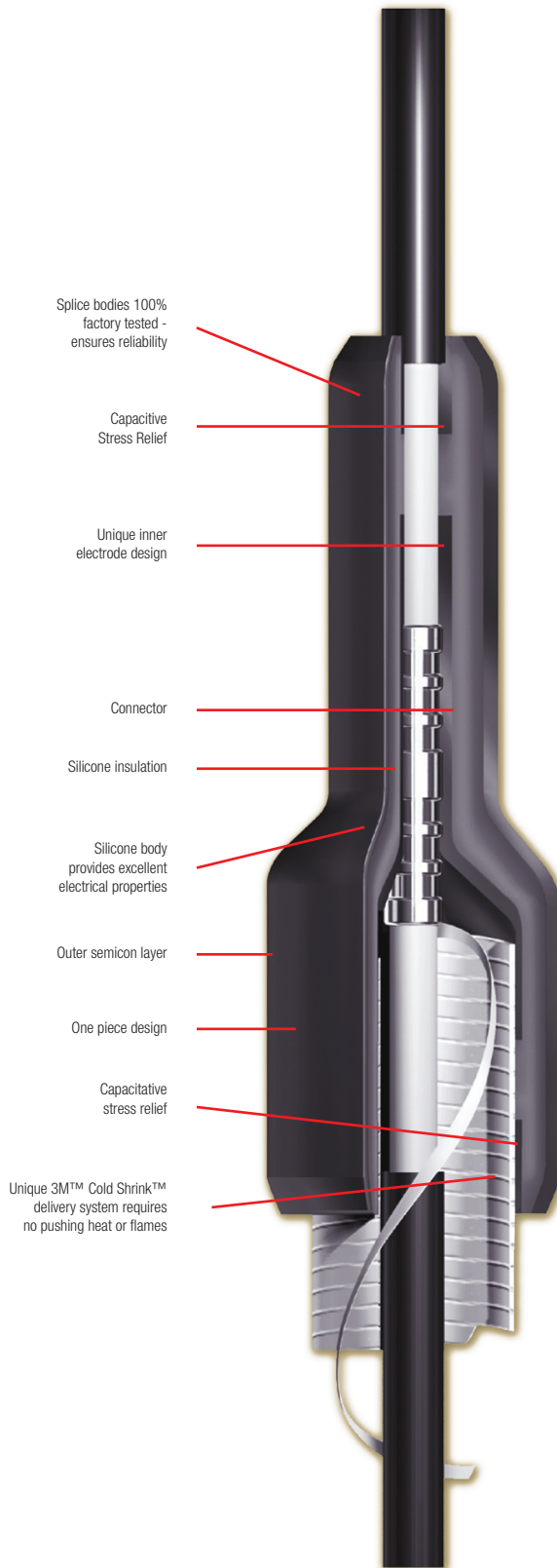


# 3M™ Cold Shrink Medium Voltage Joints & Terminations

3M™ Cold Shrink Joint

# No Heat No Flames No Special Tools No Shoving



**Expanded silicone rubber on removable plastic core.** 3M™ Cold Shrink technology utilizes an expanded silicone rubber material on removable plastic core. The core is removed by simply unwinding.

**Compact Design.** Because of superior material used in 3M™ Cold Shrink™ terminations, tails lengths may be reduced and less space is required.

**Accommodates a wide range of sizes.** Because the expanded silicone material technology, one kit fits a wide range of cable sizes, resulting in reduced inventory.

**Superior silicone material.** Silicone has unique properties as an insulator. Its smooth surface ensures that the minimum amount of contamination adheres to the surface. It is also inorganic and hydrophobic, (water beads form and run off). 3M silicone materials has these unique benefits for outdoor termination applications.

## 3M™ Cold Shrink

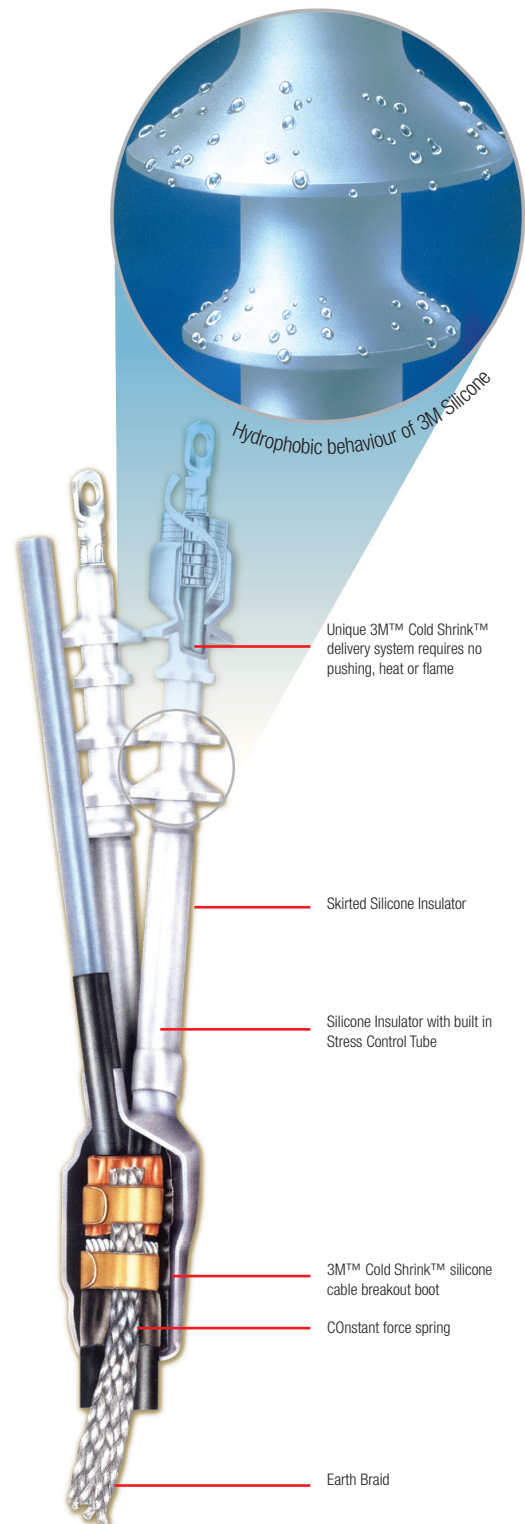
3M™ Cold Shrink Outdoor Termination

# No High Installation Cost No Special Training No Pushing

**Unsurpassed Reliability.** 3M™ Cold Shrink technology has been proven over the last 35 years. Silicone body delivers excellent electrical performance. Splice bodies are 100% factory tested. 3M™ Cold Shrink technology delivers increased radial interface pressure for improved long term reliability. 3M™ Cold Shrink™ technology is field proven by major Middle East Power utilities.

**Simplified Installation.** 3M™ Cold Shrink™ technology utilises a one piece splice body for splicing cable from 6,6-36kv. Taping of phases in terminations has been eliminated by the use of a one piece 3M™ Cold Shrink silicone rubber tube which includes stress control, 3M Quick Term II technology.

**Forget Heat, flames or shoving.** 3M™ Cold Shrink technology is based on a removable plastic core. There is no need for gas cylinders or torches – simply unwind the core.



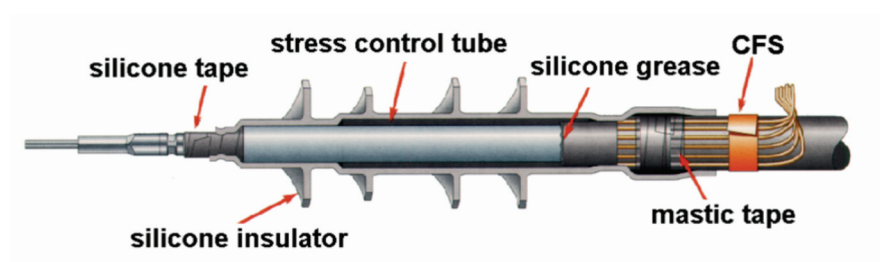
## Cable Accessories



# 3M™ Cold Shrink Joints & Terminations

## 3M™ Cold Shrink MV Terminations

The one-piece design of this cable termination, manufactured with a specially formulated silicone material, reduces the likelihood of tracking, is UV stable and adverse to water (hydrophobic). The cold shrink medium voltage terminations are available for indoor and outdoor applications for single core and 3-core cables up to 46kV.



## 3M™ Cold Shrink Termination Kits

( For XLPE, Screened Armoured Cables )

VOLTAGE	NO. CORES	DESCRIPTION	CABLE SIZE	3M KIT
15kV	1	Indoor	25 – 95 mm <sup>2</sup> 120 – 240 mm <sup>2</sup> 300 – 500 mm <sup>2</sup> 600 – 1000 mm <sup>2</sup>	92-EB 62-1 META 92-EB 63-1 META 92-EB 64-1 META 92-EB 65-1 META
	1	Outdoor	35 – 70 mm <sup>2</sup> 95 – 185 mm <sup>2</sup> 240 – 400 mm <sup>2</sup> 630 mm <sup>2</sup>	92-EB 62-2 META 92-EB 63-2 META 92-EB 64-2 META 92-EB 65-2 META
	3	Indoor	25 – 35 mm <sup>2</sup> 50 – 150 mm <sup>2</sup> 185 – 300 mm <sup>2</sup>	92-EB 62-3 META 92-EB 63-3 META 92-EB 64-3 META
	3	Outdoor	25 – 35 mm <sup>2</sup> 50 – 150 mm <sup>2</sup> 185 – 300 mm <sup>2</sup>	92-EB 62-4 META 92-EB 63-4 META 92-EB 64-4 META
20kV	1	Indoor	25 – 95 mm <sup>2</sup> 70 – 150 mm <sup>2</sup> 185 – 300 mm <sup>2</sup> 400 – 800 mm <sup>2</sup>	93-EB 62-1 META 93-EB 63-1 META 93-EB 64-1 META 93-EB 65-1 META
	1	Outdoor	25 – 95 mm <sup>2</sup> 70 – 150 mm <sup>2</sup> 185 – 300 mm <sup>2</sup> 400 - 800 mm <sup>2</sup>	93-EB 62-2 META 93-EB 63-2 META 93-EB 64-2 META 93-EB 65-2 META
	3	Indoor	25 – 70 mm <sup>2</sup> 95 – 240 mm <sup>2</sup> 300 – 400 mm <sup>2</sup>	93-EB 62-3 META 93-EB 63-3 META 93-EB 64-3 META
	3	Outdoor	25 – 70 mm <sup>2</sup> 95 – 240 mm <sup>2</sup> 300 – 400 mm <sup>2</sup>	93-EB 62-4 META 93-EB 63-4 META 93-EB 64-4 META
36kV	1	Indoor	35 – 95 mm <sup>2</sup> 120 – 185 mm <sup>2</sup> 240 – 500 mm <sup>2</sup> 630 mm <sup>2</sup>	94-EB 62-1 META 94-EB 63-1 META 94-EB 64-1 META 94-EB 65-1 META
	1	Outdoor	35 – 95 mm <sup>2</sup> 120 – 185 mm <sup>2</sup> 240 – 500 mm <sup>2</sup> 630 mm <sup>2</sup>	94-EB 62-2 META 94-EB 63-2 META 94-EB 64-2 META 94-EB 65-2 META
	3	Indoor	25 – 120 mm <sup>2</sup> 150 – 240 mm <sup>2</sup> 300 mm <sup>2</sup>	94-EB 62-3 META 94-EB 63-3 META 94-EB 64-3 META
	3	Outdoor	25 – 120 mm <sup>2</sup> 150 – 240 mm <sup>2</sup> 300 mm <sup>2</sup>	94-EB 62-4 META 94-EB 63-4 META 94-EB 64-4 META

## Paper Termination Kits

( For Belted, PILC MIND Cable )

VOLTAGE	NO. CORES	DESCRIPTION	CABLE SIZE	3M KIT
15kV	3	Indoor	70 - 300 mm <sup>2</sup>	MT - 16
	3	Outdoor	35 – 70 mm <sup>2</sup>	MO - 16



### 3M™ Barrier Boot System 92-EE717-1

The 3M Barrier Boot System 92EE717-1 consists of a one piece EPDM rubber body suitable for operating wet indoors under conditions of ambient temperature and loading. The barrier boot is designed to accommodate bushings of cast resin or porcelain type with diameters between 40.0-70.0mm and is intended for Coldshrink terminations of power cables up to 15kV with extruded insulation from 50 up to 300mm<sup>2</sup>. Voltage rating maximum 8.7/15(17.5)kV. Suitable for both straight and right angled applications.

### Straight/Right Angle Boot

Cold Applied Barrier Boot System For Rated Voltages

( For XLPE, Screened Armoured Cables )

VOLTAGE	NO. CORES	DESCRIPTION	CABLE SIZE	3M KIT
15kV	3	Non-Removable	25 – 120 mm <sup>2</sup> 150 – 300 mm <sup>2</sup>	92 - GBN 610 - 3 92 - GBN 620 - 3
	3	Removable	50 – 300 mm <sup>2</sup>	92 - EE 717 - 1



### 3M™ Gland Kits & Seals

Application Range Diameter	Voltage Rating	Gland Part Number	
Top hat gland kits	36-65mm	11kV	THG1
	53-94mm	11kV	THG2
Top hat gland seal only	To fit THG1	11kV	HGS1
	To fit THG2	11kV	THGS2



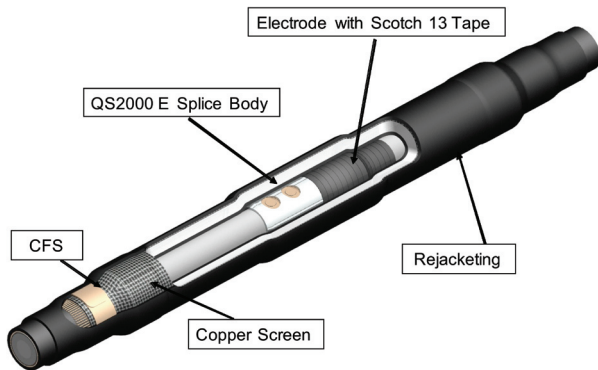
### 3M™ Cold Shrink MV Joints

The QS 2000 E splice body is a prefabricated elastomeric cold shrink 3-layer construction silicone product. The inner refractive stress control layer and the silicone insulation layer are co-extruded during the manufacturing process and the conductive outer screen is painted and vulcanized to provide proper shielding of electromagnetic field. The splice body is designed to accommodate all industrial available cable conductor connecting methods like hexagonal or deep indent crimping technologies or big variety of mechanical share-off connecting technologies. The electrical filed around the cable conductor connection needs to be smoothened by using conductive tape to avoid any significant increase of electrical stress in the cable connector area.

For different applications 3M offers many alternative cable screen connection systems and/or re-jacketing systems to meet customer requirement with possible best solutions.

## Cold Shrink Joint System

Improve reliability, reduce time, labour, and overall cost with our wide range of one-piece joint bodies. Fits cable sizes from 50mm<sup>2</sup> up to 1000mm<sup>2</sup> (11kV up to 36kV).



VOLTAGE	NO. CORES	CABLE SIZE	3M KIT
11kV	1	50 - 150 mm <sup>2</sup>	92-AS 610-1 ME
		120 - 400 mm <sup>2</sup>	92-AS 620-1 ME
		500 - 1000 mm <sup>2</sup>	92-AS 630-1 ME
	3	50 - 150 mm <sup>2</sup>	92-AS 610-3 ME
		120 - 300 mm <sup>2</sup>	92-AS 620-3 ME
20kV	1	50 - 300 mm <sup>2</sup>	93-AS 620-1 ME
		500 - 1000 mm <sup>2</sup>	93-AS 630-1 ME
	3	50 - 300 mm <sup>2</sup>	93-AS 620-3 ME
36kV	1	50 - 185 mm <sup>2</sup>	94-AS 620-1 ME
		240 - 1000 mm <sup>2</sup>	94-AS 630-1 ME
	3	50 - 185 mm <sup>2</sup>	94-AS 620-3 ME
		240 - 1000 mm <sup>2</sup>	94-AS 630-3 ME

Our Medium voltage range is comprehensive and at 3M, we recognize that many projects and applications require a customized solution to meet your needs. Please contact 3M Electrical Markets Division for solutions, technical support, product evaluation, product demonstration and training.

## 3M™ Cold Shrink Paper Splicing Kits

( For Paper Insulated Belted Cable to XLPE Cable )

VOLTAGE	NO. CORES	CABLE SIZE	3M KIT
15kV	3	50 – 95 mm <sup>2</sup>	92-OG400-3
		95 – 185 mm <sup>2</sup>	92-OG410-3
		240 – 300 mm <sup>2</sup>	92-OG420-3

## 3M™ Cold Shrink Transition Splicing Kits

( For Paper Insulated Belted Cable to XLPE Cable )

VOLTAGE	NO. CORES	CABLE SIZE	3M KIT
15kV	3	70 – 120 mm <sup>2</sup>	92-FG 410-3
		150 – 240 mm <sup>2</sup>	92-FG 420-3
		300 – 400 mm <sup>2</sup>	92-FG 430-3

\*Customized solutions available for transition, size transition, PILC to PILC splicing kits

## 3M™ Scotchcast™ Cold Shrink Splicing Kits

( For Hydrocarbon Areas )

VOLTAGE	NO. CORES	CABLE SIZE	3M KIT
15kV	3	70 – 120 mm <sup>2</sup>	92-OG400-3
		150 – 240 mm <sup>2</sup>	92-OG410-3
		300 – 400 mm <sup>2</sup>	92-OG420-3
36kV	3	50 – 95 mm <sup>2</sup>	92-OG400-3
		120 – 300 mm <sup>2</sup>	92-OG410-3

