



# Energy, Power and Utility Products

For more information on these Tyco Electronics products, visit the following website:

<http://energy.tycoelectronics.com>

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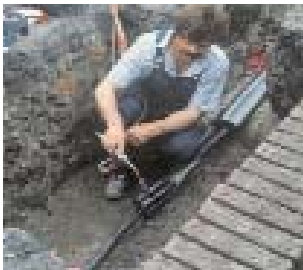
**Raychem RDSS Rayplate Duct Sealing System for Power Cables**

- Clean, fast, easy sealing method
- Seals vacant and multiple cable ducts
- Ideal for both new and existing cable ducts
- Removable
- Environmentally friendly
- Performance tested
- Order Literature: EPP 0569



**Raychem RDSS Rayplate Adapter for Duct Sealing System for Power Cables**

- RDSS-AD-210 – a prefabricated adapter for sealing large diameter ducts up to 210 mm
- Incorporates the RDSS Rayplate system
- Range taking
- Fast and easy installation
- Modular system
- Re-enterable
- Performance tested
- Order Literature: EPP 1110



**Raychem Heat-Shrinkable Transition Joints from MI/MIND Paper to Polymeric Cables up to 1 kV**

- Universal applicability
- Fast and efficient
- Ease of installation
- Outer sealing and mechanical strength
- Performance tested
- Order Literature: EPP 0126



**Raychem Heat-Shrinkable Straight Joints for Flexible Cables up to 1 kV**

- Multi-core
- Ease of installation
- Moisture sealing
- Flexible and abrasion resistant
- Flame retarded
- Order Literature: EPP 0122



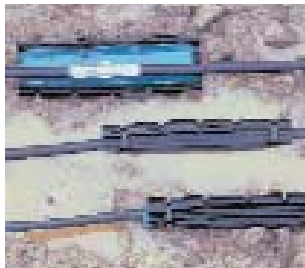
**Raychem Heat-Shrinkable Wraparounds for Flexible Cables**

- Repair of damaged flexible cable jackets
- Labor-saving installation
- Fitting and sealing all in one step
- Abrasion and corrosion resistant
- Flame retarded
- Each size covers a range of cable sizes
- Order Literature: EPP 0108



**Raychem PowerGel Sealant Filled Joint Kits**

- Best cold-applied seal
- PowerGel sealant technology
- Broad conductor use range
- Easy to install
- For single and multicore cable applications
- Order Literature: 1308378 E105



**Raychem GelWrap Wrap-Around Joint Covers and Repair Sleeves**

- Fast and easy installation
- Dependable performance
- PowerGel sealant technology
- Innovative design
- Order Literature: 1309100 E157



**Raychem Gel Stub Joints for Polymeric Cable - GelCap Motor Connection Kit**

- PowerGel sealant technology
- Innovative cap design and material
- Easy to select
- Fast and easy installation
- Easy to re-enter
- Order Literature: 1308964 E145



**Raychem Heat-Shrinkable Medium Wall Tubing**

- Standard tubing sizes from 10/3 to 195/102 mm
- Insulating and sealing
- UV resistant
- Halogen free
- Order Literature: EPP 0103



**Raychem Heat-Shrinkable Heavy Wall Tubing**

- Standard tubing sizes from 9/3 to 180/50 mm
- Insulating and sealing
- UV resistant
- Halogen free
- Order Literature: EPP 0106



**Raychem Heat-Shrinkable Cable Breakouts**

- Seals the crutch of multicore cables
- Range taking
- UV resistant
- Halogen free
- Order Literature: EPP 0115



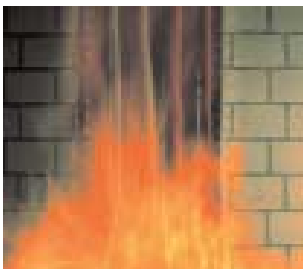
**Raychem Heat-Shrinkable Wraparounds**

- Low-voltage cable sheath repair
- Labor-saving installation
- Fitting and sealing all in one step
- Abrasion and corrosion resistant
- Each size covers a range of cable diameters
- UV resistant
- Halogen free
- Order Literature: EPP 0104



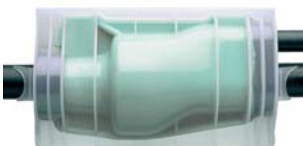
**Raychem Mini-Wrap Heat-Shrinkable Wraparounds**

- Low-voltage cable sheath repair
- Fast, easy and permanent
- Moisture-proof and insulating
- Range taking from 10 to 100 mm cable diameters
- UV resistant
- Order Literature: EPP 1111



**Raychem Heat-Shrinkable Heavy Wall Zero Halogen Tubing**

- Halogen free insulating tube for low fire hazard areas
- Low toxicity, low smoke, low acid gas generation
- Highly flame retarded and low calorific value
- Standard tubing sizes from 8/3 to 180/75 mm
- Order Literature: EPP 0550



**GURO Filled Joints for Power and Control Cables up to 1 kV**

- Versatile and easy to install
- Cable size range taking
- Products for armored and unarmored cables
- Suitable for all connector technologies
- Choice of filler material
- Available with GUROFLEX low hazard filler
- Order Literature: EPP 1120



**GURO Casting Resins for 1 kV Cable Joints**

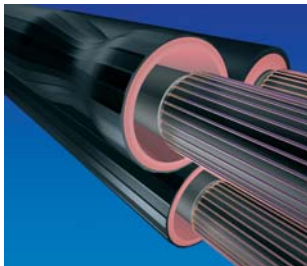
- Two-component casting materials to insulate electrical connections in underground cables
- Prevent water ingress from outside the joint or from within the cable
- RAPID two-part polyurethane resins
- GUROFLEX two-part 'green' elastomeric compound
- Qualified to international performance standard
- GUROFLEX elastomeric compound is non-hazardous and environmentally safe
- Order Literature: RAPID - EPP 1123; GUROFLEX - EPP 1122

**Medium Voltage Cable Accessories up to 42 kV**



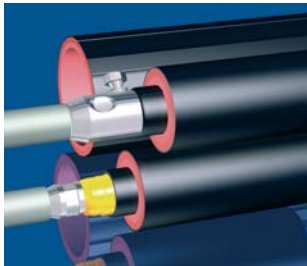
**Raychem EPKJ Multilayer In-line and Transition Joints up to 17.5 kV**

- Range taking design
- Pre-coated sealing components
- Cable crutch fillers
- 30 years service history
- Order Literature: EPP 0119



**Raychem SXSU In-line Joints for Polymeric Cable up to 42 kV**

- Widely range taking and short design
- Excellent sealing abilities due to elastomeric technologies
- Covers most crimp connector sizes and technologies
- Advanced heat shrink behavior due to triple extrusion technology
- Order Literature: EPP 0255



**Raychem EPKJ-R Paper and Transition Joints up to 42 kV**

- Universal jointing system
- Covers most crimp connector sizes and technologies
- Perfect oil barrier for MI and MIND cables
- Excellent sealing abilities due to elastomeric technology
- Order Literature: EPP 1073



**Raychem MXSU Jointing System Including Mechanical Connectors up to 42 kV**

- Mechanical connectors for conductor and shield wire are supplied with the kit
- No crimping tools or tool maintenance required
- Short and space saving design for improved installability
- Has unlimited shelf life, simplifies material logistics and reduces cost
- Exceeds international performance standards including GENELEC HD 629 for joints and IEC 61238-1 for mechanical connectors
- Order Literature: EPP 0798



**Raychem EPKB Branch Joints for Single Core Polymeric Cables up to 24 kV**

- Shear bolt mechanical connector technology
- Connector and insulation supplied in one kit
- Range taking kit
- Compact, robust and buriable
- Order Literature: EPP 0754



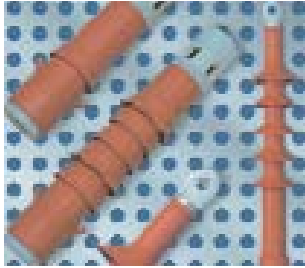
**Raychem EPKE Live End Seals for 12 and 24 kV Single Core Polymeric Cables**

- Installation requires no special tools. (e.g. crimps, etc.)
- Triple layer elastomeric insulation technology as in MV joints
- Covers all commercial cable sizes
- Fits most plastic single core cable types
- Protects cable against moisture ingress
- Energizing can take place immediately after installation
- Order Literature: EPP 0707



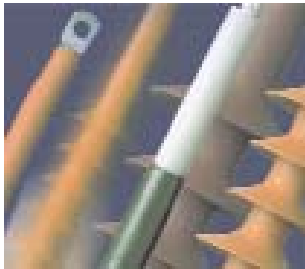
**Raychem CSJR/CSJH Cold Shrinkable Straight Joint for Polymeric Insulated Cables up to 24 kV**

- Pre-expanded, single piece silicone rubber joint body with high mechanical expansion properties allows a wide application range
- Electrical stress control by integrated conductive geometrical stress cones and an integrated screened connection area (Faraday cage)
- Choice of outer sealing and protection systems
- Easy-to-install joint system with short installation time
- Exceeds CENELEC HD 629.1, requirements which include IEC, BS, VDE and other international specifications
- Order Literature: EPP 1046



**Raychem TFTI/TFTO Pre-Expanded Version Elastomeric Medium Voltage Terminations for Indoor and Outdoor Applications. Single and Three Core Conductor Polymeric Cables up to 42 kV**

- High performance termination material
- Unique stress control system
- Excellent anti-tracking and erosion properties
- Compact design
- Crush resistant holdout
- Order Literature: EPP 0854



**Raychem TFTI/TFTO Push-On Version Elastomeric Medium Voltage Terminations for Indoor and Outdoor Applications for Single Core Polymeric Cables up to 42 kV**

- High performance termination material
- Unique stress control system
- Excellent anti-tracking and erosion properties
- No shelf-life limitation
- Order Literature: EPP 0671



**Raychem CPTI/CPTO Silicone Push-On Terminations with Integrated Stress Control for Medium Voltage for Indoor and Outdoor Applications for Single Core Polymeric Cable up to 36kV**

- High-performance termination material
- Integrated capacitive stress relief system
- One piece termination
- Order Literature: EPP 0978



**Raychem IXSU-F/OXSU-F Polymeric, Heat-Shrinkable Medium Voltage Terminations for Indoor and Outdoor Applications. Single and Three Core Polymeric Cables up to 42 kV**

- High performance termination material
- Integrated unique ceramic stress control system
- Excellent anti-tracking and erosion properties
- Armored and unarmored cables
- One piece termination
- Order Literature: EPP 0782, EPP 0795



**Raychem EPKT Polymeric, Heat-Shrinkable Medium Voltage Terminations for Indoor and Outdoor Applications. Single and Three Core Polymeric Cables up to 36 kV**

- High performance termination material
- Excellent anti-tracking and erosion properties
- Inherent to cable oil
- Armored and unarmored cables
- Order Literature: EPP 0389



**Raychem IDST Polymeric, Heat-Shrinkable Medium Voltage Terminations for Indoor Applications. Single and Three Core Paper Insulated MI/MIND Cables up to 24 kV**

- Tough transparent oil reservoir
- Oil refilling possible
- Inherent to cable oil
- Armored and unarmored cabled
- Solder- and plumbless sealing
- Order Literature: EPP 0209



**Raychem RSTI-L Screened, Separable Connection System 630 A up to 24 kV**

- Insulation made of modified silicon rubber
- Thin walled screen protects against unintentional contact
- Fits bushing profile “C” in accordance with EN50181
- Compact design supports double “T” connections
- Cold applied range taking product
- Conductor connection with mechanical or compression lugs
- Order Literature: EPP 1053



**Raychem RSTI Screened, Separable Connection System 630 A up to 36 (42) kV**

- Insulation made of modified silicon rubber
- Thin walled screen protects against unintentional contact
- Design fits bushing profile “C” in accordance with EN50181
- Compact design supports double “T” connections
- Cold applied range taking product
- Conductor connection with mechanical or compression lugs
- Order Literature: EPP 0998



**Raychem RSES/RSSS Screened, Separable Connection System 250 A up to 24 kV**

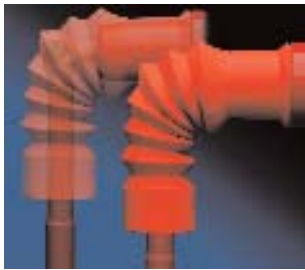
- Premolded dead break elbow/straight connection
- Thick walled screen protects against unintentional contact
- Design fits bushing profile “A” in accordance with EN50181
- Built in capacitive test point to determine the circuit status
- Cold applied range taking product
- Conductor connection with bimetallic compression lugs
- Order Literature: EPP 0473





**Raychem RICS Insulated Adapter Termination System for Gas Insulated Switchgear up to 24 kV**

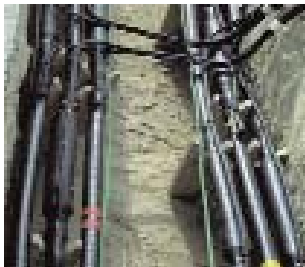
- Premolded elastomeric adapter for Raychem indoor terminations
- Fits bushing profile “C” in accordance with EN50181
- Compact design supports double “T” connections
- Cold applied range taking product
- Conductor connection with compression lugs
- Order Literature: EPP 0532



**Raychem RCAB Elastomeric Insulating Bushing Boots for Bushings to 17.5 kV**

- Premolded elastomeric bushing boot for Raychem indoor terminations
- Fits any bushing profile between 31 and 70 mm diameter
- Compact design for straight and right angle connections
- Excellent track and erosion resistance
- Cold applied range taking product
- Easy access connection
- Order Literature: EPP 0788

**High Voltage Cable Accessories up to 170 kV**



**Raychem Joints for Polymeric Insulated Cables 72 kV**

- Quick cable preparation
- Simplified installation
- No specialists required
- Pre-engineered wall thickness
- Time saving
- High reliability
- Order Literature: EPP 0341



**Raychem In-line and Shield-Break Joints from 123 kV to 170 kV EHVS**

- Pre-fabricated three-piece design
- Torque-controlled conductor sleeves
- Short cut-back dimensions
- Integrated moisture barrier using H/S components
- Can adapt shield-break applications
- Pre-fabricated and tested Si-rubber parts
- Type tested according to IEC 60840 and IEEE 404 standards
- Order Literature: EPP 1061



**Raychem Termination Systems for Polymeric Insulated Cables 72 kV**

- Easy installation
- Non-tracking, heat-shrinkable outer insulation
- Heat-shrinkable stress control sleeves
- Pre-coated track resistant sealant
- Water and corrosion resistant
- Light-weight components
- High reliability
- Order Literature: EPP 0413



**Raychem Outdoor Composite Terminations from 123 kV to 170 kV OHVT**

- Pressure-tight composite housing
- Different creepage lengths available
- Si-oil filling
- Torque-controlled conductor bolts
- Prefabricated and tested Si-rubber cone
- Fittings are made from corrosion resistant alloy
- Type tested according to IEC 60840 and IEEE 48 standards
- Order Literature: EPP 1051



**Raychem Dry Self-Supporting Outdoor Terminations for 145 kV OHVT**

- Dry interface, no oil-filling
- Self-supporting
- Prefabricated and factory tested Si-rubber cone
- Torque-controlled multi-contact conductor bolt
- Isolated cable gland for sectionalization
- Type tested according to IEC 60840
- Order Literature: EPP 1041



**Raychem Dry Compact Equipment Terminations for 72.5 kV to 145 kV PHVS/PHVT**

- Dry interface, no oil-filling
- Dimensions comply with IEC 60859
- Operates in SF6 and insulating liquids
- Prefabricated and factory tested Si-rubber cone
- Torque-controlled multi-contact conductor bolt
- Isolated cable gland for sectionalization
- Type tested according to IEC 60840
- Order Literature: EPP 1031



**Raychem Oil-Filled Equipment Terminations for 72.5 kV to 170 kV SHVT/THVT**

- Si-oil filling
- Dimensions comply with IEC 60859 and IEEE 1300
- Operates in SF6 and insulating liquids
- Prefabricated and factory tested Si-rubber cone
- Torque-controlled multi-contact conductor bolt
- Isolated cable gland for sectionalization
- Type tested according to IEC 60840
- Order Literature: EPP 1021



**Raychem Link Boxes Cross Bonding and Sectionalization for High-Voltage Cable Systems**

- Compact design
- Stainless steel
- Hermetically sealed
- 1-phase and 3-phase boxes
- Sheath voltage limiters (SVL)
- Order Literature: EPP 0865

**Cable Accessories for Nuclear Environments (Class 1E Qualified)**



**Raychem WCSF-N Cable Sleeves**

- Heavy-wall, LOCA resistant cable sleeve rated up to 1000 V
- Electrically insulates, mechanically protects and seals cable splices
- Adhesive coating especially formulated to withstand the rigors of the nuclear environment
- Radiation resistant up to 215 Mrad
- 40 years service lifetime
- Flame retardant
- Order Literature: EPP 0105



**Raychem LV Cable Accessory Kits**

- Plant splice kits for class 1E systems rated up to 1000 V
- LOCA qualified
- Applicable for power, control and instrumentation cables
- In-line, transition and stub splice configurations
- Radiation resistant up to 215 Mrad
- 40 years service lifetime
- Order Literature: US: 1654739 E198; Europe and Asia: EPP 1206



**Raychem Medium Voltage Termination Kits up to 15 kV**

- Terminate and seal almost all type of MV cables in class 1E circuits
- HELB/MSLB qualified
- Radiation resistant up to 50 Mrad
- 40 years service lifetime
- Order Literature: US: 1654739 E198; Europe and Asia: EPP 1206



**Raychem Motor Connection Kits to 8 kV**

- Insulate and seal connection in class 1E medium voltage motors
- HELB/MSLB qualified
- Radiation resistant up to 50 Mrad
- 40 years service lifetime
- Order Literature: US: 1654739 E198; Europe and Asia: EPP 1206



**Raychem NWRT/NJRT Jacket Repair and Insulating Tapes**

- Wraparound tape for moisture sealing and repair of cable jacket damage
- Applicable to replace non-qualified tape on single conductor in-line splices in class 1E circuits subject to accident conditions
- LOCA qualified
- Flame retardant
- 40 years service lifetime
- Order Literature: US: 1654739 E198; Europe and Asia: EPP 1206

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**Connectors and Fittings**



**SIMEL Substation Connectors**

- Applications range from 60 to 800 kV HV substations
- Suitable for aluminum and copper conductors and tubes
- Range includes earthing equipment
- Over 50 years service experience
- Customers served all around the world
- Information: <http://energy.tycoelectronics.com/cf>



**SIMEL Substation Connectors**

- Bolted, welded and crimped products
- Tyco Electronics provides customer support for design and product selection
- According to IEC Standards
- Provides energy savings, installation safety and uninterrupted reliability
- Information: <http://energy.tycoelectronics.com/cf>



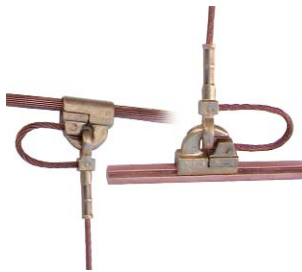
**DULMISON Transmission Lines Dampers and Spacer Dampers**

- Suitable for 2, 3 and 4 HV line conductors
- Insulator fittings and clamps
- Over 50 years field experience
- Information: <http://energy.tycoelectronics.com/cf>



**DULMISON Transmission Lines Helical Fittings**

- Helical fittings range including dead ends, reinforcing and armor rods
- Suitable for OPGW and ADSS optical conductors
- According to IEC, British and Australian Standards
- Information: <http://energy.tycoelectronics.com/cf>



**SIMEL Railway Connections**

- Provide safe and reliable connections for catenaries, including feeders and contact wires
- Easy to install and designed for optimum current distribution in the system
- Range includes droppers, full and reduced tension sleeves, branch connectors and lugs
- Suitable for aluminum or copper alloy cables
- Over 30 years of field service
- Information: <http://energy.tycoelectronics.com/cf>



**SIMEL and HELLSTERN LV ABC Connectors**

- Full offer including insulation piercing and pre-insulated crimped connectors
- For main to main and branch applications
- Range covers from 4 mm<sup>2</sup> to 185 mm<sup>2</sup>
- Suitable for aluminum, aluminum alloy and copper cables
- Over 30 years of field service
- Information: <http://energy.tycoelectronics.com/cf>



**SIMEL and HELLSTERN LV ABC Mechanical Accessories**

- Full offer including anchoring and suspension clamps
- For main and branch applications
- Range covers from 16 mm<sup>2</sup> to 185 mm<sup>2</sup>
- Suitable for bare and insulated neutral messenger cables
- Over 25 years of field service
- Information: <http://energy.tycoelectronics.com/cf>



**SIMEL and HELLSTERN MV O/H Bare Connectors**

- Full offer including aluminum, copper and bimetallic connectors
- Aluminum to aluminum, copper to copper, aluminum to copper applications
- Suitable for AAC, AAAC and ACSR cables
- Range covers from 2.5 mm<sup>2</sup> to 300 mm<sup>2</sup>
- Sleeves, lugs and crimped tap off connectors complete the product range
- Information: <http://energy.tycoelectronics.com/cf>



**AMP MV O/H Bare Connectors**

- Wedge technology
- Provides reliability, energy savings and power quality
- For main to main, branch and stirrup applications
- Aluminum to aluminum, copper to copper, aluminum to copper applications
- Range covers from 2.5 mm<sup>2</sup> to 500 mm<sup>2</sup>
- Information: <http://energy.tycoelectronics.com/cf>



**SIMEL and HELLSTERN Industrial Applications**

- Range includes both connectors and busbars
- Isolames flexible insulated busbars allow connections in close environments
- Rigid or flexible, insulated or bare busbars available in the range
- Copper and bimetallic, bare and pre-insulated sleeves/lugs available
- Crimped and bolted connector ranges
- Information: <http://energy.tycoelectronics.com/cf>



**SIMEL, HELLSTERN and UTILUX Bimetal Crimped Connectors**

- Full range of crimped bimetallic sleeves and lugs
- Suitable for sector shaped or round aluminum cables
- Range covers from 16 mm<sup>2</sup> to 1600 mm<sup>2</sup>
- Designed according to major standards
- Information: <http://energy.tycoelectronics.com/cf>



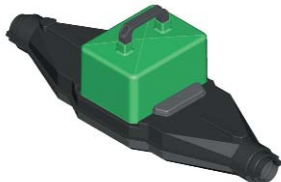
**SIMEL, B&H and HELLSTERN Bolted Connectors**

- Full range of bolted sleeves and lugs
- Suitable for jointing, termination and branch applications
- Compatible with copper and aluminum cables
- Easy to install, range taking feature, reduce need to stock
- Range covers from 25 mm<sup>2</sup> to 630 mm<sup>2</sup>
- Designed according to IEC Standard
- Information: <http://energy.tycoelectronics.com/cf>



**SIMEL and HELLSTERN IPC Underground Connectors**

- Full range of insulation piercing connectors
- Jointing and branch applications
- Suitable for copper or aluminum cables
- Easy to install under voltage, avoids stripping operations, range taking feature
- Designed according to major standards
- Information: <http://energy.tycoelectronics.com/cf>



**B&H Link Box**

- Casted link box, using either 3-core or 4-core cable
- Available in 2-way and 4-way configuration
- Supplied with links, diving bell lid, pit, frame and cover
- Interconnects or isolates / switches adjacent sections of UG LV cables
- Eliminates moisture ingress and avoids moisture tracking problems
- All connections are built within the box and are encapsulated during the casting
- Information: <http://energy.tycoelectronics.com/cf>



**SIMEL Tooling**

- Our range includes cutting, stripping and crimping tools
- Compact design, easy to handle, make consistent terminations
- Hand tools
- Hydraulic pumps
- Battery operated tools
- Crimping heads
- Full range of interchangeable crimping die sets
- Information: <http://energy.tycoelectronics.com/cf>



**DULMISON Transmission Line Dampers and Spacer Dampers**

- Suitable for 2, 3, 4 or 6 high voltage conductors
- Suitable for voltages from 66 to 500 kV
- Conductor sizing from 15 to 53 mm
- Controls both Aeolian vibration and conductor oscillation
- Elastomeric dampening elements
- Order Literature: Americas E144.08/03; Asia Pacific C12-2005



**DULMISON Transmission and Distribution Heliformed Fittings**

- Termination, suspension, support, armoring and vibration control
- Compliant with IEC, IEEE, ANSI, British and Australian Standards
- Application voltages from 1 to 500 kV
- Used on aluminum, steel, copper, OPGW, ADSS and insulated conductors
- Over 20 years of proven performance and reliability
- Order Literature: Americas E144.08/03; Asia Pacific TYCO65-HC603



**DULMISON Transmission Line Hardware**

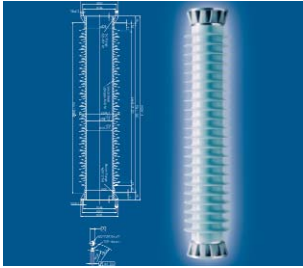
- Compression fittings – including high temperature
- Compliant with IEC, IEEE, ANSI, British and Australian standards
- Comprehensive range of forgings, castings, fabrications and assemblies
- Complete termination and suspension strings, including insulators
- Order Literature: Americas E144.08/03; Asia Pacific C12-2005



**DULMISON Vibration Control**

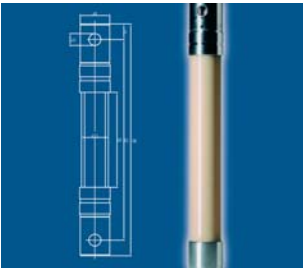
- Dogbone and Stockbridge vibration dampers
- Efficiency at both low and high amplitudes
- Optimal energy dissipation through unique offset weight design
- All conductor sizes above 7.5 mm
- Profiled design to reduce corona discharge and RIV at higher voltages
- Order Literature: Americas E144.08/03; Asia Pacific C12-2005





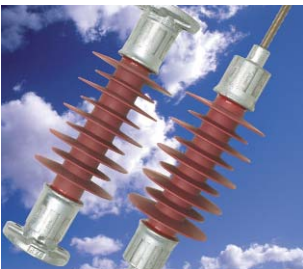
**AXICOM Hollow Core Insulators for High Voltage Equipment**

- Lightweight
- Pollution resistant
- UV resistant
- Resistant in seismic applications
- Information: [http://energy.tycoelectronics.com/page.asp?pag\\_id=14](http://energy.tycoelectronics.com/page.asp?pag_id=14)



**AXICOM Insulating Components for High Voltage Equipment**

- High electrical strength
- High mechanical strength
- Lightweight
- Information: [http://energy.tycoelectronics.com/page.asp?pag\\_id=14](http://energy.tycoelectronics.com/page.asp?pag_id=14)



**Raychem Polymeric Heat-Shrink Sheded Housing**

- Used to protect a variety of inner substrates
- Available in diameters from 13 to 120 mm
- Easily customized to required length
- Internally coated with track resistant sealant
- Order Literature: EPP 0892



**Raychem Mold-in-Place (MIP) Housing on Fiberglass Core**

- Polymeric housing directly molded onto FRP core
- Available for rod diameters from 16 to 63 mm
- Suitable for localized assembly of insulators
- Allows for customization of end fittings at assembly
- Order Literature: EPP 0892



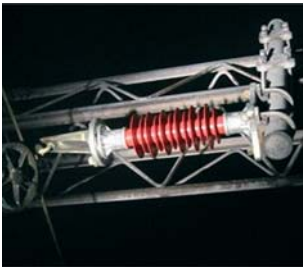
**Raychem Composite Insulators Hybrid Line Post Insulators**

- Improved contamination resistance - avoids deposition of windborne contaminants and wetting
- High flashover resistance
- Economic savings due to low leakage currents and reduced maintenance
- Good tracking and erosion behavior
- No longitudinal mold line flash - eliminates erosion during dry band arcing conditions
- Combines ceramic core and silicone housing properties
- Reduced weight compared with porcelain insulators
- Strong bonding of housing to the core – surpasses interface standards for composite insulators
- Order Literature: EPP 0892



**Raychem Composite Polymeric Insulators for OEM**

- Long life under heavy environmental stress
- Lightweight – eases installation and lowers costs
- High impact and vandal resistance
- Design flexibility to alter connection zones
- Order Literature: EPP 0892



**Raychem Railway Composite Insulators**

- Superior electrical performance in polluted environments
- Ease of installation; lowers costs
- High impact and vandal resistance
- Less cleaning required in tunnel applications
- Proven and mature technology leading to a long life
- High mechanical performance
- Order Literature: EPP 0892



**DULMISON Porcelain Insulators**

- Long life
- Proven and mature technology
- High rigidity
- Design flexibility
- Competitive prices
- Order Literature: EPP 0892



**Raychem LVIT Low Voltage Insulating Tubing**

- Heat-shrinkable, flame retardant busbar tubing for applications up to 1 kV
- Compatible with all other products in the Raychem low voltage insulation range
- Suitable for indoor and outdoor applications
- Good thermal emissivity and contact with busbars means no derating is needed
- UL approved
- Order Literature: EPP 0614



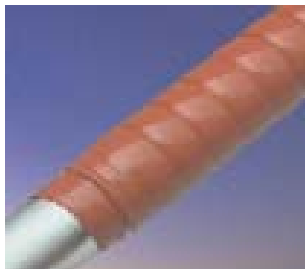
**Raychem LVBT Low Voltage Busbar Tape**

- Heat-shrinkable, flame-retardant, adhesive-coated tape for insulating busbars/complex geometries up to 1 kV
- Compatible with all other products in the Raychem low voltage insulation range
- UV resistant making it suitable for indoor and outdoor applications
- Electrical and mechanical performance are retained after cleaning with hydrocarbon solvents
- Order Literature: EPP 0613



**Raychem BBIT/BPTM Busbar Insulating Tubing**

- Range-taking, heat-shrinkable insulating tubing for busbars (5-35 kV)
- Compatible with all other products in the Raychem MV insulation enhancement system
- Exceptional insulation and long term reliability at high continuous operating temperatures
- Extremely durable, resists damage from solvents, ultraviolet light, weathering, mechanical impact and general wear and tear
- Excellent anti-tracking properties
- Order Literature: EPP 0607



**Raychem HVBT High Voltage Busbar Tape**

- Heat-shrinkable, adhesive coated tape for insulating busbars up to 15 kV
- Compatible with all other products in the Raychem MV insulation enhancement system
- Easy to apply using readily available equipment
- Excellent anti-tracking properties
- Extremely versatile and flexible at temperatures as low as -40°C; the 30% shrink ratio enables coverage of almost any shape
- Manufactured from non-halogen based materials
- Order Literature: EPP 0610



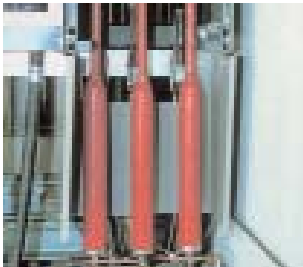
**Raychem HVIS High Voltage Busbar Insulating Sheet**

- Heat-shrinkable, adhesive-coated sheet for insulating complex busbar shapes (5-15 kV)
- Compatible with all other products in the Raychem MV insulation enhancement system
- Easy to install on-site using a gas torch or hot air device
- Manufactured from a non-halogen based material
- Excellent anti-tracking properties
- Excellent UV and weather resistant properties make HVIS suitable for indoor or outdoor use
- Order Literature: EPP 0609



**Raychem LVA Metal Oxide Low Voltage Arrestors**

- LV surge arrestors used to protect LV overhead lines and transformer secondary
- 280-440 V, 10 kA, class II, I<sub>max</sub> = 40 kA
- Tested to IEC 61643-1
- Suitable for indoor and outdoor use
- Flame retardant and water-proof design
- Order Literature: EPP 1083



**Raychem RDA/SPA/VDA Indoor Arrestors**

- Indoor installation in restricted enclosures in switchgear and transformers
- 3-42 kV, 5 kA/10 kA class 1, tested to IEC 60099-4
- Compact high pollution EVA housing
- Available with variety of connection accessories
- Order Literature: EPP 0533



**Raychem NDA/HDA Outdoor Polymeric Arrestors**

- 5 kA/10 kA class 1 arrestors tested to IEC 60099-4
- Direct molded housing for moisture sealing
- High pollution EVA housing
- Safe short circuit failure mode
- Order Literature: EPP 0533



**BOWTHORPE EMP OCP Open Cage Silicone Arrestors**

- 5 kA/10 kA class I/II arrestors tested to IEC 60099-4
- Direct molded housing for moisture sealing
- High pollution silicone housing
- Safe short circuit failure mode
- Order Literature: EPP 1098 WW



**Raychem Special Arrestor Applications**

- Special arrester applications include:
  - MPA, motor protection arrestors
  - CPA, cable sheath arrestors
  - CLX, current limiting arcing horns
- Order Literature: EPP 0533



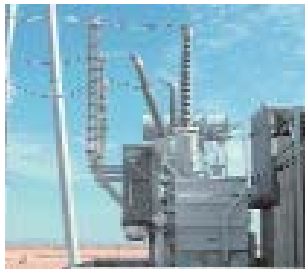
**BOWTHORPE EMP Railway Surge Arrestors**

- For DC system voltages of 0.7 - 4 kV and AC surge arrestors for system voltages 15 - 25 kV single phase
- Over 15 years polymeric and 40 years total service experience
- Standards - IEC60099-4 and EN50123-5
- Application: Railway system overvoltage protection
- Order Literature: BOW-EPP-0005-01-04



**BOWTHORPE EMP Porcelain Housed Surge Arrestors**

- For system voltages up to 400 kv
- Over 50 years service experience
- Standard - IEC60099-4
- Classification - 10/20 kA, Line Discharge Class - 2, 3, 4
- Pressure relief performance up to 65 kA
- Application: Transmission and sub-station overvoltage protection
- Order Literature: BOW-EPP-0001-03-05



**BOWTHORPE EMP Polymeric Module Series Parallel Surge Arrestors**

- Multi Column
- For system voltages up to 550 kv
- Over 15 years service experience
- Standard - IEC60099-4
- Classification - 10/20 kA, Line Discharge Class - 3, 4, 5
- Short circuit rating up to 65 kA
- Application: Transmission and sub-station overvoltage protection
- Order Literature: BOW-EPP-0001-03-05



**BOWTHORPE EMP Polymeric Single Column Surge Arrestors**

- For system voltages up to 150 kv and transmission line surge arrestors up to 220 kv systems
- Over 20 years service experience
- Standard - IEC60099-4
- Classification - 10 kA, Line Discharge Class 2
- Short circuit rating up to 40 kA
- Application: Transmission and sub-station overvoltage protection
- Order Literature: BOW-EPP-0001-03-05



**BOWTHORPE EMP Surge Counters**

- A device installed in series, on the earth side of the surge arrester
- SC12 & SC13 count the number of transient overvoltages that occur on the system
- SC13 measures the leakage current flowing through and over the arrester
- Over 50 years service experience
- Order Literature: BOW-EPP-0008-02-05



**DORMAN SMITH LOADLIMITER XS MCB Distribution Board Systems**

- Robust construction
- Dual neutral and earth bars
- MCBs with symmetrical dual terminals
- Modular DIN rail components
- SP&N 'A' and TP&N 'B' type distribution boards
- Pan assemblies
- Comprehensive incomer connection range
- Full range of accessories
- Quick and easy installation
- Order Literature: DOS-LLXS-11/03



**DORMAN SMITH LOADLINE Y-Frame Molded Case Circuit Breakers**

- Current ratings from 20 to 1600 A
- 6 modular frame sizes
- Thermal & magnetic, generator compatible and switch disconnecter devices
- Selectivity utilization categories A & B
- Temperature calibrated options
- High breaking capacities from 25 to 85 kA Icu
- Ground fault protection
- Comprehensive range of accessories
- Order Literature: DOS-MCCB-05/03



**DORMAN SMITH LOADLINE Z-Frame Air Circuit Breakers**

- ASTA, NEMA and ANSI approvals
- Current ratings from 800 to 4000 A
- 3 compact modular frame sizes with common dimensions
- 3 and 4 pole variants with fixed or withdrawable pattern chassis
- Fully rated neutrals
- Intelligent trip units offering data measurement and communication
- True RMS protection
- High breaking capacities up to 100 kA Icu = Ics = Icw
- Comprehensive range of interchangeable accessories
- Order Literature: DOS-ZFRAME-09/03



**DORMAN SMITH SYSTEM LOADBANK Panel Board Systems**

- Exceeds the requirements of EN 60438-1
- Flexible compact modular design
- Requires only basic hand tools for assembly
- Wall, or wall and floor mounting
- 250, 400 or 800 A TP & N busbar ratings
- Accepts outgoing circuit breakers from 16 A single pole to 250 A triple pole
- Accepts incoming fuse combination units and MCCBs up to 800 A
- Ideal where space is limited
- Order Literature: DOS-LBANK-10/03



**DORMAN SMITH LOADSWITCH Fuse Combination Switches**

- Exceeds the requirements of EN 60947-3
- Full interrupted duty
- AC23A utilization category and 80 kA short circuit capacity
- Integral cable spreading room ideal for large cables
- Housed or skeleton switches
- Rated for full load continuous
- Doors open through 180° for ease of access
- Padlocking off as standard, up to three padlocks easily attached
- Order Literature: DOS-FSW-09/03



**DORMAN SMITH MODIS 25 LV Modular Distribution System**

- Fully type tested options in accordance with EN 60439-1
- ASTA Certified
- Form 1 to Form 4b Type 6
- Horizontal busbars up to 2500 A
- Wide range of busbar fault rating options
- Fully extendable at either end
- Front or rear access with cable entries on top or bottom to suit application
- Compact modular design
- ACB, MCCB, Fuse Combination Switch and MCB options
- Order Literature: DOS-M25CAPBROC-09/03



**DORMAN SMITH MODIS 12 LV Modular Distribution System**

- Flexible compact modular design
- Wall, or wall and floor mounting
- Form 2 and Form 4 Type 2 options in accordance with EN 60439-1
- ASTA Certified busbars at 50 kA for 1 second up to 1250 A
- Fully extendable
- Front access with top or bottom cable entries to suit application
- MCCB and fuse combination unit options
- Service centers and MCB distribution boards
- Order Literature: DOS-MODIS 12-02/05



**GURO Fuse Boxes for Street Lighting Applications**

- Large variety of styles for almost every application
- For up to 3 underground cables, 4 mm<sup>2</sup> - 35 mm<sup>2</sup>
- For different fuse type
- Protection Class II, IP 43 – IP 54
- For up to four lamp cables 2.5 mm<sup>2</sup>
- Order Literature: EPP 0500 CEE



**BOWTHORPE EMP MDSP Series Modular Distribution Surge Protectors**

- Surge handling capabilities of 90, 150 or 300 kA
- Two-stage (redundant) protection
- Replaceable DIN rail mounted surge protection modules
- Dual thermal and current overload fusing
- Full protection status indicators with remote signaling
- Site fault condition indicator
- Silicon Avalanche Diode and/or Metal Oxide Varistor technology
- Easy installation and field serviceability



**BOWTHORPE EMP SPM Series Plug-in Protection Modules**

- 1, 2, 3 or 4 modular DIN rail mount connection bases
- 6 kA MOV and 40 kA SAD plug-in surge protection modules
- Neutral to earth plug-in modules
- Complete assemblies of the most popular configurations
- Hot working replaceable plug-in protection modules
- Thermal and current overload fusing
- Protection status indicator
- Remote status indication option
- Compliant with EN 61643-11:2002 and BS6651:1991 Annex C
- Order Literature: BOW-SPM-02/05



**BOWTHORPE EMP DSP600 Series Distribution Surge Protectors**

- High surge handling capability of 30 kA
- Low "let through" voltage of 600 V
- Two-stage (redundant) protection, with pre-failure indication
- Full protection status indication
- Remote signalling version
- Site fault condition indicator
- Rugged construction (steel enclosure)
- Hardwired single and three phase



**BOWTHORPE EMP 6651C Series - Sub Distribution Panel Protectors**

- Maximum surge handling capability of 10 kA
- Two-stage (redundant) protection, with pre-failure indication
- Full protection status indication
- Supplied with 0.5 metre cable
- Easy installation and maintenance free
- Rugged construction
- Compact size and small footprint
- Ideal for the protection of PABX systems, network file servers and mainframes





**BOWTHORPE EMP SPLB1/13 Series Spur Protectors**

- Maximum surge handling capability of 6.5 kA
- Rated 13 A
- Low “let through” voltage
- Protection status indication
- Easy installation and maintenance free
- Rugged construction with steel enclosure
- Fast response time
- Compact size and small footprint



**BOWTHORPE EMP MBP Series Mains Barrier Surge Protectors**

- Maximum surge handling capability of 10 kA
- Low “let through” voltage
- 5 or 16 A models available
- DIN rail mounting for modular installation
- DIN rail earthing and additional earth stud provided
- Panel mounting screw holes for permanent installation
- Rugged construction with steel enclosure
- Fast response time



**BOWTHORPE EMP Surge Protected Filter Adaptors, Plugs & Socket Strips**

- Surge handling capabilities of 4.5 and 6.5 kA
- Units rated from 3 to 13 A
- Full premium three mode protection (L-N, L-E, and N-E)
- Most models provided with protection active indication
- Thermal overload protection
- Low “let through” voltage
- Various ratings of surge protection and RFI filtering
- Suitable for BS6651:1999 Annex C location categories A and B



**BOWTHORPE EMP DBP Series Data/Network Barrier Surge Protectors**

- Designed for LAN/CCTV/Telemetry and signal line protection
- Maximum surge handling capability of 10 kA
- Low “let through” voltage
- DIN rail mounting for modular installation
- DIN rail earthing and additional earth stud provided
- Rugged construction (grey molded plastic)
- Fast response time



**BOWTHORPE EMP TLP Series - Telecom Line Surge Protectors**

- High surge handling capability of 10 kA
- Low “let through” voltage
- Auto reset
- Negligible effect on normal line operation
- Fast response time
- Models available for connection to LSA-Plus termination strips
- Ideal for mission critical telephones, faxes, modems, computers, process control systems, PSTN, and PABX

**Power Measurement and Control**

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**CROMPTON INSTRUMENTS Integra Digital Metering Systems**

- Total harmonic distortion measurement and power quality data
- True RMS measurement of distorted waveforms
- Pulsed, analogue and digital communication options
- Simple menu driven user interface
- Software configuration package
- DIN, ANSI and JIS style case options
- High quality LCD or LED display
- Combined digital metering and transducer systems
- Order Literature: CI-DMS UK



**CROMPTON INSTRUMENTS Kilowatt Hour Energy Meters**

- Self-contained panel mounted or DIN rail meters
- Replaces rotating disc meter and separate instantaneous wattmeter
- Industry standard sizes
- Microprocessor controlled circuitry provides Class 1.0 accuracy
- Combined kW.h or kVAr.h measurement
- Pulsed and analogue output options
- Selectable CT and VT ratios
- Wide range of indication options
- Order Literature: CI-TRANSDUCERS



**CROMPTON INSTRUMENTS Transducers**

- Single parameter units and combined digital metering and transducer systems
- Reduction of signal levels for cost saving remote metering
- DIN rail mounting
- Isolated output for safety
- High accuracy
- True RMS measurement
- Up to 4 analogue output channels
- RS485 Modbus, Lonworks and Profibus communication interface options
- Order Literature: CI-TRANSDUCERS



**CROMPTON INSTRUMENTS Protector Trip Relays**

- Continuous monitoring and protection of any electrical parameter
- Single parameter units to multi-function microprocessor based systems
- Comprehensive range of inputs and configurations
- Adjustable trip points, time delay and differentials
- Designed to avoid nuisance tripping
- DIN rail, wall or panel mounted
- Parameters monitored against adjustable under / over limits
- Monitors correct operation of many types of equipment
- Order Literature: CI-PROTECTORS



**CROMPTON INSTRUMENTS Meter Relays**

- Digital and analogue meter relays, and digital indicators and controllers
- Measurement, monitoring and control of any electrical, process or temperature parameters
- Highly accurate indicators with high or low set points
- Operation of alarm and control circuits when the monitored signal deviates from set point limits
- Accurate limit checking and advanced control features
- Precision measurement of all parameters
- Can be used as stand alone indication
- Simple to install and operate



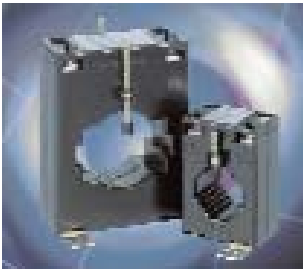
**CROMPTON INSTRUMENTS Digital Indicators**

- Accurate measurement and clear indication of electrical parameters
- Bargraph indicators and controllers
- Highly accurate measurement of most AC and DC parameters
- High contrast numerical LED or LCD displays
- High resolution bar graph displays
- Clear indication of parameter status visible up to 8 meters
- Customized scaling
- Wide range of industry standard sizes, styles and specification



**CROMPTON INSTRUMENTS Analogue Instruments**

- Wide range of DIN and ANSI styles, sizes and specifications
- Shock resistant and vibration proof instruments
- Moving coil and moving iron mechanisms
- Customized options and features available
- High accuracy
- Industrial, military, defense, marine and intrinsically safe options
- Complementary IP65 panel mounted selector switches
- Industry standard approvals
- Order Literature: CI-ANALOGUE



**CROMPTON INSTRUMENTS Current Transformers**

- Molded case, miniature, core balanced, tape wound, and split core current transformers with integral transducers
- Used to drive ammeter indicators, overload protection and control devices
- Comprehensive measuring and protection class accuracy
- Accurate measurement
- Reduction of high currents for ease of metering
- Wide range of system current ratings and case widths
- Aperture sizes to suit industry standard cable diameters and busbar dimensions
- Feet mounting, busbar and DIN rail mounting options
- Order Literature: CI-PE RANGE



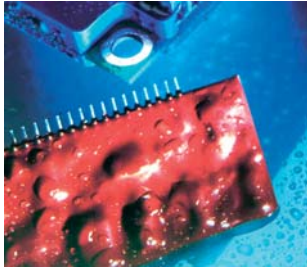
**CROMPTON INSTRUMENTS Shunts**

- Accurate DC millivolt signal exactly proportional to the system current
- Industrial, switchboard, DEF 66-13, DIN, base mounted, tag end, lightweight and panel meter shunts
- Suitable for DC power supply battery systems, UPS and power supplies
- Reduction of high currents for ease of metering
- Maximum reliability in harsh environments
- Variety of formats and configurations to suit many applications
- Fixing dimensions to suit industry standards



**CROMPTON INSTRUMENTS Generator Set Solutions**

- Multi-function range of contemporary and traditional products
- Basic control to sophisticated multi-function products
- Engine status information, control and protection
- Comprehensive range of generator set controllers
- Generator set integrated digital power metering
- Complete 'one stop shop' engine monitoring package
- Industry standard sizes
- Suitable for all sizes of generator
- Order Literature: CI-GENSET2



**GURONIC Casting Resin for Electronics**

- GURONIC casting resin especially well-suited for potting and coating of electronics applications
- Protection against moisture, environmental influences, mechanical shock and vibration
- Excellent low temperature flexibility down to -70°C
- Excellent vibration and shock protection (up to 1000 G)
- Order Literature: EPP 1159



**RAPID Casting Resin for Electronics**

- RAPID casting resin especially well-suited for potting and coating of electronics applications
- Protection against moisture, environmental influences, mechanical shock and vibration
- From rubber-elastic encapsulants to high tensile strength materials
- Very resistant to hydrolysis
- Order Literature: EPP 1188

