



Raychem Heat-Shrink Joint  
up to 72.5 kV

**Raychem**  
from TE Connectivity

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## The Raychem Heat-Shrink Joint EHVS

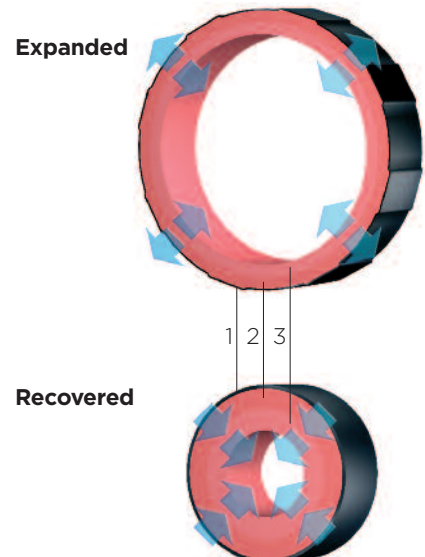
The joint is based on a heat-shrink design for voltage classes up to 72.5 kV. Polymeric insulated cables of various designs can be adapted with respect to shielding and metal sheath. Our heat-shrink accessories have been used by utilities and industrial companies around the world for more than 35 years. This ongoing field experience has made TE Connectivity a leader in materials science and technology for high-voltage applications. The TE Energy materials technology is at the core of the development of our heat shrink joints. The materials used in our cable accessories have been extensively optimized with respect to product design and function, manufacturing and expected service environments. Furthermore the system is suitable for paper and polymeric cable constructions and is also designed to accommodate modern jointing requirements such as mechanical shear bolt connectors.



## Heat-Shrink Technology

The conductive outer layer (1) together with the insulating middle layer (2) represents the heat shrinkable hold out for the inner elastomeric layer (3) of the joint body. During the shrinking process the stored recovery force of the elastomeric layer is released and adds up to the recovery force generated by the heat shrinkable outer layers of the joint body. The resulting high compression forces as well as the perfect ability of geometrical adjustment provides tight

electrical interfaces and a perfect seal against moisture ingress. The elastomeric properties of the inner insulation layer of the joint body allow for any cable diameter compensation and adjustment resulting from the load cycling of the cable. At the same time the two outer heat shrinkable layers provide a tight and rigid belt for the joint body representing a high level of mechanical protection against outer environmental influences.



## Cable shielding

Grounding kits for commonly used cable constructions like lead sheath, corrugated aluminum sheath, copper tape, wire screens and combinations are available.



## Size transition

The size transition connector is able to link cables with different conductor and/or insulation diameter.



## Cable insulation

The joint is suitable to handle cables with different insulation layers like XLPE, EPR or Paper MIND.

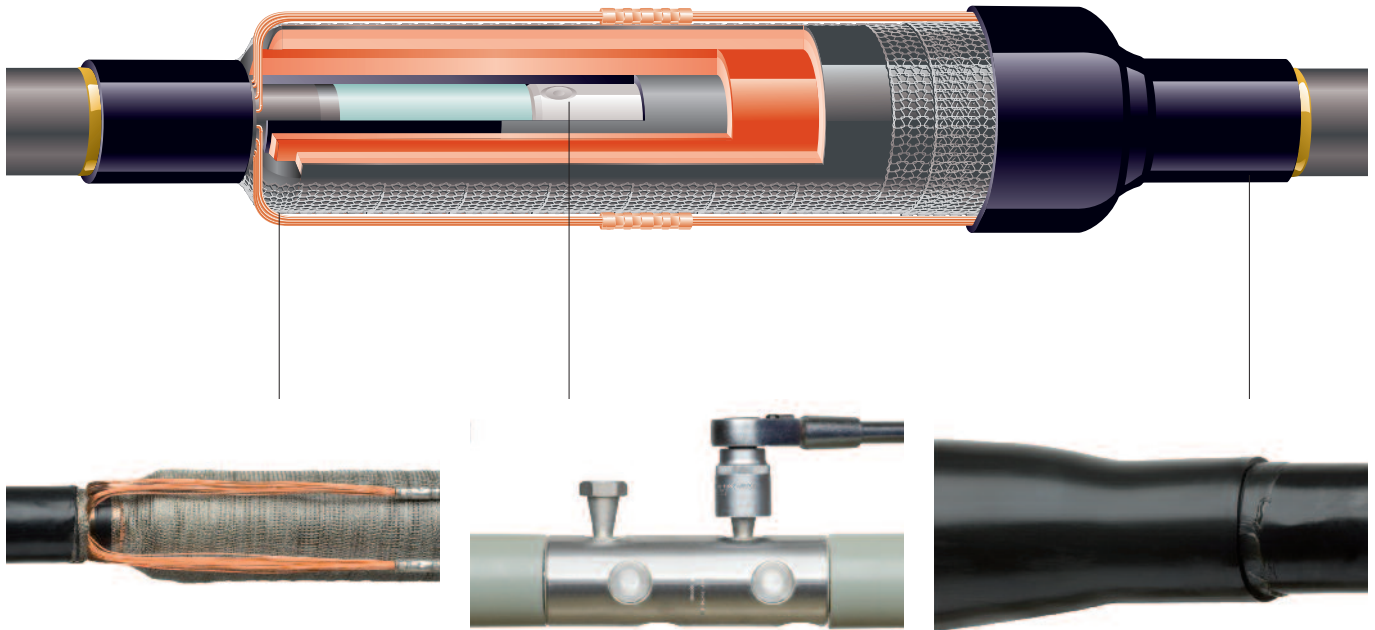


## Connector

The mechanical connector with torque controlled shear-off bolts is suitable for all common conductors made out of aluminium or copper. A special connector construction allows also the jointing of cables with small insulation thickness.







### Shield connectivity

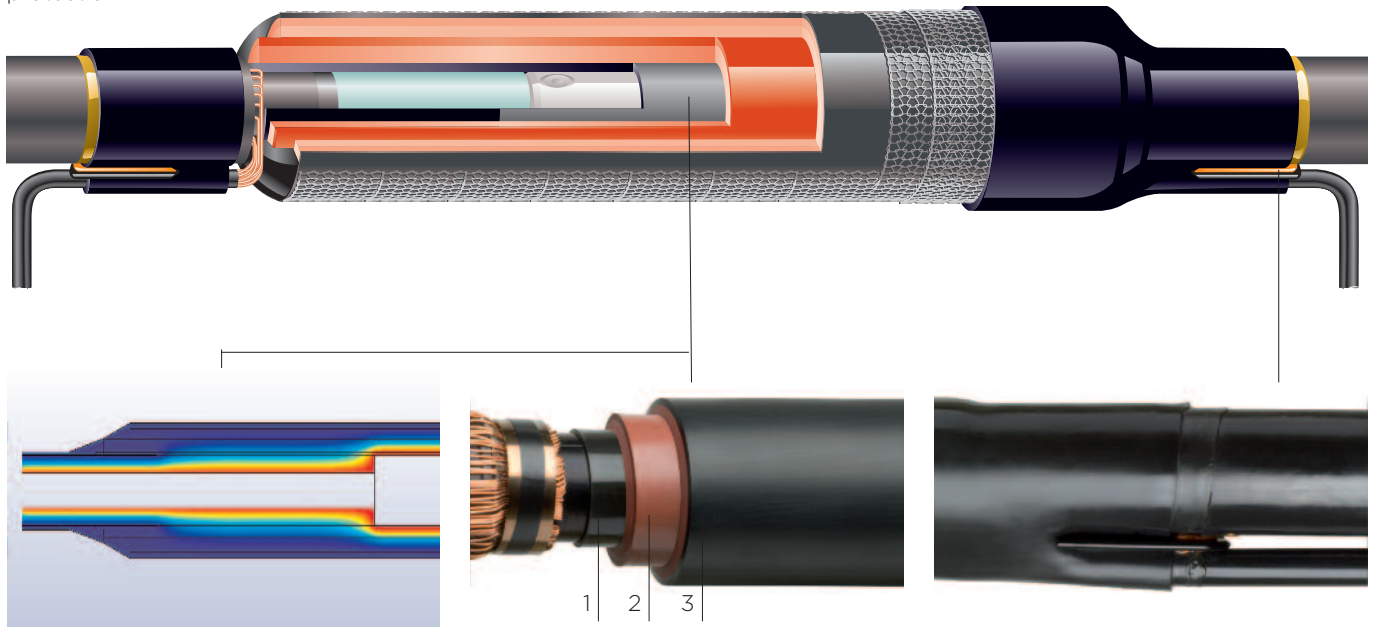
Solderless connections are used to connect the metallic -shields, -sheaths or -armours of the cables. The components continue the correct cross section across the connection area, even for different metallic layers. In addition a layer of copper mesh is applied around the joint, to assure safe contact and protection.

### Mechanical connector

The mechanical connector is designed for all common conductor types, made of aluminium or copper. Bolts with a predetermined shear-off torque ensure reliable contact and easy handling at every installation.

### Outer joint protection

A heat-shrinkable tube with a strong wall thickness and internally pre-coated with adhesive, provides the outer protection and a lasting moisture sealing.



### Electrical field control

The stress control tube (1) has a precisely defined impedance characteristic which smoothes the electrical field over the connector and cable screen ends. High voltage insulating tube (2)

and the inner wall of the screened tube (3) restore the conductor insulation. The elastic memory of the heat-shrink components ensures the correct wall thickness is obtained.

### Shield continuity

Shield break, straight through and grounding connections are possible.

**Technical data:**

		52 kV	72.5 kV
Relevant standards	IEC 60840 / IEEE 404		
Rated voltage $U_0/U$ ( $U_m$ )	kV	26/46 (52)	36/66 (72.5)
Basic impulse level	kV	250	325
Max. continuous operating temperature	°C	90	90
Max. conductor emergency temperature	°C	130	130
Conductor short circuit temperature	°C	250	250
Short circuit current (sheath)	kA / 1sec	10	10

**For shield break joints:**

DC voltage between metallic sheaths/screens	kV	20	20
DC voltage between metallic sheath/screen and earthed exterior	kV	20	20
Lightning impulse voltage between metallic sheath/screen	kV	60	60
Lightning impulse voltage between metallic sheath/screen and earthed exterior	kV	30	30

**Application Range:**

Conductor	mm <sup>2</sup>	2500	2500
Diameter over insulation	mm	30 - 86	30 - 86
Diameter over jacket	mm	100	100

For special applications and bigger cable sizes please contact your TE Energy representative.

**Tools**

Tools required for cable preparation can also be purchased or rented from TE Energy.  
(See brochure EPP-0756 and EPP-1543)



Cable stripper



Gas torch



Straightening slide rails



Tool box



Heating blanket

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