

3M™ Cold Shrink QT-III Silicone Rubber Skirted Termination Kit 7673-S-8 & 7673-S-10 Series

Data Sheet

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Description

3M Cold Shrink QT-III Silicone Rubber Skirted Termination Kit 7673-S-8 & 7673-S-10 Series contains one silicone rubber, non-self supporting termination qualified to IEEE 48 Class 1 for 69 kV and IEC 60840 for 72.5 kV for outdoor termination applications.

The complete termination is constructed of four sub-assemblies: 1) The Silicone Rubber Skirted Stress Control Assembly 2) The Hi-K Stress Control Adapter Assembly 3) The Silicone Rubber Lug Seal Assembly 4) The Silicone Rubber Ground Seal Assembly. The skirted assembly consists of an inner Hi-K stress control layer and 8-10 silicone rubber skirts. Each assembly is pre-stretched and loaded on a support core. Following installation, the support cores can be recycled.

The termination kit shall include a high ampacity ground strap assembly as a means for grounding the terminated cable's metallic insulation shield. The ground strap assembly consists of a three-loop pre-formed ground braid with a 2-hole copper lug crimped onto the ground braid tails. Three constant force springs are used to attach the ground strap assembly to the cable's metallic shield.

The 3M cold shrink QT-III termination kit 7673-S-8 & 7673-S-10 Series are designed to terminate 69 kV, 650 mil solid dielectric, Tape (TS), Longitudinally Corrugated (LC), Jacketed Concentric Neutral (JCN), Tape Over Wire (TOW), or Wire Over Tape (WOT) shielded power cable. Covering a conductor size range of 1/0AWG to 3000 kcmil (50 -1500 mm²). The 3M cold shrink QT-III termination kit 7673-S-10 series provide a longer creepage path for higher contamination environments. See the selection table for detailed sizing information.

Kit Contents

Each kit contains sufficient quantities of the following materials as appropriate to make one single-phase termination (lug not included unless requested in advance):

- Silicone Rubber Skirted Stress Control Assembly
- Hi-K Stress Control Adapter Assembly
- Lug Seal Tube
- Ground Seal Tube
- Ground Strap Assembly
- Constant Force Springs
- Tubes 3M Red Compound P55/R (Non-Silicone Grease)
- Scotch® Electrical Shielding Tape 24
- 3M Scotch-Seal™ Mastic Tape Compound 2229
- 3M EMI Copper Foil Shielding Tape 1181
- Scotch® Vinyl Electrical Tape Super 88
- Scotch® Linerless Rubber Splicing Tape 130C (WB kits only)
- 3M Cable Cleaning Pads CC-3
- Scotch® Self-fusing Silicone Rubber Electrical Tape 70
- Instruction Sheets

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Features

- Conforms to IEEE 48 Class 1 requirements for 69 kV, 350 kV BIL outdoor applications and to IEC 60840 for 72.5 kV, 325 kV BIL outdoor applications.
- Can be used on cables with a maximum temperature rating of 105°C and an emergency overload rating of 140°C.
- Hi-K stress control, specifically formulated high dielectric constant material minimizes surface stress by more uniformly distributing the electrical stress over the entire surface of the insulator.
- Cold shrink delivery system for easy installation. Simply slide each termination sub-assembly over the prepared cable to its proper position and unwind the core to shrink in place.
- Installation temperature range of -4F to 122F (-20°C to +50°C)
- An improved compact design allows for easier Porcelain/Heat Shrink termination replacement and new installations in restricted spaces.
- Silicone rubber materials are compatible with all common solid dielectric cables, such as cross-linked polyethylene (XLPE), ethylene propylene rubber (EPR), or polyethylene (PE).
- Designed to accommodate all available cable lugs designs including hexagonal or deep indent crimping technologies or a variety of mechanical sheer-off connecting technologies.

Applications

The 3M Cold Shrink QT-III Silicone Rubber Skirted Termination Kit 7673-S-8 & 7673-S-10 Series are designed for :

- Outdoor installations required to meet:
- IEEE 48 Class 1 for 69 kV and/or IEC 60840 for 72.5 kV.
- Applications requiring 350 kV BIL performance levels.
- Solid dielectric insulation, such as (XLPE), (EPR), and (PE).
- Tape (TS), Longitudinally Corrugated (LC), Jacketed Concentric Neutral (JCN), Tape Over Wire (TOW), or Wire Over Tape (WOT) shield configurations.

Pollution Class Rating

Part Number	Specific Creepage Distance* mm/kV	USCD Required for 72.5kV per IEC 60815
7673-S-8(S) 7673-S-8	49.7	Class (d) 43,3 mm/kV Heavy
7673-S-10(R) 7673-S-INV-10(R)	54.0	Class (d) 53,7 mm/kV Very Heavy
7673-S-10(S) 7673-S-10	63.5	Class (e) 53,7 mm/kV Very Heavy

*Calculation based on U_0 (phase to ground) voltage for 72.5kV system, for 69kV systems mm/kV will be higher.

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Selection Table	Kit Number	Primary Insulation OD Range	Jacket OD Range	Typical Conductor* Size Range	Maximum Lug Width
		Inches (mm)	Inches (mm)	AWG/Kcmil (mm ²)	Inches (mm)
	7673-S-8(S)	2.01-2.87 (51,1-72,9)	2.25-3.45 (57,2-87,6)	350-1500 (175-725)	3 (76)
	7673-S-8	2.79-3.45 (70,9-87,6)	3.00-4.25 (76,2-108,0)	1500-3000 (800-1500)	4 (102)
	7673-S-10(R) 7673-S-INV-10(R)	1.30-2.36 (33,0-60,0)	1.60-2.85 (40,6-72,4)	1/0-350 (50-175)	2 (51)
	7673-S-10(S) 7673-S- INV-10(S)	2.01-2.87 (51,1-72,9)	2.25-3.45 (57,2-87,6)	350-1500 (175-725)	3 (76)
	7673-S-10 7673-S- INV-10	2.79-3.45 (70,9-87,6)	3.00-4.25 (76,2-108,0)	1500-3000 (800-1500)	4 (102)

*Sizing based on 650 mil insulation thickness. For reduced wall cables, use the cables Primary Insulation OD and the ranges shown above to determine the correct kit for the application. Kits with an added suffix may contain materials such as: a lug, mounting bracket, cable clamps, special instructions, "WB" for additional water blocking of 10 skirt kits or other application specific.

Typical Dimensions

Kit Number	Dimension A Typical	Creepage Distance Typical
7673-S-8(S) 7673-S-8	46" (117 cm)	82" (208 cm)
7673-S-10(R) 7673-S-INV-10(R)	49" (124 cm)	89" (226 cm)
7673-S-10(S) 7673-S-10	52" (132 cm)	105" (266 cm)

