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Technical datasheet

3M™ Scotchfil®

Electrical Insulation Putty

1. Product description

3M™ Scotchfil® Electrical Insulation Putty is an electrical grade putty in a tape form. 3M™ Scotchfil® putty is UL Recognised as a splice insulation for electrical conductors at temperatures up to 80 °C when over-wrapped with either Scotch® Super 33+™ or Super 88 Vinyl Electrical Tape.

- UL "Recognised" Category OCOT2, File No. E59951
- Noncorrosive, synthetic rubber
- High electrical properties
- High aging properties
- Will not dry out
- Applies cleanly without waste

2. Applications

- To insulate low voltage (600 volts and less) connections
- To build up cable splices and fill out major irregularities and voids in low voltage splices (2300 volts and less) in order to obtain a uniform base for further taping
- To round out high voltage connections
- To smooth bus bar irregularities
- To create a resin dam in resin pressure splices
- To create a moisture seal at ground wire exit in high voltage splices
- To moisture seal multiconductor cable connections

3. Typical properties

Physical properties	Typical value
Colour	Black
Thickness ASTM D1000	3.17 mm
Elongation ASTM D1000	1000%
Copper Corrosion	None

Electrical properties	Typical value
Dielectric Strength ASTM D1000	22.6 kV/mm
Insulation Resistance ASTM D1000	10^6 megohms

Properties measured at room temperature 23°C unless otherwise stated.

4. User information

4.1 Specifications

The insulating putty comes in tape form, with a thickness of 2.54 mm. The tape is a rubber based tape capable of being formed and moulded with moderate finger tension at temperatures as low as 0°C. Neither the tape nor any of its components will cause corrosion of copper. The tape is compatible with most types of synthetic cable insulation as well as other splicing tapes.

4.2 Engineering/Architectural Specification

All 2300 volt or less feeder connections, taps and splices, on wires larger than 6 AWG with irregular shaped connectors, must first be built up with electrical insulating putty to eliminate both sharp corners and voids. Enough insulating putty should be used until good overall padding is provided. Compress the putty to fill all voids and generally smooth up the area before applying electrical splice protection.

All 600 volt or less splices and terminations on wires larger than 6 AWG with irregular shaped connectors must be insulated with a minimum of 6.3 mm of electrical insulating putty. The entire connection must be covered with the insulating putty. The insulating putty must then be over-wrapped with a vinyl tape applied with the same tension as it has when it comes from the roll. This vinyl tape shall provide a uniform covering of at least four layers, half lapped in two directions.

4.3 Installation Techniques

To round out irregular connections, mould and pack 3M™ Scotchfil® Electrical Insulation Putty with moderate finger pressure, eliminating voids and air spaces. The layers of 3M™ Scotchfil® will fuse into a homogeneous mass. Over-wrap with two half lapped layers of Scotch® Super 33+™ or Super 88 Vinyl Electrical Tape.

To create a resin dam in resin pressure splices, wrap a layer of moderately stretched Scotchfil insulation putty around the cleaned cable jacket at a distance of 7.6 cm from the jacket cutback. Lay the ground wire along the cable jacket and through the 3M™ Scotchfil® putty. Wrap several layers of highly elongated Scotchfil® putty around the cable and ground wire. Bind 3M™ Scotchfil® putty tightly with several wraps of Scotch® Super 33+ ™ or Super 88 Vinyl Electrical Tape. The putty and vinyl tape will make a seal through which the resin cannot flow.

4.4 Shelf Life and Storage

This product has a 5-year shelf life from date of manufacture when stored in a humidity controlled area (10°C to 27°C and <75% relative humidity).

4.5 Availability

Please contact your local distributor.

5. Additional information

To request additional product information, see address below.

Important notice

All statements, technical information and recommendations contained in this document are based upon tests or experience that 3M believes are reliable. However, many factors beyond 3M's control can affect the use and performance of a 3M product in a particular application, including the conditions under which the product is used and the time and environmental conditions in which the product is expected to perform. Since these factors are uniquely within the user's knowledge and control, it is essential that the user evaluates the 3M product to determine whether it is fit for a particular purpose and suitable for the user's method or application.

Values presented have been determined by standard test methods and are average values not meant to be used for specification purposes.

All questions of warranty and liability relating to 3M products are governed by the terms of the respective sale subject, where applicable, to the prevailing law.

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