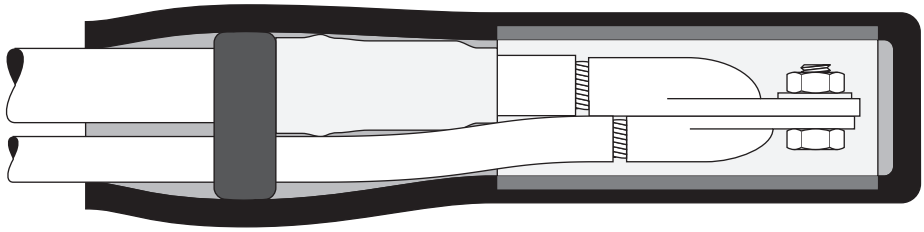
Motor Lead Pigtail Splicing Kits 5380 Series

For 5/8 kV Shielded and Non-Shielded Cables

Data Sheet



Product Description

3M™ Motor lead Splicing Kits 5380 Series are a series of kits designed for splicing motor lead cables to incoming feeder cables. These kits can accommodate pigtail (stub) connections, 5/8 kV shielded and non-shielded feeders.

The splice's main component, the lug or splice cover, is made from EPDM rubber as a slip-on insulator. Mastic is used for the moisture seal on the pigtail kits. The kits utilize a high dielectric constant (K) stress control termination for the feeder cable's electrical stress control.

These kits are designed to be used with copper compression lugs. After being crimped onto the cables, the lugs are bolted together, then insulated and sealed with the 3M Motor Lead Splicing Kits. Each kit contains all the necessary materials (except lugs) needed to make three splices. The lugs must be purchased separately. 3M™ Scotchlok™ Copper Compression Lugs 30000 Series, or other UL listed copper lugs, can be used.

Kit Contents

Each kit contains sufficient quantities of the following materials to make three splices (lugs and vinyl tape are not included).

Features

- Complete kit: Everything needed to make three splices (except the lugs and vinyl tape).
- Fast and simple installation.
- No torches or heat source required.
- No special tools required to install splice.
- Thick walls to resist puncture and abrasion damage.
- High Dielectric constant stress control included with 5/8 kV kits for shielded feeder cables, for minimizing size and electrical stress.
- Easy reentry.

Applications

3M Motor Lead Splicing Kits 5380 Series can be used on cables with a rated operating temperature of 90˚C and an emergency overload rating of 130˚C.

To splice (insulate and seal) motor lead connections for:

- 5/8 kV shielded and non-shielded feeder cables sized 8 AWG to 500 kcmil
- Polyethylene cable
- Cross linked polyethylene cable (XLP)
- Ethylene propylene rubber cable (EPR)
- Copper conductors

Typical Physical and Electrical Properties

EPDM Rubber

Physical Properties

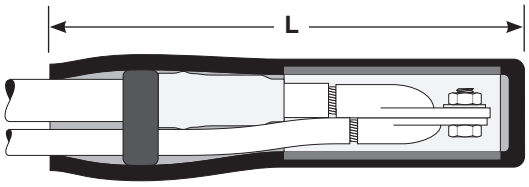
Test Method	Typical Value*
• Color	Black
• 300% Modulus (ASTM D-412)	480 psi (3,3 MPa)
• Ultimate Tensile Strength (ASTM D-412)	1400 psi (9,6 MPa)
• Ultimate Elongation (ASTM D-412)	750%
• Die C Tear (ASTM D-624C)	150 ppi (26,3 KN/m)

Electrical Properties

Test Method	Typical Value*
• Dielectric Strength (ASTM D-149)	
Original	365 V/mil (14,3 MV/m)
7 days in H_2O 90˚C (194˚F)	282 V/mil (11,1 MV/m)

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

Typical Dimensions



5/8 kV Pigtail (non-shielded)
(Grounding not shown)

Kit Number	L (boot only)	L w/Ground Strap	L w/o Ground Strap
5381	8.75" (222 mm)	11.75" (298 mm)	8.50" (215 mm)
5382	9.00" (228 mm)	12.00" (304 mm)	8.75" (222 mm)
5383	10.25" (260 mm)	13.25" (336 mm)	10.00" (254 mm)
5384	11.50" (292 mm)	14.50" (368 mm)	11.25" (285 mm)

Maintenance

Components within this kit are stable under normal storage conditions. Normal stock rotation practices are recommended. The mastic and 3M™ Cold Shrink Insulators are not impaired by freezing or heated storage up to the flow temperature of the mastic. 3M Cold Shrink removable core material is polypropylene and recyclable with other 5 PP waste.

Splice Selection Table

Kit Number	Cable Size Range (AWG/kcmil)		Feeder Cable Insulation O.D. Range	Max. Bolt Length	Max. Lug Length	ID of Boot to Size of Cables
	Feeder	Motor Lead				
5381	8 – 4	10 – 4	0.30 – 0.51" (7,6–13 mm)	5/8" (16 mm)	2 1/2" (63,5 mm)	0.90" (23 mm)
5382	2 – 1/0	4 – 1/0	0.43 – 0.65" (11–16,5 mm)	3/4" (19 mm)	2 3/4" (70 mm)	1.16" (29 mm)
5383	1/0 – 250	2 – 250	0.53 – 0.88" (13,5–22,4 mm)	1 1/4" (32 mm)	4" (102 mm)	1.60" (41 mm)
5384	250 – 500	4/0 – 500	0.75 – 1.12" (19–28,4 mm)	1 1/2" (38 mm)	5 1/2" (140 mm)	2.06" (52 mm)

Specifications

Product

The motor lead boot assembly must have a voltage class rating equal to or greater than the cable being terminated. The rating shall be 5 or 8.7 kV as an IEEE Standard 48-1990 Class 1 termination. It must have a maximum continuous operating temperature rating of 90˚C, with an emergency overload rating of 130˚C. The termination stress control shall be capacitive and constructed of a Hi-K EPDM rubber tube. The installation procedure shall require using silicone grease. The motor lead boot kit shall include all materials required (except lug) and shall accommodate shielded cables (tape, wire or Unishield®) and non-shielded cables.

Shelf Life

Maximum recommended storage temperature is 43˚C (110˚F). The termination assembly portion of the motor lead boot kit is not affected by freezing storage temperatures. Normal stock rotation is recommended. As provided, the motor lead boot kit has an on-shelf storage life of three years from the date of manufacture.

⚠CAUTION

Working around energized electrical systems may cause serious injury or death. Installation should be performed by personnel familiar with good safety practice in handling electrical equipment. De-energize and ground all electrical systems before installing product.

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