POWER CABLE ACCESSORIES CATALOGUE



CABLE JOINTING – TERMINATING – SHEATH REPAIR – SEALING – BUSBAR INSULATION – HEAT SHRINK – CABLE BREAKOUTS – CABLE END CAPS – PHASE IDENTIFICATION – CABLE ABANDONMENT – COLD SHRINK – CABLE LOOPS – SEPARABLE CONNECTORS – CABLE GLANDS – PUSH ON PREMOULDED – MASTICS – TUBING – TAPES – SMART ACCESSORIES – JOINTING

REPL range of RCSJ Cold Shrinkable Joints are suitable for installations on medium voltage cables up to 36kV.
The Joint consists of a moulded silicon rubber body with integrated central Faraday Cage, geometric stress control, and a conductive outer layer which reinstates the key layers of the cable being jointed. The joint bodies are pre-expanded onto a spiral former providing a suitable diameter clearance to allow easy location over cables and connectors. Once correctly located the body in position, the body is shrunk down by simply pulling out the spiral tape former.

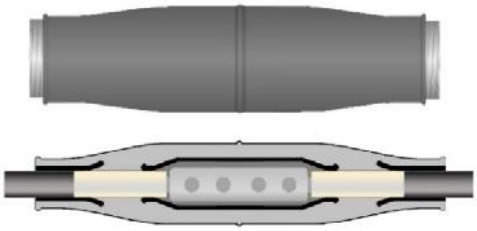


To complete the joint, the cable metallic screens are connected using an appropriate method. There is a range of options available for the outer protection such as Cold Shrinkable or Heat Shrinkable tubing, or resin encapsulation using plastic shell. Because the RCSJ requires no special tools or heat source for installation, it is ideal for areas where heat tools are not allowed or accessible.
A range of bodies to cover cables up to 36kV in single core, three core designs and trifurcating with either extruded or paper insulation.

Features:

- Tested to CENELEC HD 629.1.S2
- Quick and easy installation using no heat source or special tools
- One piece design with integrated central Faraday cage and screen stress control cones
- Short parking distance required means compact joint bay area
- Silicon Rubber material for excellent electrical insulation properties
- Suitable for a wide range of mechanical cable connectors
- Kits for armoured and unarmoured type cables can be supplied
- Choice of outer protection materials

The pre-moulded silicon rubber joint bodies integrate the key components to reinstate the insulation system for a medium voltage cable.
The inner Faraday cage is at same potential as the phase connector and provides a smoothing layer onto the insulation – this means any sharp edge on the connector does not affect the performance.
The geometric stress cones at either end provide field control at the end of the insulation screens.



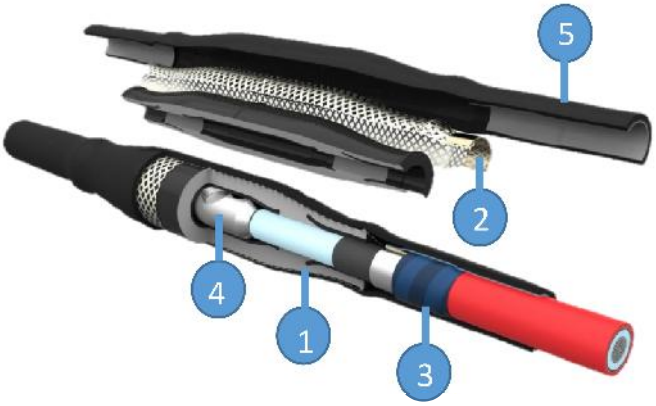
Technical Details for RCSJ Cold Shrinkable Jointing System

Voltage Class:	7.2kV	12kV	17.5kV	24kV	36kV
Cross Section Range (mm^2)	95 - 630	50 - 1000	50 - 1000	35 - 1000	50 - 1000
Cable Insulation Diameter (mm)	13 - 36	15 - 46	17 - 48	18 - 50	24 - 55
Voltage Rating U_0/U (U_m) kV	3.8/6.6 (7.2)	6.35/11 (12)	8.7/15 (17.5)	12.7/22 (24)	19/33 (36)
Basic Impulse Level (BIL) kV	60	95	95	125	194
Partial Discharge at 1.73U^o (pC)	<10	<10	<10	<10	<10
AC Voltage Withstand , 1 min (kV)	>15	>25.5	>35	>51	>76
AC Voltage Withstand , 5 min (kV)	>17	>28.5	>39	>57	>85.5
DC Voltage Withstand , 15min (kV)	>23	>38	>52	>76	>114

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For Single & Three Core Polymeric Insulated cables (XLPE / EPR)

RCSJ-(7-36)X



Typical Kit Contents

(actual components will depend on specific joint type)

1. Cold Shrinkable moulded joint body
2. Earth / armour screen continuity materials (dependant on cable design)
3. Mastic sealing tapes
4. Phase conductor connector[1]
5. Outer Protection materials , either :
   - Heavy Wall Heat Shrinkable tube *(Hybrid joint where heat is allowed)*
   - EPDM rubber Cold Shrinkable tubing *("ALL COLD" joint where no heat is allowed)*
   - Plastic moulded shell for resin encapsulation

[1] – Optional, type specified at order

Medium Voltage Straight Joints for Polymeric Insulated Cables up to 36kV

The RCSJ-X range of kits are designed for jointing either single or three core cable designs with polymeric (XLPE or EPR) insulation and to be used with mechanical type connectors.

RCSJU – Suitable for unarmoured cable types
RCSJA – Suitable for armoured cable types
RCSTJU – Suitable for transition of 3 core cable to (3X) single core unarmoured type

Fully tested to the following specifications:

- **CENELEC HD629.1**



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RCSJ-(7-36)X

Conductor Cross Section *(See Note 1)* (mm²)	Insulation Diameter Range Ø mm	Maximum overall Diameter of Cable Sheath *(See Note 2)* Ø mm	Cable Construction	Kit Number Single Core Joint	Kit Number Three Core Joint
Cold Shrinkable Straight Cable Joint for Polymeric Insulated cables rated at Um= 7.2kV					
95 - 150	17 - 24	30	No armour	RCSJU 7X 95-150-1	RCSJU 7X 95-150-3
			Armoured	RCSJA 7X 95-150-1	RCSJA 7X 95-150-3
185 - 300	19 - 32	42	No armour	RCSJU 7X 185-300-1	RCSJU 7X 185-300-3
			Armoured	RCSJA 7X 185-300-1	RCSJA 7X 185-300-3
400 - 630*	30 - 42	65	No armour	RCSJU 7X 400-630-1	RCSJU 7X 300-400-3
			Armoured	RCSJA 7X 400-630-1	RCSJA 7X 300-400-3
Cold Shrinkable Straight Cable Joint for Polymeric Insulated cables rated at Um= 12kV					
50 - 95	17 - 24	30	No armour	RCSJU 12X 50-95-1	RCSJU 12X 50-95-3
			Armoured	RCSJA 12X 50-95-1	RCSJA 12X 50-95-3
95 - 300	19 - 32	42	No armour	RCSJU 12X 95-300-1	RCSJU 12X 95-300-3
			Armoured	RCSJA 12X 95-300-1	RCSJA 12X 95-300-3
400 - 630*	30 - 42	65	No armour	RCSJU 12X 400-630-1	RCSJU 12X 300-400-3
			Armoured	RCSJA 12X 400-630-1	RCSJA 12X 300-400-3
630 - 1000	40 - 60	78	No armour	RCSJU 12X 630-1000-1	-
			Armoured	RCSJA 12X 630-1000-1	-
Cold Shrinkable Straight Cable Joint for Polymeric Insulated cables rated at Um= 17.5kV					
50 - 95	17 - 24	30	No armour	RCSJU 17X 50-95-1	RCSJU 17X 50-95-3
			Armoured	RCSJA 17X 50-95-1	RCSJA 17X 50-95-3
120 - 240	19 - 32	42	No armour	RCSJU 17X 120-240-1	RCSJU 17X 120-240-3
			Armoured	RCSJA 17X 120-240-1	RCSJA 17X 120-240-3
300 - 500	30 - 42	65	No armour	RCSJU 17X 300-500-1	RCSJU 17X 300-400-3
			Armoured	RCSJA 17X 300-500-1	RCSJA 17X 300-400-3
630 - 1000	40 - 60	78	No armour	RCSJU 17X 630-1000-1	-
			Armoured	RCSJA 17X 630-1000-1	-
Cold Shrinkable Straight Cable Joint for Polymeric Insulated cables rated at Um= 24kV					
35 - 70	17 - 24	30	No armour	RCSJU 24X 35-70-1	RCSJU 24X 35-70-3
			Armoured	RCSJA 24X 35-70-1	RCSJA 24X 35-70-3
95 - 150	19 - 32	42	No armour	RCSJU 24X 95-150-1	RCSJU 24X 95-150-3
			Armoured	RCSJA 24X 95-150-1	RCSJA 24X 95-150-3
185 - 400	30 - 42	65	No armour	RCSJU 24X 185-400-1	RCSJU 24X 185-400-3
			Armoured	RCSJA 24X 185-400-1	RCSJA 24X 185-400-3
500 - 1000	40 - 60	78	No armour	RCSJU 24X 500-1000-1	-
			Armoured	RCSJA 24X 500-1000-1	-
Cold Shrinkable Straight Cable Joint for Polymeric Insulated cables rated at Um= 36kV					
50 - 120	19 - 32	42	No armour	RCSJU 36X 50-120-1	RCSJU 36X 50-120-3
			Armoured	RCSJA 36X 50-120-1	RCSJA 36X 50-120-3
150 - 400	30 - 42	65	No armour	RCSJU 36X 150-400-1	RCSJU 36X 150-400-3
			Armoured	RCSJA 36X 150-400-1	RCSJA 36X 150-400-3
500 - 1000	40 - 60	78	No armour	RCSJU 36X 500-1000-1	-
			Armoured	RCSJA 36X 500-1000-1	-

7.2 kV 12 kV 17.5 kV 24 kV 36 kV

For full product code selection, see Page 68

**3 core cables up to 400m^2 only*

***Note 1** – the conductor cross sections shown are for general guidance only – the more important parameter is the insulation diameter range to ensure the moulded joint body fits correctly.*

***Note 2** – for single core cables, the maximum diameter of the cable is important as the moulded joint body has to slide over the joint and have adequate room for the spiral tape to be pulled out – therefore for cables with armour where diameter is on the top end of the range, it might be better to select next size up.*

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