

3M Cold Shrink Cable Termination Products

Ever since the installation of the first 3M™ Cold Shrink termination in 1972, we have been working hard to develop products that deliver market leading installation efficiencies and unparalleled reliability to our customers. Our termination products give contractors and clients alike the confidence they need in their power networks as both hard and soft failure costs become more and more critical.

Much like our range of cable jointing products, the nature of Cold Shrink ensures a constant radial pressure is applied to the cable. It is this concept, combined with a comprehensive factory testing programme and a simple installation process that makes Cold Shrink the preferred termination solution for both public and private network operators across the world.

From listening to our customers and committing to sustained research and development, 3M are the only manufacturer that can offer you such a choice in Cold Shrink product technology in terms of product cost and installation simplicity.

The simple application of a 3M Full Cold Shrink Cable Termination



1 Prepare the cable as normal and clean with 3M™ Cable Wipes



2 Place the 3M™ Cold Shrink termination body over the cable end and position at the correct point on the cable



3 Begin to remove the inner core, allowing the termination to shrink down onto the cable



4 Once the inner core has been fully removed, the termination installation is complete!

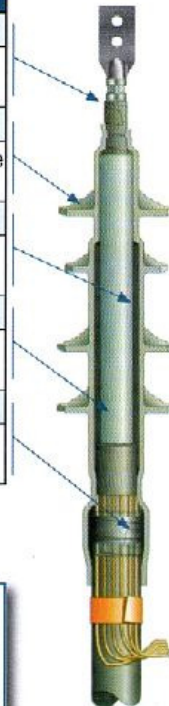
Premium 3M™ Cold Shrink Terminations - Fully Integrated :: Quick Term III (QT-III)

Born out of our unparalleled experience in the development of Cold Shrink technology, this fully integrated premium cable termination offers the greatest simplicity and flexibility in our range. Our premium termination covers a wide range of cable sizes and types as well as accommodating voltages up to 69kV. Shorter tails enable this product to fit into a wide range of boxes and very few installation steps mean there is less room for jointer error.

Standard 3M™ Cold Shrink Terminations - Part Integrated :: Quick Term II (QT-II) Hybrid

Our part integrated Cold Shrink hybrid termination offers a viable cost-based alternative to heat shrink cable terminating technology. This range covers many of the most common cable configurations and size ranges unique to the Indonesia market.

QT-III	QT-II
Moisture Blocking Mastic	
Integrated into termination	Applied separately
Outer Insulator	
Very good track resistance	Good track resistance
Stress control Tube	
Integrated into termination	Integrated into termination
Silicone Grease-stress Relief	
No - Integrated mastic is enough	Yes - Supplements stress mastic
Stress Control Mastic	
Integrated into termination	Integrated into termination



3M Termination Accessories

To partner our range of terminations, we can offer a full range of fully tested termination accessories too.

Barrier Boots



3M Barrier Boots are suitable for both resin cast and porcelain bushings over a wide range of cable sizes.

Cable Glands



3M Gland Kits use Cold Shrink as the sealing method – further reducing installation cost.

Cable Lugs



Breakthrough methodology and materials don't just stop with our cable accessories. The range of cable lugs 3M can offer represent cutting edge technology too.

**QT-II (X) -H Hybrid Termination Series
1/C and 3/C Cable Terminating System**

The 3M QT-II (X) -H Series Terminating System is designed to accommodate medium voltage 1/C (one core) and 3/C (three conductor) metallic shielded, armored or non-armored, power cables without ground wires. QT-II (X) -H Series Terminations are available in three configurations for the following applications:

- 4-Skirt Insulator - 06/10(12) kV - Outdoor (or indoor)
- 4-Skirt Insulator - 12/20(24) kV - Indoor
- 6-Skirt Insulator - 12/20(24) kV- Outdoor

Each termination kit is supplied with all of the materials required for terminating 1/C and 3/C medium-voltage cable. Kits can be ordered with or without terminal lugs. There are three main insulating components comprising each QT- II (X) -H Series Kit. These components are individually described as follows:

Heat Shrink Breakout Boot - An open-ended adhesive lined three-finger boot molded from a flame-retardant polyolefin compound. The breakout boot is factory expanded and held in this state by chemical means. After the boot has been positioned for installation around the breakout area of a 1/C and 3/C cable, heat is applied allowing the shaped form to recover to its original molded dimension (smaller than the recommended cable).

Heat Shrink Phase Re-jacketing Sleeves - Flame retardant cross-linked polyolefin tubes designed to provide excellent electrical insulation, mechanical protection and environmental sealing over shielded multi-core power cable phase legs. Heat shrink phase re-jacketing sleeves protect cable phase legs from exposure to moisture, corrosion, ozone, ultraviolet radiation, physical contact and other hazards associated with termination operating environments.

QT-II Termination Assembly - A one-piece cold shrink termination assembly is created when a silicone rubber skirted insulator is mounted over a high dielectric constant (HI-K) stress relief tube on a common support core. When the termination assembly is positioned over a properly prepared cable, the plastic support core is removed allowing the termination body to shrink down and form a seal to the cable



QT-II HYBRID PRODUCT SELECTION GUIDE

KIT NUMBER	Cable Insulation O.D. Range (mm)	Cable Jacket O.D. Range (mm)	CONDUCTOR SIZE RANGE		
			6-10KV	15-24KV	up to 35KV
4 SKIRT					
QTII(J)4S-32H	16-25mm	38-68mm	35-150mm ²	35-95mm ² Indoor	-
QTII(K)4S-32H	21-32mm	55-85mm	185-300mm ²	120-185mm ² Indoor	-
QTII(L)4S-32H	27-41mm	65-90mm	400mm ²	240-400mm ² Indoor	-
6 SKIRT					
QTII(J)6S-32H	18-25mm	38-70mm	-	35-95mm ² Outdoor	-
QTII(K)6S-32H	23-32mm	55-85mm	-	120-185mm ² Outdoor	50-95mm ² Indoor
QTII(L)6S-32H	28-38mm	65-90mm	-	240-400mm ² Outdoor	120-185mm ² Indoor
QTII(M)6S-32H	35-45mm	75-105mm	-	-	240-400mm ² Indoor
8 SKIRT					
QTII(K)8S-33H	23-32mm	55-85mm	-	-	50-95mm ² Outdoor
QTII(L)8S-33H	28-38mm	65-90mm	-	-	120-185mm ² Outdoor
QTII(M)8S-33H	35-45mm	75-110mm	-	-	240-400mm ² Outdoor