

# 3M™ QTEN

## High Voltage Cold Shrink Termination 96-EP Series, for XLPE & EPR Insulated Cables

### Application

3M™ QTEN Cold Shrink Termination Kit is designed for Cable Terminations up to 72.5kV U<sub>max</sub> Voltage class, Single core polymeric power cable systems with copper wire screen or Lead Sheath according to IEC 60840.

### Kit Content

3M™ QTEN Termination includes a Cold shrink body with integrated, silicone elastomeric insulation and outer silicone rain sheds, with a separate Cold shrink Stress Control PST. Also included are silicone Cold shrink tubes for sealing onto the cable sheath, and the cable lug. The inner refractive stress control layer and the silicone insulation layer are co-extruded during the manufacturing process. The Termination is designed to accommodate all available cable Lugs designs including, hexagonal or deep indent crimp, as well as mechanical.

#### Standard Configuration



#### Inverted Configuration



### Product Features

- The versatile design of the silicone cold shrink Termination 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, flame, or special tools are needed during splice body installation.
- Accommodates crimp or mechanical Lugs up to 110mm in diameter.
- Wide application range covering several cable cross sectional areas from 120mm<sup>2</sup> – 2000mm<sup>2</sup>.
- Solderless earth connection to copper screen wires or lead sheath.
- Silicone rubber Cold Shrink outer rain sheds and sealing PST's provide physical protection and moisture sealing of the completed Termination.

- The Silicone outer rain sheds of the Termination makes it ideal for zones with maximum environmental contamination, industrial or coastal.
- Creepage path connection for additional protection in areas of high pollution.

## Installation

3M™ Cold Shrink technology ensures quick, easy and safe installation of the QTEN Termination Body and outer rain sheds and sealing 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™ QTEN Termination are included in each kit.

## Product Identification

3M™ QTEN Series Termination Kits are marked with supplier name, cable cross section ranges, voltage class and cable type, storage conditions and manufacturing codes for product traceability.

## Product Selection

Kit Reference	Cable Dimensions for Polymeric Cable			Lug Dimensions (Crimp or Mechanical) Diameter Max (mm)
	Diameter over Cable Jacket (mm)	Diameter over Primary Insulation (mm)	Cross Section Guide (mm <sup>2</sup> ) 66/69 (72.5)kV	
96-EP720-2 CWS	90	33.0 – 60.0	120 – 1000	90
96-EP722-2 Lead Sheath	90	33.0 – 60.0	120 – 1000	90
96-EP723-2 CWS or CTS + AWA	90	33.0 – 60.0	120 – 1000	90
96-EP725-2 CWS Extended Creepage Distance	90	33.0 – 60.0	120 – 1000	90
96-EP820-2 CWS Inverted	90	33.0 – 60.0	120 – 1000	90
96-EP730-2 CWS	115	51.1 – 87.0	630 – 2000	110
96-EP732-2 Lead Sheath	115	51.1 – 87.0	630 – 2000	110
96-EP830-2 CWS Inverted	115	51.1 – 87.0	630 – 2000	110

## Performance Tests

The 3M™ QTEN Single Core Termination meets and exceeds the requirements of IEC standard 60840 04/2004. Refer to Test Reports 003257 & 2009-124

## Physical and Electrical Properties

The 3M™ QTEN Kit can be used on cables with a rated operating temperature up to 105°C, and an emergency overload rating of 140°C. A Termination constructed from this kit is rated for 72.5 kV U<sub>max</sub> and meets or exceeds the requirements of IEC 60840. The current rating of the Termination meets or exceeds the current rating for the cables on which it is installed. BIL rating is 350 kV.

## Typical Dimensions (Installed Termination)

Installed Termination is 850 to 900mm in length. (Dependant on Cable Cross Section)

## **Creepage Distance**

The designed specific creepage distance of the termination is 1750mm.  
The extended version, 96-EP725-2 has a creepage distance of 2150mm.

## **Storage**

The shelf life of 3M™ QTEN Series Termination is specified as 3 years.  
Temperature: - 40°C to +50°C (short term peaks at 60°C max.)

## **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™ QTEN Series Terminations are not subject of the European WEEE and RoHS Directives but meet their requirements.

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