

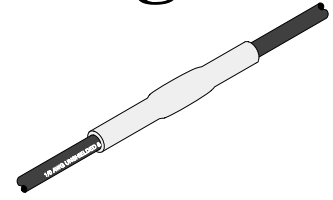


Cold Shrink™ Rubber Splicing Kits

5740 Series Inline

For 5 – 8 kV Non-Shielded Cables

Data Sheet



1. Product Description

3M™ 5740 Series Cold Shrink™ Rubber Splicing Kits are designed for inline splicing of single-conductor non-shielded power cables rated 5 and 8 kV. Three kit sizes cover a range of cables from 8 AWG through 1000 kcmil copper and 750 kcmil aluminum. The splices are designed for use with inline compression (crimp type) connectors, such as 3M Scotchlok™ 10,000, 11,000 and 20,000 Series.

Each 5740 Series Kit contains three separately packaged splices, with each package containing all the materials, except the connector, required to construct a single splice. The materials include a rubber-mastic filler to fill and electrically grade the connector area, and a Cold Shrink™ insulator/jacket made of EPDM rubber. The Cold Shrink™ insulator is a tubular sleeve which is factory expanded and assembled onto a removable core, and is supplied with the kit in this pre-stretched condition.

During splicing, the tube is positioned over the connector area and the core is removed, allowing the tube to shrink and seal onto the cables. The completed splice is designed for use in direct burial, weather exposed and submerged locations.

To extend the useful life of this product in applications which are continuously exposed to high levels of ultra-violet radiation, overwrap with Scotch™ Super 33+ Vinyl Tape or Scotch™ 70 Silicone Tape.

Kit Contents:

Each kit contains sufficient quantity of the following materials to seal three cable splices:

- 3 Cold Shrink™ Splice Insulators
- 3 Rolls Scotch™ 2228 Rubber Mastic Tape (except 5743 Kit which contains 6 rolls)
- 3 Cleaning Pad Kits
- 1 Instruction Sheet

Features:

Complete kit: Everything included to make 3 splices (except connectors).

Cold Shrink™ design: No torches, heat guns or special tools required.

Cold Shrink™ Insulator/Jacket: Factory expanded EPDM insulator installs quickly and easily in the field.

Specially formulated EPDM insulation: Peroxide cured rubber provides for long term seal and resistance to UV, ozone, acids and alkalis.

Rubber-mastic filler: Eliminates time-consuming penciling of cable insulation.

2. Applications

To splice single-conductor non-shielded power cables:

For inline splicing.

For cables rated 5 and 8.7 kV (8 kV).

For cable sizes 8 AWG through 1000 kcmil copper and 750 kcmil aluminum.

For solid dielectric cable insulations.

For direct burial.

For indoor and outdoor locations.

- Manhole
- Vault
- Cable tray

- Junction box

- Duct

For splicing.

- Cable reel ends
- Cable dig-in repair
- Cable failure repair

3M 5740 Series Cold Shrink™ Rubber Splicing Kits can be used on cables with a rated operating temperature of 90°C (194°F) and an overload rating of 130°C (266°F). Splices constructed from these kits are rated for 8.7 kV.

A. Typical Physical and Electrical Properties

EPDM Rubber

Physical Properties

Test Method	Typical Value*
• Color	Black
• 300% Modulus (ASTM D-412)	480 psi (3,3 MPa)
• Ultimate Tensile (ASTM D-412)	1400 psi (9,6 MPa)
• Ultimate Elongation (ASTM D-412)	750%
• Die C Tear (ASTM D-624C)	150 pli (36 KN/m)

Electrical Properties

Test Method	Typical Value*
• Dielectric Strength (ASTM D-149) Original	365 V/mil (14,3 MV/m)
7 days H ₂ O at 90°C (194°F)	282 V/mil (11,1 MV/m)

Scotch™ 2228 Rubber Mastic Tape

Physical Properties

Test Method	Typical Value*
• Color	Black
• Thickness	0.065 in. (1,65 mm)
• Adhesion to steel (ASTM D-1000)	15 lb/in. (26,2 N/10 mm)
• Water Absorption (ASTM D-570)	0.15%
• Dielectric Strength	
— Dry	500 V/mil
— Wet	500 V/mil
• Dissipation Factor (ASTM D-150)	0.005 (0.50%)

* All values are averages and are not intended for specification purposes.

B. Typical Dimensions

These splice kits are designed to be used with inline compression (crimp type) connectors that do not exceed the following maximum lengths:

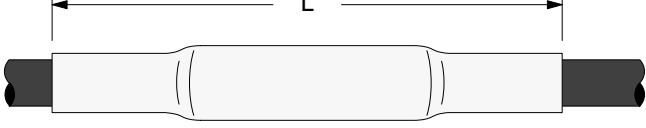
		
Kit Number	Maximum Connector Length (Copper or Aluminum) inches (mm)	Length (L) inches (mm)
5741	2 1/2 (64)	10 (254)
5742	4 1/4 (108)	12 (305)
5743	6 1/4 (159)	15 (381)

Table 1

C. Splice Selection Table

Kit Number	Cable Insulation/Jacket O.D. Range	Conductor Size Range AWG & kcmil (mm ²)
5741	0.38" – 0.70" (9,7 – 17,8 mm)	8 – 4 (10 – 25)
5742	0.63" – 1.20" (16,0 – 30,5 mm)	2 – 300 (35 – 150)
5743	0.90" – 2.10" (22,9 – 53,3 mm)	350 – 1000 Cu (185 – 500) 350 – 750 Al (185 – 400)

Table 2

3. Maintenance

Under normal storage conditions, Scotch™ 5740 Series Cold Shrink™ Rubber Splicing Kits have a 5 year shelf life. The kit components are not

impaired by freezing or heated storage up to the temperature at which the rubber mastic component flows. Normal stock rotation practices are

recommended. 3M Cold Shrink™ removable core material is polypropylene and recyclable with other waste.

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