

# 3M Data Sheet Scotchfil™

## Electrical Insulation Putty

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### 1. Product Description

Scotchfil™ electrical insulation putty is a puttylike electrical grade compound in a tape form. Scotchfil™ Putty is UL Recognized as a splice insulation for electrical conductors at temperatures up to 80°C when overwrapped with either Super 33+ or Super 88 Vinyl Electrical Tape.

#### Tape Features

- UL “Recognized” Category OCOT2, File No. E59951 Non-corrosive, synthetic rubber
- Excellent 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 gear
- 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 multi-conductor cable connections

### 3. Typical Properties\*

<b>Color</b>	Black
<b>Thickness<sup>1</sup></b>	3.18 mm
<b>Elongation<sup>1</sup></b>	1000 % min
<b>Copper Corrosion<sup>1</sup></b>	None

**Electric Strength<sup>1</sup>** 22.6 kV/mm

**Insulation Resistance<sup>2</sup>** >1 x 10<sup>6</sup> MΩ

\*There are typical properties and should not be used for specification purposes.

<sup>1</sup> IEC 60454-2

<sup>2</sup> IEC 60426

### 4. Specifications

#### Product

The insulating putty must be in tape form the thickness of which must be a minimum of 2.54 mm. The tape must be a rubber-based tape capable of being formed and molded with moderate finger tension at temperatures as low as 0°C. Neither the tape nor any of its components shall cause the corrosion of copper. The tape must be compatible with all synthetic cable insulation as well as other splicing tapes.

#### Engineering/Architectural Specification

All 2300 volts or less feeder connections, taps and splices on wires larger than No. 6 with irregular-shaped connectors shall be first built up with electrical insulating putty to eliminate both sharp corners and voids. Enough insulating putty shall be used until good overall padding is provided. Compress putty to fill all voids and generally smooth up before applying electrical splice protection.

All 600 volts or less splices and terminations on wires larger than No. 6 with irregular-shaped connectors shall be insulated with a minimum of 6.35 mm of electrical insulating putty. The entire connection must be covered with the 6.35 mm of electrical insulating putty. The insulating putty must then be overwrapped 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.

## 5. Installation Technique

### Rounding out irregular connections

Mold and pack Scotchfil™ electrical insulation putty with moderate finger pressure to eliminate voids and air spaces. The layers of Scotchfil™ will fuse together into a homogeneous mass.

### Insulating 600 volts connections



For a 25.4 mm connector, cut a 50.8 mm piece of Scotchfil™ putty and place in position.



Cut an identical piece and put at a 90-degree angle to the first, but on the opposite side of the connector.



Apply moderate finger pressure to form a perfect mold.



Wrap with Scotch™ electrical tape Super 33+ or Super 88.

### Creating 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 76.2 mm from the jacket cutback.

Lay the ground wire along cable jacket and through the Scotchfil™ putty.

Wrap several layers of highly elongated Scotchfil™ putty around cable and ground wire. Bind Scotchfil™ putty tightly with several wraps of Scotch™ Supper 33+ or Super 88 vinyl electrical tape. The putty and vinyl tape will make a seal through which resin cannot flow.

## 6. Shelf Life

Scotchfil™ electrical insulation putty has a 5 year shelf life (from date of manufacturer) when stored under the following recommended storage conditions. Store behind stock in a clean dry place at a temperature of 21°C and 40 to 50% relative humidity. Good stock rotation is also recommended.

## 7. Availability

Scotchfil™ electrical insulation putty is available in a 38 mm x 1.5 m roll from your electrical distributor

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