

3M Data Sheet
Scotch™ Super 88
 Vinyl Electrical Tape

1. Product Description

Scotch™ Super 88 Vinyl Electrical Tape is a premium grade, 0.22 mm thick, all weather vinyl insulating tape. It is designed to perform continuously in ambient temperatures up to 105°C.

The tape is conformable for cold weather applications down to -18°C. It has excellent resistance to abrasion, moisture, alkalies, acids, corrosion and varying weather conditions (including ultraviolet exposure). The combination of elastic backing and aggressive adhesive provides moisture tight electrical and mechanical protection with minimum bulk. Scotch™ Super 88 tape is an Underwriters' Laboratories Listed and Canadian Standards Association Certified "Insulating Tape".

- UL Listed; UL 510 Standard "Insulating Tape" (product category OANZ), File E129200
- CSA Certification; Standard. C22.2 No.197-M1983 "PVC Insulating Tape", File LR 48769
- Polyvinyl chloride (PVC) backing
- Pressure-sensitive rubber based adhesive
- Compatible with solid electric cable insulations
- Compatible with rubber and synthetic splicing compounds, as well as epoxy and polyurethane resins
- Inhibits corrosion of electrical conductors
- For indoor and outdoor applications
- Complies with property requirements of Federal Specification MIL-I-23491

2. Applications

- Primary electrical insulation for all wire and cable splices rated up to 600 volts and 105°C
- Primary electrical insulation for 600 volts bus applications, and protective jacketing for low and high voltage bus
- Protective jacketing for high voltage cable splices and repairs
- Harnessing of wires and cables

3. Typical Properties*

UL 510 Flame Retardant¹	Yes
UL 510 Weather Retardant¹	Yes
CSA²	
Handling	-18°C
Continuous Operation	105°C
Color	Black
Thickness³	0.22 mm
Backing Strength³	35 N/10 mm
Ultimate Elongation³	
22°C	250%
-18°C	100%
Adhesion to Steel³	
22°C	2.74 N/10 mm
-18°C	6.57 N/10 mm
Adhesion to Backing³	
22°C	2.74 N/10 mm
-18°C	6.57 N/10 mm
Accelerated Aging	80%
Flagging³	<2.54 mm
Telescoping	
24 h at 50°C	<2.54 mm
Electric Strength³	45 kV/mm
Insulation Resistance⁴	10 ¹² Ω cm

*These are typical values and should not be used for specification purposes.

¹ UL-recognized for flame retardancy per UL 510, Product Category OANZ2, File E 129200

² C22.2 No. 197-M1983

³ IEC 60454-2

⁴ IEC60426

4. Specifications

Product

The tape is based on polyvinyl chloride (PVC) and/or its copolymers and has a rubber based, pressure-sensitive adhesive. The tape shall be 0.22 mm thick, and be UL Listed and marked per UL Standard 510 as “Flame Retardant, Cold and Weather Resistant”. The tape must be applicable at temperatures ranging from –18°C through 38°C without loss of physical properties. The tape shall be classified for use in both indoor and outdoor environments. The tape shall be compatible with synthetic cable insulations, jackets and splicing compounds. The tape will remain stable and will not telescope more than 2.54 mm when maintained at temperatures below 50°C.

5. Engineering/Architectural

Specification

Primary electrical insulation (branch wiring in wet and dry locations):

All splices for 600 volts wire rated 105°C and below shall be insulated with a minimum of two half lapped layers of Scotch™ Super 88 Vinyl Electrical Tape. All connectors having irregular surfaces shall be padded with Scotchfil™ Electrical Insulation Putty or insulating with Scotch™ Super 88 Tape.

Mechanical protection (outer jacketing):

All rubber and thermoplastic insulating high voltage power cable tape splices and repairs shall be overwrapped with at least two half lapped layers of Scotch™ Super 88 Vinyl Electrical Tape.

6. Installation Techniques

The tape shall be applied in half lapped layers with sufficient tension to produce a uniform wind (for most applications, this tension will reduce the tape’s width to approximately 5/8 of its original width). On pigtail splices, the tape shall be wrapped beyond the end of the wires and then folded back, leaving a protective cushion to resist cut through. Wrap tape up-hill, taping from a smaller diameter surface to a larger diameter surface. Apply the tape with no tension on the last wrap to prevent flagging.

7. Shelf Life

Scotch™ Super88 Vinyl Electrical has a 5 years shelf life (from the date of manufacture) when stored under the following conditions. Store behind present stock in a clean dry place at a temperature of 21°C and 40-50% relative humidity.

8. Availability

Scotch™ Super88 Vinyl Electrical Tape is available from your local 3M authorized distributor in the following standard roll sizes:

19 mm x 13.4 m
19 mm x 20 m
19 mm x 33 m
38 mm x 13.4 m
38 mm x 33 m

Other lengths and widths are available by special request

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