

SML: Specified Mechanical Load, a load specified by the manufacturer that is used in the mechanical tests.

MSP: Maximum Service Pressure which is the design pressure for the equipment manufacturer.

SIP: Specified Internal Pressure, an internal pressure specified by the manufacturer.



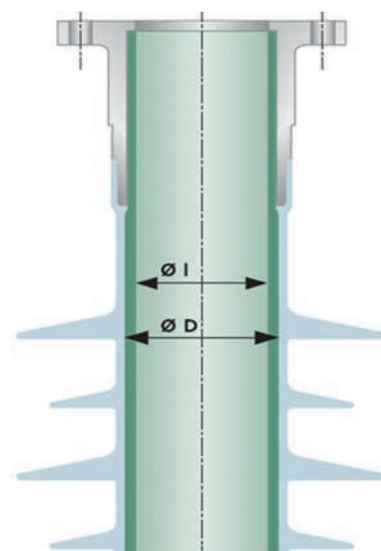
Type Nominal Diameter ø D [mm]	Inner Tube Diameter 1) ø I [mm]	MML [kNm]			MSP [MPa]			specific deflection [mm/kN/m³]		
		a.)	b.)	c.)	a.)	b.)	c.)	a.)	b.)	c.)
93	83	0.9	1.4	1.5	3.3	2.9	2.5	17	12	9.4
142	130	2.5	4	4.4	2.6	2.2	1.9	3.9	2.7	2.1
166	154	3.5	6	6	2.2	1.9	1.6	2.4	1.6	1.3
206	198	3.7	6.4	6.4	1.1	1	0.8	1.8	1.2	0.97
257	248	6.8	11.2	11.2	1	0.9	0.7	0.81	0.56	0.44
312	300	13	21.6	22	1.1	1	0.8	0.34	0.24	0.19
374	358	25	41.2	42	1.2	1.1	0.9	0.15	0.1	0.08
510	486	68	114	116	1.4	1.2	1	0.04	0.03	0.02
610	586	99	165	168	1.1	1	0.8	0.02	0.02	0.01

1) Other inner tube diameters available if needed

a.) Cevolit A2312 / A2313 (criss-cross)

b.) Cevolit A2314 / A2315 (criss-cross, axial reinforced)

c.) Cevolit A2316 / A2317 (criss-cross, mainly axial reinforced)





CROMPTON INSTRUMENTS

Crompton instruments 140

Crompton instruments

General Description



Analogue Instruments

Traditional range of analogue instruments includes ANSI switchboard meters, panel indicators, sealed and ruggedized instruments, and complementary selector switches for line-to-line and line-to-neutral readings. All instruments are available in a range of styles, sizes and performance specifications.



kWh Meters

DIN-rail mounted or self-contained panel meters measure combined kWh or kVarh with pulsed or analogue output options and selectable CT and VT ratios. Microprocessor controlled circuitry provides up to Class 1.0 accuracy with outputs displayed directly on the instrument monitor or a remote PC.



Integra Multi-function Metering Systems

Integra range of multi-function metering systems measure, display and communicate over 100 parameters. Integra systems can be integrated into energy management and SCADA systems. Options include pulsed, analogue and RS485 communication protocols, a choice of DIN, DIN-rail and ANSI case-styles and LED or LCD displays.



Protector Trip Relays

Trip relays continuously monitor and protect any electrical parameter within a set point limit. This versatile range offers numerous trip functions for single and three phase power systems.



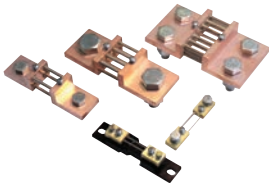
Integra and Paladin Transducers

Extensive range of transducers providing measurement, isolation and conversion of electrical parameters into industry standard DC output signals, offering single or multiple analogue outputs within a single case housing.



Meter Relays and Digital Indicators

Meter relays and digital indicators are ideal for monitoring, process control and load shedding applications. This range includes digital and analogue meter relays, digital bargraph indicators and controllers.



Shunts

Shunts provides an accurate dc millivolt signal, exactly proportional to the system current, to drive ammeter indicators, overload protection and control devices. This range includes industrial, switchboard, DEF 66-13, DIN, base mounted, tag end, lightweight and panel meter shunts in a variety of formats and configurations.



Current Transformers

Extensive range of current transformers for reducing high primary currents down to a consistent 5 or 1 Amp secondary current. Options include moulded case width, busbar and aperture sizes, tape wound, 3-in-1, balanced and split cores, current ratings and various mounting options.

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TE Connectivity (NYSE: TEL) is a \$14 billion global technology leader. Our connectivity and sensor solutions are essential in today's increasingly connected world. We collaborate with engineers to transform their concepts into creations – redefining what's possible using intelligent, efficient and high-performing TE products and solutions proven in harsh environments. Our 80,000 people, including 7,500 design engineers, partner with customers in over 150 countries across a wide range of industries. We believe EVERY CONNECTION COUNTS – **te.com**.

Markets

- Mining
- Nuclear
- Petrochemical
- Rail
- Windfarm
- Solar
- Hydroelectric

Applications

- Overhead Distribution
- Street Lighting
- Substations
- Transmission
- Underground Distribution

WHEREVER ELECTRICITY FLOWS, YOU'LL FIND TE ENERGY



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