

**3M**  
**Scotchfil™**

## Electrical Insulation Putty

Data Sheet



### Product Description

Scotchfil Brand electrical insulation putty is a puttylike electrical grade compound in tape form. Scotchfil Putty is UL Recognised as a splice insulation for electrical conductors at temperatures up to 80°C (176°F) when overwrapped with either Super 33+ or Super 88 Vinyl Electrical Tape

### Tape Features

- ❖ UL “Recognised” Category OCOT2, File No. E59951.
- ❖ Non-corrosive, synthetic rubber.
- ❖ Excellent electrical properties.
- ❖ Excellent ageing properties.
- ❖ Will not dry out.
- ❖ Applies cleanly without waste.

### 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.

### Physical and Electrical Properties

#### Physical Properties

Colour	Black
Thickness ASTM D1000	3.175mm
Elongation ASTM D1000	1000% min
Copper Corrosion	None

### Electrical Properties

Dielectric Strength ASTM D1000	22kV/mm
Insulation Resistance ASTM D1000	>1 x 10 <sup>6</sup> megaohms

### Specifications

#### Product

The insulating putty must be in tape form, the thickness of which must be a minimum of 2.54mm. The tape must be a rubber-based tape capable of being formed and moulded with moderate finger tension at temperatures as low as 0°C (32°F). 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 10mm<sup>2</sup> 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 out before applying electrical splice protection.

All 600 volts or less splices and terminations on wire larger than 10mm<sup>2</sup> with irregular-shaped connectors shall be insulated with a minimum of 6mm of electrical insulating putty. The entire connection must be covered with the 6mm of electrical 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.

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# 3M Scotchfil™

## Electrical Insulation Putty

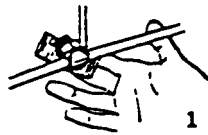
### Data Sheet

#### Installation Techniques

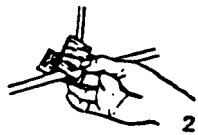
##### Rounding Out Irregular Connections

Mould 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.

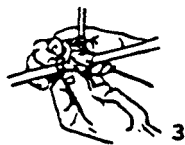
##### Insulating 600V Connections



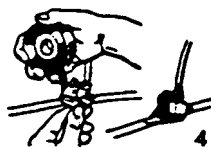
For a 25mm connector, cut a 50mm piece of Scotchfil putty and place in position.



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 mould.



Wrap with Scotch brand 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 75mm from the jacket cutback.

Lay the ground wire along the 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 brand Super 33+ or Super 88 vinyl electrical tape. The putty and vinyl tape will make a seal through which resin cannot flow.

#### Shelf Life

Scotchfil electrical insulation putty has a 5 year shelf life (from date of manufacture) when stored under the following recommended storage conditions. Store behind stock in a clean, dry place at a temperature of 21°C (70°F) and 40 to 50% relative humidity. Good stock rotation is also recommended.

#### Availability

Scotchfil brand electrical putty is available in a 38mm x 1.5M roll from 3M and your local 3M authorised electrical distributor.

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Printed in the UK.

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