Energy Division

Raychem Inline and Shield-Break Joint EHVS for 123 kV up to 170 kV

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EHVS

Raychem Inline and Shield-Break Joint for 123 kV up to 170 kV

Application

The joint is a pre-fabricated three-piece design for voltage classes up to 170 kV. Polymeric insulated cables of various designs can be adopted with respect to shielding and metal sheath.

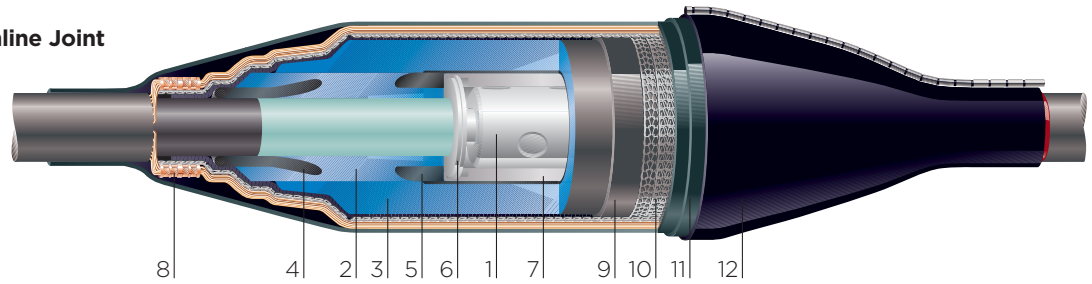
Features

- Pre-fabricated three-piece joint design
- Torque-controlled conductor sleeves
- Integrated moisture barrier using H/S components
- Short cut-back dimensions
- No special tools required to install the joint
- Can adapt shield-break applications
- Cable size transition is possible
- Factory tested Si-rubber parts
- Type tested according to IEC 60840 and IEEE 404 standards

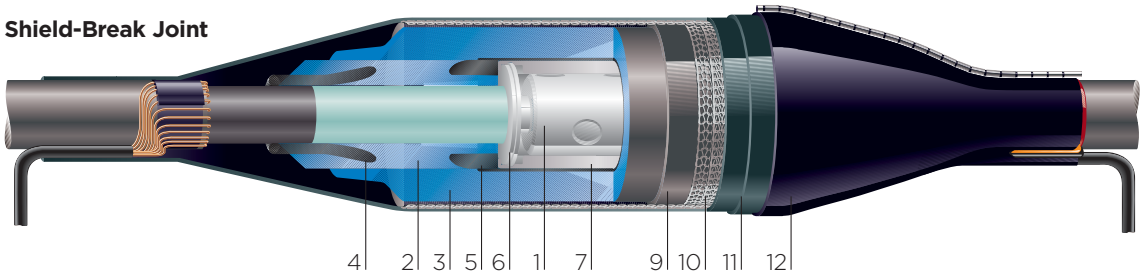
Major Design Elements

The joint consists of connector (1), cable adapters (2) – including stress cones and main joint body (3) – containing Faraday cage (7) and outer serving by heat-shrink technology (9,12). The conductors of the cable are connected by a mechanical connector sleeve (1) using torque controlled shear-off bolts. The connector sleeve is suitable for stranded aluminium and copper conductors. The Si-rubber cable adapters (2), accommodating the various cable insulation diameters, build up the connection area to an almost constant diameter. This allows to cover different cable cross-sections with just one main insulation joint body (3). Therefore cross-section transitions are possible without any extra components. No extra tooling is needed to push-on the Si-rubber cable adapters (2) and the Si-rubber joint main body (3) due to its excellent elasticity. A metal shielding clamp (7) on top of the connector ensures perfect heat transmission and a smooth interface fit. The fixing rings (6) keep the cable adapter and the cable dielectric in position. During the installation the main body is parked on the over sheath of the cable. This keeps the cut back length and cable preparation time as short as possible. Mechanical solderless connector technologies (8) are used to connect metal shields – copper wires, metal sheath and CAS. Heat-shrink technologies (9,12) replace the cable serving and the moisture barrier. The joint concept is similar for the shield-break joints, despite the shield continuity. Special sealant components make it possible to use double-insulated ground leads, and thereby to utilise the proven heat-shrink technology.

Inline Joint



Shield-Break Joint



1 Mechanical connector
2 Adapter
3 Main body
4 Stress cone
5 HV electrode
6 Fixing ring
7 Metal shielding clamp
8 Solderless shield connection
9 Conductive tubing
10 Copper mesh
11 Insulating tubing
12 Outer protection with integrated moisture barrier

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