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CELLPACK

Electrical Products

Cold Shrink "All-in-One" Straight Joints (CCMSV)

For polymeric insulated cables
up to 18/30 (36) kV

Type-tested according to
the latest
HD 629.1 S3:2019
standards



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"ALL-IN-ONE" COLD SHRINK JOINTS (CCMSV)

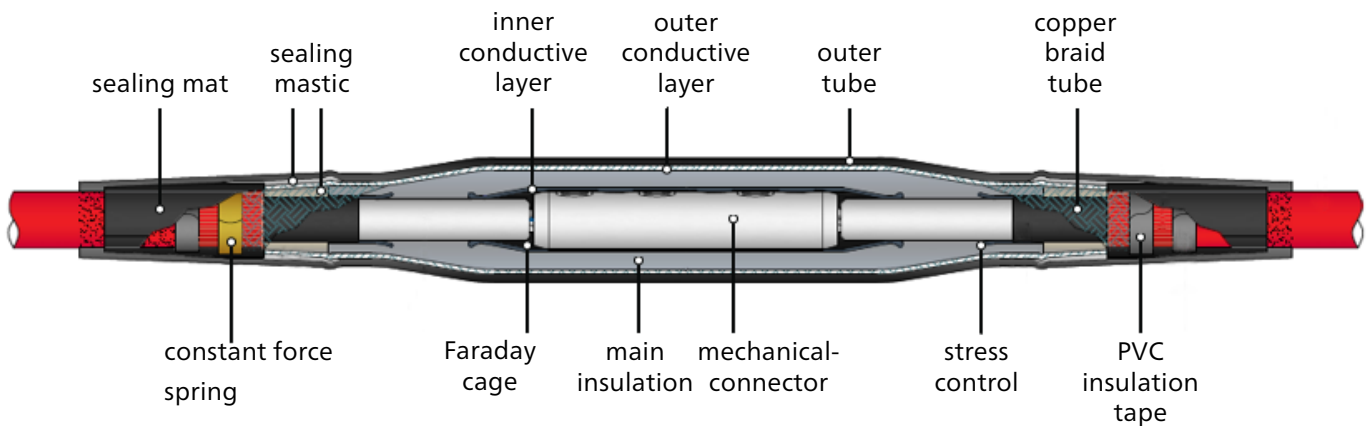
In addition to hybrid-heat shrink and cold slip-on solutions, BBC Cellpack Electrical Products now also offers cold shrink "All-in-one" joints. This complete range of products for medium voltage (MV) applications, we provide our customers, the flexibility to choose the product that best suits their application.

The cold shrink joints are manufactured using high-elasticity liquid silicone rubber (LSR), which offers excellent insulation and high flexibility. The use of Silicone rubber offers many advantages: it exerts constant radial pressure on the contact surface, has high tear strength and high hydrophobicity, and is chemically inert and flame-retardant

The cold shrink joints have been type-tested according to the latest CENELEC HD 629.1 S3:2019 standard which guarantee reliable connector connection, excellent stress control and adequate insulation to ensure operational safety and high network reliability.

The joints are suitable for all 1-core polymeric-insulated cables with copper wire and tape screen up to 18/30(36) kV. They allow the connection of cables with different cross sections and conductor materials, and even different semiconductive layers.

Installation is simple, fast, and easy.



VOLTAGE LEVEL

- $U_o/U(U_m)$ 6/10(12) kV – 18/30(36) kV

APPLICATION / SUITABILITY

- Indoor
- Outdoor
- Underground & overhead

TEST STANDARD

- CENELEC HD 629.1 S3

SHELF LIFE / STORAGE CONDITIONS

- 24 months stored at +5°C to +40°C





FEATURES

BENEFITS

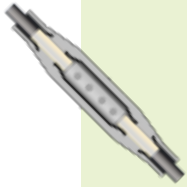
FEW SYSTEM COMPONENTS



- Main components pre-installed in factory

- Fast & fault-tolerant installation
- Installation failures can be avoided
- Labor is low due to convenient installation. No special training required to install

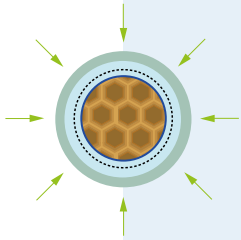
INTEGRATED STRESS-CONTROL ELEMENTS



- Faraday cage in the connector area
- Geometric field control in the semi-con edges
- Outer semi-conductive layer limits the electric field

- Saves installation time, as mastics/tapes are not needed
 - > Closing of voids at connection area is not necessary
 - > No need for stress-control mastics at cable semi-con edges

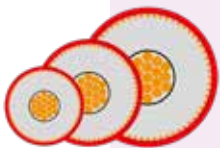
CONSTANT "RADIAL PRESSURE" ON THE CABLE



- As the cable expands & contracts with changes in temperature, the product will expand & contract with it to maintain the integrity of the interface and an excellent moisture seal

- Suitable for applications where load swings occur (renewables-wind)
- Avoids air gaps which helps eliminating partial discharge (PD) and failure

RANGE TAKING PRODUCT



- Silicone rubber, with its excellent mechanical properties & high expansion forces offer wide application range.

- Reduces inventory and storage-related costs for customers

NO SPECIAL TOOLS NEEDED FOR INSTALLATION



- Burner or torch is not required for installation

- Fire hazards are eliminated
- Suitable for special applications (e.g., oil refineries), where a burner/torch is not allowed





CCMSV COLD SHRINK STRAIGHT JOINTS – COMPACT | FAST | EASY

MECHANICAL CONNECTOR

The mechanical connector offer a perfect fit in the CCMSV joints. These connectors are made of tin-plated aluminum alloy suitable for different conductor materials (aluminum/copper) & shapes (RE, RM, SE, SM).

- Pre-set torque ensures smooth shearing off the bolts when tightened
- Internal grooves & off set arrangement of bolts ensure optimum contact of the conductor
- Chamfered ends guarantee easy and damage-free slipping of the silicone body
- Type-tested according to IEC 61238
- Centering inlays pre-installed with easily removable option – offers a perfect fit for conductors



INSULATION BODY

The insulation body is made of high-performance silicone rubber and factory expanded onto a spiral holdout system providing a suitable diameter clearance for easy positioning over cables and connectors. This one-piece insulation body provides stress control, insulation, and insulation screen to rebuild the cable structure. Silicone rubber, with its amazing electrical and mechanical properties, offers:

- High dielectric strength
- Wide x-section range (thanks to high elasticity of silicone)
- Excellent sealing property (hydrophobic)



STRESS CONTROL

The special shape of the joint-body implements the geometrical stress control principle, which regulates the electrical field at the cable ends (screen cut area). The inner conductive layer of the joint body forms a Faraday cage in the connector area, which ensures stress control and makes the use of further components unnecessary.

Outer semi-conductive layer: to rebuild the outer semi-conductive layer of the cable thereby ensuring an homogenous electric field distribution



Cable screens are parked over the integrated stress cone – no need for any stress grading mastic

Connector is encased in the Faraday cage – no need for any additional stress control or smoothing of the profile



SCREEN CONNECTION

The electrical screen continuity of the cables is achieved by means of a copper stocking pre-installed over the joint body. Electrical continuity between the cable screen and copper stockings is achieved by using austenitic-steel constant-force springs. The copper stocking has a cross section of 25 sq.mm and is compatible with both tape and wire screens.

- Solder-free electrical connection of metal cable components
- No tools required for screen continuity

OUTER PROTECTION

The outer protection, pre-expanded and pre-installed over the joint body, is made of silicone rubber because of its excellent mechanical & chemical properties. The outer tubes, together with the mastic tapes, offer excellent sealing & prevent water penetration during the operation.

- Good hydrophobic properties, repels water
- Good chemical stability/resistance against man chemical solvents, fuels and oils
- Good flame retardant, no high toxic fumes
- Good UV-Stability
- Good Aging Resistance





PRODUCT PORTFOLIO AND ORDERING INFORMATION

CCMSV 24 KV: COLD SHRINK STRAIGHT-THROUGH JOINTS WITH SCREW CONNECTOR, FOR 24KV 1-CORE POLYMERIC CABLES WITH COPPER WIRE AND TAPE SCREEN

12/20(24) kV -
12,7/22(24) kV

| Product description | Suitable for cable type | Insulation diameter min - max mm | Cross section range mm ² | Length of the joint (±50mm) mm | Art. no. |
|-----------------------|-------------------------|----------------------------------|-------------------------------------|--------------------------------|----------|
| CCMSV/24kV/35-95 | XLPE /HEPR | 17 - 24 | 35-95 | 650 | 456087 |
| CCMSV/24kV/95-240 | XLPE /HEPR | 19 - 32 | 95-240 | 700 | 456088 |
| CCMSV/24kV/120-300 | XLPE /HEPR | 24 - 36 | 120-300 | 750 | 456089 |
| CCMSV/24kV/240 RM-400 | XLPE /HEPR | 30 - 42 | 240 RM -400 | 800 | 456150 |
| CCMSV/24kV/300-630 | XLPE /HEPR | 30 - 42 | 300-630 | 800 | 456151 |

HEPR cables up to 90°C

CCMSV 36 KV: COLD SHRINK STRAIGHT-THROUGH JOINTS WITH SCREW CONNECTOR, FOR 36KV 1-CORE POLYMERIC CABLES WITH COPPER WIRE AND TAPE SCREEN

18/30(36) kV

| Product description | Suitable for cable type | Insulation diameter min - max mm | Cross section range mm ² | Length of the joint (±50mm) mm | Art. no. |
|---------------------|-------------------------|----------------------------------|-------------------------------------|--------------------------------|----------|
| CCMSV/36kV/25-95 | XLPE / HEPR | 21,4 - 32 | 25-95 | 700 | 456153 |
| CCMSV/36kV/35-150 | XLPE / HEPR | 22,3 - 32 | 35-150 | 700 | 456154 |
| CCMSV/36kV/95-240 | XLPE / HEPR | 26,0 - 36 | 95-240 | 750 | 443213 |
| CCMSV/36kV/240-400 | XLPE / HEPR | 30,5 - 42 | 240-400 | 800 | 456155 |
| CCMSV/36kV/300-630 | XLPE / HEPR | 35 - 54 | 300-630 | 850 | 456156 |

HEPR cables up to 90°C

FOR OTHER CABLE CONSTRUCTIONS,
PLEASE GET IN CONTACT WITH OUR TECHNICAL SUPPORT



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