

Silicone Rubber

Cold Shrink Termination Kits

QTII (X) Series

PRODUCTION DESCRIPTION

The 3M QTII (X) Series are Silicone Rubber Cold Shrink Quick Terminating System that designed to accommodate medium voltage metallic-shielded armored non-armored, copper or aluminum conductor power cables configurations.

3M QTII (X) Series provide easy installation for indoor and outdoor applications. QT-II (X) termination is based on specially formulated, track-resistant silicone rubber insulators with built-in Hi-K stress relief. The insulators are prestretched around a spiral -wound, plastic core.

The QTII (X) Series Termination meet or exceed the specification requirements of Standards:

- ▶ IEEE Standard 48-1990, for Class 1 termination.
- ▶ CENELEC Standards HD 628-S1 and HD 629.1.S1.
- ▶ VDE Standard 0278-628 and VDE 0278-629-1.
- ▶ British Standard BS 7888-4.1.
- ▶ IEC Standard 61442 & 60502-4.
- ▶ Vietnamese Standard TCVN 5935-4.



PRODUCTION APPLICATION

- ▶ For power cables up to 42kV.
- ▶ For polymeric cables: polyethylene, XLPE, EPR.
- ▶ For 1C/ 3C copper tape, wire shield, armored/ non-armored power cables.
- ▶ For copper or aluminum conductors.
- ▶ For contaminated, pollution area, operating environment.
- ▶ For switchgear, transformer, motor lead (terminal type) bus, overhead etc. connections.



SELECTION GUIDE

	6/10(12) kV		12.7/22(24) kV		20/35(40.5) kV		22/38.5(42) kV	
	ID	OD	ID	OD	ID	OD	ID	OD
4-Skirt	✓	✓	✓					
6-Skirt				✓	✓			
8-Skirt						✓		
12-Skirt							✓	✓

KEY FEATURES

- ▶ Versatile- Install quickly and accommodates a wide range of cable sizes: from 25sqmm to 630sqmm.
- ▶ Simple hand application, no need for special installation tools.
- ▶ No torches or heat required.
- ▶ Excellent resistance to ozone and UV radiation.
- ▶ Good solvent resistant.
- ▶ Excellent thermal stability.
- ▶ High dry and wet insulation resistance.
- ▶ High flexible - accommodates all cable company bend radius recommendations.
- ▶ Reliable Seals - Termination assemblies retain resiliency and cable interface pressure after prolonged years of aging and exposure.

QTII (X) Series

DETAILED COMPOSITION OF THE QTII (X)

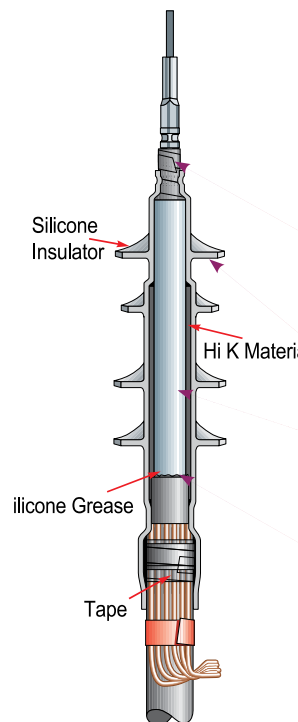
▶ QTII Termination Assembly:

The cold shrink delivery system has repeatedly proven itself to be unsurpassed as a positive and reliable electrical insulating and moisture-sealing system for cable primary insulation interface surface.

One-piece cold shrink termination assembly is created when silicon rubber skirted insulator is mounted over a High Dielectric Constant (High-K) stress relief on a common support core.

SILICONE RUBBER-MATERIAL CHARACTERISTICS

- ▶ **Smooth surface:** minimum amount of contamination adhere to the termination.
- ▶ **Hydrophobicity:** When water comes in contact with the silicone it beads up and runs off the skirts rather than completely wetting these surfaces. Thus a less conductive path is formed on the silicone and leakage currents are lowered.
- ▶ **Non-organic/ nonconductive:** degrade leakage current and arcing occurs on the surface of termination.
- ▶ **High temperature with stand:** An outstanding physical characteristic of silicone rubber is its retention of desirable properties over the wide temperature range of 100°C to 180°C.



QT-II
Moisture Blocking Silicon Tape
Applied separately
Outer Insulator
Good track resistance
Stress Control Tube
Integrated Termination
Silicone Grease - Stress Relief
Applied separately

NOTE: Length of phases depend on requirements of Customer. Installed length of 3-phase 3M QTII termination standard kits are 1m approximate.

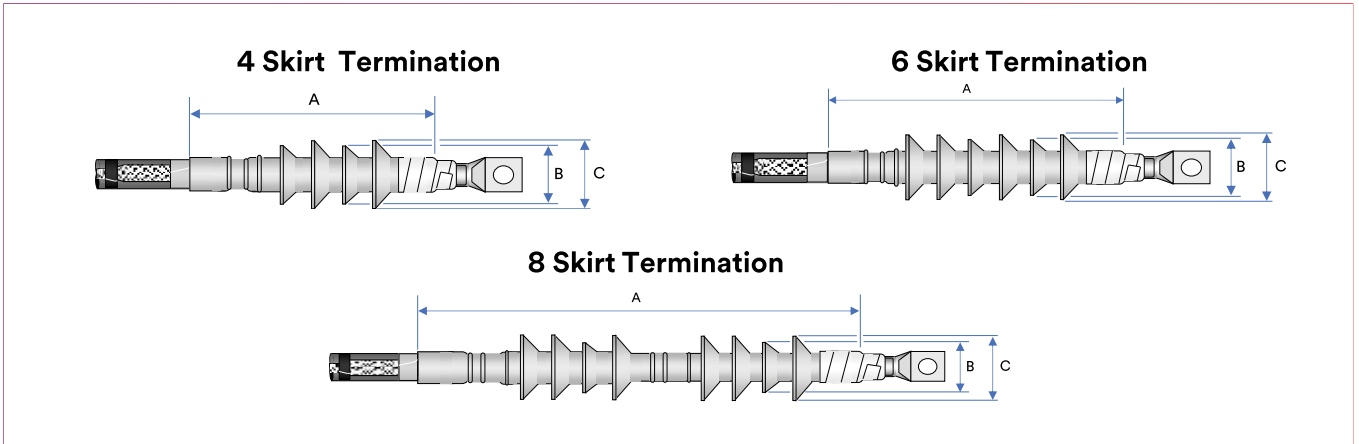
SELECTION GUIDE

	6/10(12) kV		12.7/22(24) kV		20/35(40.5) kV		22/38.5(42) kV	
	Indoor/ Outdoor	Indoor	Outdoor	Indoor	Outdoor	Indoor	Outdoor	
1-phase	QTII (X)4S-11	QTII (X)4S-12	QTII (X)6S-12	QTII (X)6S-13	QTII (X)8S-13	QTII (X)8S-14	QTII (X)12S-14	
3-phase	QTII (X)4S-31	QTII (X)4S-32	QTII (X)6S-32	QTII (X)6S-33	QTII (X)8S-33	QTII (X)8S-34	QTII (X)12S-34	

QTII (X)xS-CV

- QTII** : Product Name Quick Termination II
- (X)xS** : Type of QTII termination/body assembly (J4S, L6S, M8S; S: Skirt)
- C** : Number of Conductor/ Core (1, 3)
- V** : Class of Voltage (1: 12kV; 2: 24kV; 3: 36kV, 4: 40.5kV)

Ex.: QTII (L)6S-32 is QTII 3/C termination, body type L 6S, outdoor application for 24kV class, 100°C to 180°C.



Number of QTII body	Cable Application Range			Dimensions (mm)				
	O.D. insulation (mm)		O.D. Jacket (mm)	Installed length (A)	Installed length (B)	Installed length (C)	Creepage Distance (1P/3P)	Arcing Distance
	Min	Max						
4 SKIRT								
J	16.3	22.9	20.3 - 30.5	250	42.4	68.1	438 / 1138	317
K	21.3	33.8	25.4 - 40.6	250	46.2	69.8	438 / 1138	317
L	27.9	41.9	33.0 - 48.3	275	50.8	82.5	489 / 1189	356
M	33.0	49.5	38.1 - 61.0	280	50.8	90.2	495 / 1195	362
6 SKIRT								
J	16.3	22.9	20.3 - 30.5	325	42.4	68.1	584 / 1284	394
K	21.3	33.8	25.4 - 40.6	325	46.2	69.8	584 / 1284	394
L	27.9	41.9	33.0 - 48.3	360	50.8	82.5	654 / 1354	432
M	33.0	49.5	38.1 - 61.0	370	50.8	90.2	660 / 1360	438
8 SKIRT								
J	16.3	22.9	20.3 - 30.5	325	42.4	68.1	584 / 1284	394
K	21.3	33.8	25.4 - 40.6	325	46.2	69.8	584 / 1284	394
L	27.9	41.9	33.0 - 48.3	360	50.8	82.5	654 / 1354	432
M	33.0	49.5	38.1 - 61.0	370	50.8	90.2	660 / 1360	438

Termination Identification & Markings

