



## **3M** QS200

### **Cold Shrink Single Core Inline Joint with Cold Shrink re-jacketing 93-AK 6x0-1 series**

#### **Application**

3M™ QS 200 Cold Shrink Series Kits are designed for inline splicing up to 24kV Umax voltage class, Single core polymeric power cable systems with copper wire screen according to HD 620 (IEC 60502).

#### **Kit Content**

The 93-AK 6x0-1 Inline Joint Series includes the Cold Shrink QS 200 silicone splice body with integrated stress control device, conductive electrode, silicone elastomeric insulation and outer semi-conductive layer. Also included are Copper Screen sleeve, Constant Force springs for metallic screen and thick walled EPDM rubber Cold Shrink outer tubes to re-build the cable outer jacket.



#### **Product Features**

- The versatile design of the prefabricated one-piece cold shrink splice body allows installation on a wide range of cable sizes and types and a fast and easy installation at temperatures ranging from - 20°C to + 50°C.
- No heat or flame is needed during splice body installation.
- Accommodates crimp or mechanical connectors up to 68mm diameter and 245mm length.
- Wide application range covering several cable cross sectional areas from 50mm<sup>2</sup> – 1000mm<sup>2</sup>.
- Solderless earth connection by means of Copper Screen sleeve and Constant Force springs.
- Thick walled, EPDM rubber Cold Shrink outer re-jacketing tubes provide physical protection and moisture sealing of the completed Inline joints.
- No special tools needed during splice installation.

#### **Installation**

3M Cold Shrink technology ensures quick, easy and safe installation of the QS 200 Splice Body and outer protection tubes by pulling and unwinding the plastic support core in counter clockwise direction. Use of special tools is not necessary. Detailed instructions for installing the 3M QS 200 Series Inline Joints are included in each kit.

## Product Selection

Application Range						
Kit Ref.	Cable Dimensions for Polymeric Cables				Connector Dimensions Crimp or Mechanical Connector	
	Diameter over Cable jacket max.(mm)	Diameter over Primary Insulation (mm)	Cross Section (mm <sup>2</sup> )		Diameter max. (mm)	Length max. (mm)
			8,7/15(17,5)kV	12/20(24)kV 12,7/22(24)kV		
93-AK 620-1	46	19.1 – 38.0	95 - 400	50 - 300	38	160
93-AK 630-1	74	33.4 – 66,0	500 - 1000	400 - 1000	68	245

## Performance Tests

The 3M QS 200 Inline Joint Series meets and exceeds the requirements of the European standard CENELEC HD 629.1 as well as IEC 60502-4. See Independent Test Report No. I-0600.

## Testing

The QS 200 Kit Series 93-AK 620-1 up to 93-AK 630-1 were tested according HD 629.1 02/2006 S2 test sequence B1 Table 5

Type of Test according to HD 629.1 S2 B1 Table 5		Results
DC Voltage Withstand Test	6 x U <sub>o</sub> ; t=15 min	passed
AC Voltage Withstand Test	4,5 x U <sub>o</sub> ; t=5 min	passed
Particle Discharge Test	2 x U <sub>o</sub> ; PD ≤ 10 pC	passed
Impulse Voltage Withstand Test	10 x 125kV positive and negative impulses	passed
Heat Cycle in air	63 cycles: 5h/3h	passed
Heat Cycle in water	63 cycles: 5h/3h	passed
Particle Discharge Test	2 x U <sub>o</sub> ; PD ≤ 10 pC	passed
Impulse Voltage Withstand Test	10 x 125kV positive and negative impulses	passed
AC Voltage Withstand Test	2,5 x U <sub>o</sub> ; t=15 min	passed

## Product Identification

3M QS 200 Series Inline Joint kits are marked with supplier name, cable cross section ranges, voltage class and cable type, storage conditions and manufacturing codes for product traceability.

## Storage

The shelf life of 3M QS 200 Series Inline 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 QS 200 Series Inline Joints are not subject of the European WEEE and RoHS Directives but meet their requirements.

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