



**TE'S RAYCHEM
COLD SHRINKABLE
INLINE JOINTS CSJH**
for Polymeric Insulated Cables
up to 42 kV

Features

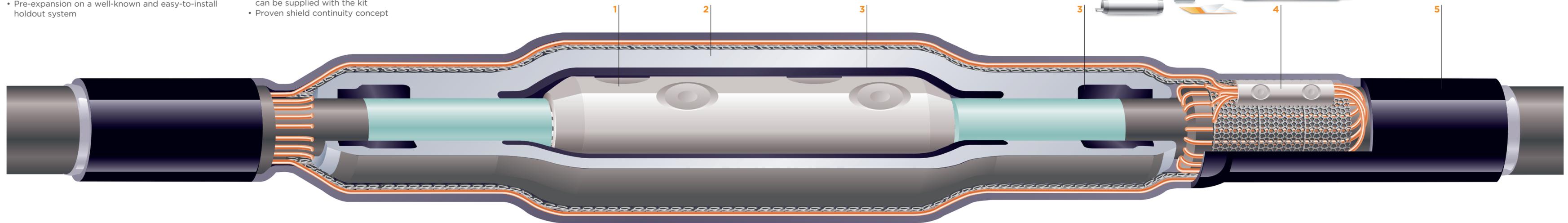
- Pre-expanded, single piece silicone rubber joint body with high mechanical expansion capability allows a wide application range
- Electrical stress control of the screen cut area by integrated conductive geometrical stress cones
- Electrical stress control of the connector area by an integrated screened connection area (Faraday cage)
- Pre-expansion on a well-known and easy-to-install holdout system

- Easy-to-install joint system with short installation time
- Exceeds CENELEC HD 629.1, requirements which include IEC, BS, VDE and other international specifications
- Mechanical shear bolt connectors to IEC 61238-1 with wide application range for conductor and wire shield can be supplied with the kit
- Proven shield continuity concept

General

TE's Raychem joints CSJH offer a reliable, fast and easy-to-install jointing system to assure and maintain high network reliability. A silicone rubber joint body with integrated geometrical stress cones and Faraday cage

provides excellent electrical stress control. TE's Raychem joints CSJH are designed to cover a wide range of applications and to accommodate the variety of cable and conductor types in the networks. Range-taking mechanical connectors ensuring reliable installation and service can be supplied with the kit.



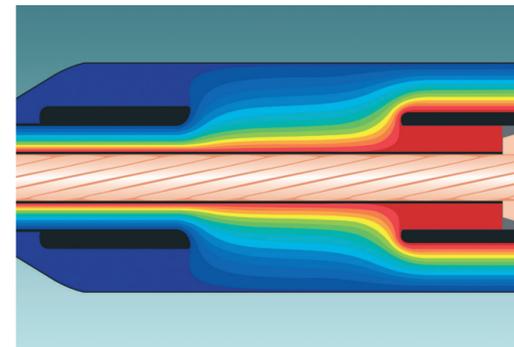
1 Mechanical shear bolt connectors

TE's Raychem joints CSJH are available with TE Connectivity BSM mechanical connectors fitted with shear head bolts to ensure a reliable connection for different conductor materials, shapes and types used in today's network. The pre-set shear torque of the bolts ensures that the correct contact pressure is always achieved. The specially designed contact surface on the inside of the connector breaks up any oxide layer and ensures reliable service over the entire life of the joint. Different sizes of mechanical connectors with wide application ranges are available. The connectors have been tested in accordance with IEC-61238-1 class A.



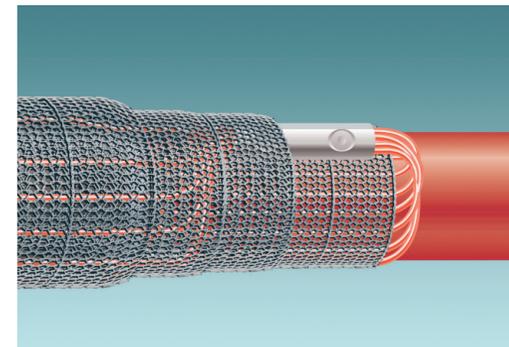
2 Pre-expanded silicone joint body

The silicone rubber joint body is delivered in a pre-expanded condition on a spiral holdout system. Silicone materials with excellent mechanical properties allow high expansion forces and therefore guarantee a wide application range. Integrated stress control mechanism and conductive outer layer provide exceptional electrical performance. The joint body can be easily removed from the spiral holdout with low release forces, particularly designed for joint applications.



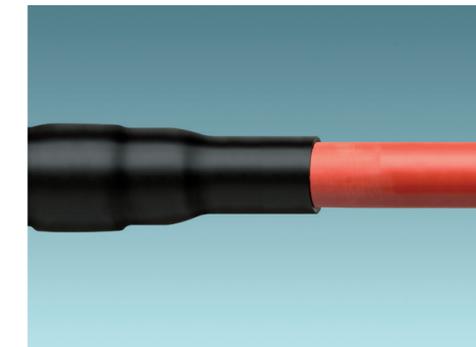
3 Electrical stress control

Electrical stress control is fully integrated in the silicone joint body by well defined conductive areas. Conductive cones with an exactly defined geometrical design over the screen cut area provide excellent electrical stress control. The electrical stress control of the connector area is made with an integrated conductive screen performing as a Faraday cage. The coverage of voids and edges at the connection area with void fillers is not necessary.



4 Shield continuity

Typical shield wire cross sections up to 35 mm² can easily be connected by either mechanical or compression connectors. Positioned at the overshield cut-back, the connection provides a smooth profile resistant to mechanical damage. For kits with TE's BSM mechanical connectors a mechanical shield wire connector is supplied. The two shear bolts of the shield connector provide the required contact force in order to ensure secure installation and reliable performance. Additional layers of copper mesh are applied around the joint to provide shielding and protection.



5 Outer sealing and protection

TE's Raychem joints CSJH include outer sealing and protection provided by a thick-wall, heat-shrinkable tubing. Effective moisture seal and corrosion protection for the joint is ensured by the co-extruded hot melt adhesive. When installed, the heat-shrinkable tubing provides a similar level of protection as the PE overshield of modern cables.

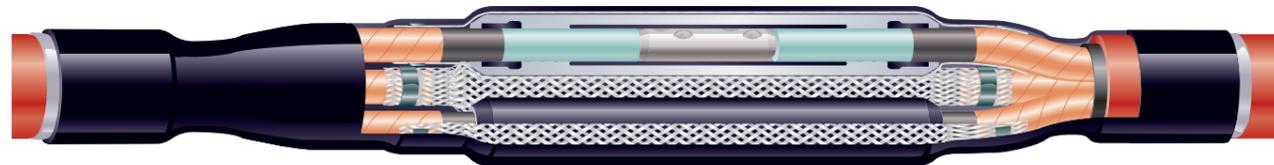


Cordless impact wrench

For the installation of mechanical connectors a cordless impact wrench is available. This tool allows simpler, safer and faster installation compared with manual installation. It can be used for shear-head bolts up to 100 Nm torque. The motor is constructed with heavy gauge copper coils and the striker is designed to deliver maximum power output while withstanding extreme heat and stress. This tool has externally accessible and replaceable carbon brushes, thereby guaranteeing long service life. The machine comes in a rigid compartmented carrying case with all hexagon sockets and keys necessary for standard mechanical connectors and lugs. The powerful battery is sufficient for approximately 20 four-bolted connectors per battery charging cycle.

TE's Raychem MV Cold Shrinkable Inline Joints CSJH for 3-core Polymeric Insulated Cables

TE's Raychem CSJH can be supplied for 3-core polymeric insulated cables. For 3-core applications pre-expanded single piece silicone joint bodies are used allowing easy installation and short installation time. TE's Raychem CSJH 3-core joints can be used with compression connectors or TE's mechanical BSM connectors. Based on the application TE's Raychem CSJH 3-core joints can be modified for armoured and/or wire shielded cables. Please contact your local sales representative for support.



Test Report PPR-2180 Qualification of CSJH-24C/3XU-3XU-M for application up to 24 kV

RAYCHEM 1-CORE JOINT CSJH WITHOUT CONNECTOR						
	Application range* [mm ²]	Kit description	Diameter over core insulation [mm]	Diameter over outer sheath [mm]	Admissible connector dimensions	
					Max. Length [mm]	Max. dia. [mm]
12 kV	95 - 240	CSJH-12B/1XU-1XU	18.6 - 28.4	26.0 - 39.0	145.0	33.0
	185 - 300	CSJH-12C/1XU-1XU	23.2 - 32.6	30.0 - 44.0	145.0	37.0
	240 - 400	CSJH-12D/1XU-1XU	25.7 - 33.6	33.0 - 45.0	170.0	42.0
	500 - 800	CSJH-12E/1XU-1XU	34.4 - 42.2	43.0 - 58.0	200.0	50.0
24 kV	35 - 185	CSJH-24B/1XU-1XU	18.9 - 30.1	26.0 - 41.0	145.0	33.0
	95 - 300	CSJH-24C/1XU-1XU	23.5 - 34.6	30.0 - 46.0	145.0	37.0
	185 - 400	CSJH-24D/1XU-1XU	27.4 - 37.8	35.0 - 49.0	170.0	42.0
	400 - 630	CSJH-24E/1XU-1XU	35.1 - 44.0	43.0 - 57.0	200.0	50.0
	800 - 1000	CSJH-24F/1XU-1XU	43.9 - 53.2	58.5 - 67.0	200.0	60.0
36 kV	70 - 240	CSJH-36D/1XU-1XU	26.2 - 37.6	34.0 - 48.0	140.0	33.0
	240 - 630	CSJH-36E/1XU-1XU	34.9 - 49.2	42.0 - 61.0	200.0	50.0
	500 - 800	CSJH-36F/1XU-1XU	42.6 - 53.4	51.0 - 66.0	200.0	60.0

RAYCHEM 1-CORE JOINT CSJH WITH CONNECTOR					
	Application range* [mm ²]	Kit description	Diameter over core insulation [mm]	Diameter over outer sheath [mm]	Diameter over conductor ** [mm]
12 kV	95 - 240	CSJH-12B/1XU-1XU-M	18.6 - 28.4	26.0 - 39.0	11.0 - 19.2
	185 - 300	CSJH-12C/1XU-1XU-M	23.2 - 32.6	30.0 - 44.0	15.5 - 23.1
	240 - 400	CSJH-12D/1XU-1XU-M	25.7 - 33.6	33.0 - 45.0	17.8 - 24.6
	500	CSJH-12E/1XU-1XU-M1	34.4 - 36.2	43.0 - 48.0	25.7 - 27.6
	630	CSJH-12E/1XU-1XU-M2	38.0 - 40.0	47.0 - 52.0	29.3 - 32.5
24 kV	35 - 150	CSJH-24B/1XU-1XU-M	18.9 - 28.5	26.0 - 39.0	6.6 - 19.2
	95 - 240	CSJH-24C/1XU-1XU-M1	23.5 - 32.6	30.0 - 44.0	11.0 - 19.2
	120 - 300	CSJH-24C/1XU-1XU-M2	24.3 - 34.6	32.0 - 46.0	12.5 - 21.6
	185 - 400	CSJH-24D/1XU-1XU-M	27.4 - 37.8	35.0 - 49.0	15.5 - 24.6
	500	CSJH-24E/1XU-1XU-M1	37.9 - 40.6	46.0 - 52.0	25.7 - 27.6
	630	CSJH-24E/1XU-1XU-M2	41.0 - 44.0	56.0 - 57.0	29.3 - 32.5
36 kV	95 - 240	CSJH-36D/1XU-1XU-M	27.8 - 37.6	35.0 - 48.0	11.0 - 19.2
	240 - 400	CSJH-36E/1XU-1XU-M1	34.9 - 42.8	42.0 - 54.0	17.8 - 24.6
	500	CSJH-36E/1XU-1XU-M2	42.6 - 45.6	51.0 - 57.0	25.7 - 27.6
	630	CSJH-36E/1XU-1XU-M3	45.8 - 49.2	56.0 - 61.0	29.3 - 32.5

TE'S RAYCHEM 1-CORE JOINT CSJH WITHOUT CONNECTOR						
	Application range* [mm ²]	Kit description	Diameter over core insulation [mm]	Diameter over outer sheath [mm]	Admissible connector dimensions	
					Max. Length [mm]	Max. dia. [mm]
12 kV	95 - 240	CSJH-12B/3XU-3XU	18.6 - 28.4	50.0 - 120.0	145.0	33.0
	185 - 300	CSJH-12C/3XU-3XU	23.2 - 32.6	50.0 - 120.0	145.0	37.0
24 kV	35 - 185	CSJH-24B/3XU-3XU	18.9 - 30.1	50.0 - 120.0	145.0	33.0
	95 - 300	CSJH-24C/3XU-3XU	23.5 - 34.6	50.0 - 120.0	145.0	37.0

* The application range given in the table is based on polymeric insulated cables according to IEC 60502 with stranded circular conductors. Due to different conductor dimensions and/or cable constructions the minimum and maximum application range may be extendable. Please contact your local sales representative.

** The diameter over conductor is needed only for kits including TE Connectivity BSM connectors. The values given in the selection table refer to aluminium circular conductors and may change for other materials and shapes.

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