



3M Technical Information

June 2013

Cold Shrink Three Core Straight Joints for Copper Wire Screened Armoured & Non-Armoured Cables up to 24 kV U_{max} Voltage Class

3M™ Cold Shrink QS2000E Three Core Straight Joint Kits



Product Application

3M Cold Shrink QS2000E Three Core Straight Joint Kits are designed for inline jointing up to 24 kV U_{max} voltage class, three core polymeric power cable systems with copper wire screen, according to HD 620 (IEC 60502).

Kit Contents

3M Cold Shrink QS2000E Straight Joint Kits include Cold Shrink QS2000E Silicone joint bodies with integrated stress control layer, silicone elastomeric insulation and outer semi-conductive layer. Kits also contain Scotch™ Electrical Semi-Conducting Tape 13 to form the inner conductive electrode, copper screen sleeve, constant force springs, screen wire connectors and thick walled EPDM rubber cold shrink outer protection tubes to re-build the cable outer jacket.

Kits contain components for three cores.

Product Features

- The versatile design of the prefabricated one-piece cold shrink joint body allows installation on a wide range of cable sizes and types, and fast and easy installation at temperatures ranging from -20°C to $+50^{\circ}\text{C}$
- No heat or flame is needed during joint body installation
- Wide application range covering several cable cross sectional areas
- Solderless earth connection by means of copper screen sleeve and constant force springs
- Earth connections by means of mechanical screen wire connectors
- Thick walled, EPDM rubber cold shrink outer re-jacketing tubes provide physical protection and moisture sealing of the completed joint. They can be stacked together providing a short parking position on the cable
- No special tools needed during joint installation

Installation

3M Cold Shrink technology ensures quick, easy and safe installation of the QS2000E Joint Body and outer protection tubes by pulling and unwinding the plastic support core in counter clockwise direction. The use of special tools is not necessary.

Detailed instructions for installing the 3M Cold Shrink QS2000E Series Straight Joints are included in each kit.

3M™ Cold Shrink QS2000E Straight Joint Kits Selection Table

Three Core Non-Armoured Copper Wire Screened Cables

Kit Number	BIL kV	Cable Insulation Range mm	Cable Size mm ²			Connector Dimensions	
			6.6 kV	11 kV	22 kV	Diameter Max. mm	Length Max. mm
92-AS 610-3-AU**	95	14.6 - 25.2	70 - 185	25* - 150	-	28	135
92-AS 620-3-AU**	95	19.1 - 36.8	240 - 400	185 - 400	-	38	230
93-AS 620-3-AU***	125	19.1 - 36.8	-	-	35 - 300	38	170

Three Core Armoured Copper Wire Screened Cables

Kit Number	BIL kV	Cable Insulation Range mm	Cable Size mm ²			Connector Dimensions	
			6.6 kV	11 kV	22 kV	Diameter Max. mm	Length Max. mm
92-AS 610-3-AR-AU**	95	14.6 - 25.2	70 - 185	25* - 150	-	28	135
92-AS 620-3-AR-AU**	95	19.1 - 36.8	240 - 400	185 - 400	-	38	230
93-AS 620-3-AR-AU***	125	19.1 - 36.8	-	-	35 - 300	38	170

*With adaptor kit 92-PG 610-1-AU/92-PG 610-3-AU

**Note: These joints are also suitable for 3.3 kV cables. Please select the right kit based on the jacket and insulation diameter ranges.

***Note: These joints are also suitable for 15 kV cables. Please select the right kit based on the jacket and insulation diameter ranges.

Final determining factors are cable size and cable insulation diameter

Performance Tests

The 3M QS2000E Single Core Straight Joint Series meets and exceeds the requirements of the European standard CENELEC HD 629.1. See Independent Test Reports TR003319 & 2007-104.

Storage

The shelf life of 3M Cold Shrink QS2000E Series Straight Joints is specified as 3 years.

Temperature: -40°C to +50°C.

Product Stewardship

3M has a fundamental concern for all who make, distribute and use its products, and for the environment in which we live. This concern is the basis of our philosophy and policies by which we assess the health and environmental information on our products and then take the appropriate steps to protect employee, the public health and the environment.

Customer Notice

3M encourages its customers and potential users of 3M products to review their applications for such products from the standpoint of human health and environmental quality to help ensure that 3M products are not used in ways for which they were not intended or tested. 3M personnel are available to assist customers in dealing with ecological and product safety considerations. Your 3M sales representative can arrange for the proper contacts.

Regulatory Status

3M Cold Shrink QS2000E Series Straight Joints are not subject to the European WEEE and RoHS Directives but meet their requirements.

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Important Notice

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