created on: 04/18/2016

3MS33: 3M Super 33+ Electrical Tape

Features:

- Premium all-weather black electrical tape. Remains conformable at -18 C°/ 0 F°
- 7 mil thickness
- UV resistant
- ¾” x 66’ roll

Part #	Size
3MS33	3/4” x 66’

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Data Sheet

Description

Scotch® Super 33+™ Vinyl Electrical Tape is a premium grade, 7 mil thick, all-weather vinyl-insulating tape. It is designed to perform continuously in ambient temperatures up to 105°C (220°F). The tape is conformable for cold weather application down to -18°C (0°F). 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 33+™ Vinyl Electrical Tape is UL Listed and is a Canadian Standards Association (CSA) 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 dielectric cable insulations.
- Compatible with rubber and synthetic splicing compounds, as well as epoxy and polyurethane resins.
- Inhibits corrosion of electrical conductors.
- For indoor or outdoor applications.

Applications

- Primary electrical insulation for all wire and cable splices rated up to 600 volts and up to 105°C (220°F).
- Primary electrical insulation for 600 volt 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.

Specifications

Scotch® Super 33+™ Vinyl Electrical Tape is based on polyvinyl chloride (PVC) and/or its copolymers and has a rubber-based, pressure-sensitive adhesive. The tape shall be 7 mils thick, and be UL Listed and marked per UL Standard 510 as “Flame Retardant, Cold and Sunlight Resistant.” The tape must be applicable at temperatures ranging from 0°F through 100°F (-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 0.1 inches when maintained at temperatures below 120°F (50°C).

Agency Approvals & Self Certifications

UL recognized component listing not to exceed 105°C (220°F), Product Category OANZ2, and 3M File No. E256906, Meets A-A-55809 (properties) only

RoHS
2011/65/EC

"**RoHS** 2011/65/EU" means that the product or part does not contain any of the substances in excess of the maximum concentration values (“MCVs”) in EU RoHS Directive 2011/65/EU. The MCVs are by weight in homogeneous materials. This information represents 3M's knowledge and belief, which may be based in whole or in part on information provided by third party suppliers to 3M.

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Typical Properties

Not for specifications. Values are typical, not to be considered minimum or maximum. Properties measured at room temperature 73°F (23°C) unless otherwise stated.

Physical Properties	**Typical Value** US units (metric)
Temperature Rating - UL 510	176°F (80°C)
CSA - C22.2 No. 197-M1983 handling continuous operation	 0°F (-18°C) 221°F (105°C)
Color	BLACK
Thickness	7 mils (0.177 mm)
Adhesion to Steel (ASTMD 1000) 72°F (22°C) 0°F (-18°C)	 28 oz/in. 60 oz/in.
Adhesion to Backing (ASTMD 1000) 72°F (22°C) 0°F (-18°C)	 28 oz/in. 60 oz/in.
Backing Strength (ASTMD 1000) 72°F (22°C)	 15 lbs/in.
Ultimate Elongation (ASTMD 1000) 72°F (22°C) 0°F (-18°C)	 250%. 100%
Flammability (Maximum) UL 510 ASTM D-1000	 1 sec. 4 sec.
Accelerated Aging (ASTM D-1000)	80%
Flagging (ASTM D-1000)	<0.1 in.
Telescoping 24 Hours @ 120°F (50°C)	 <0.1 in
Electrical Property	**Typical Value** US units
Voltage Rating - UL 510	600V
Dielectric Strength (ASTM D-1000) Standard Condition V/mil High Humidity	 1,150 V/mil 90% of std.
Insulation Resistance (ASTM D-1000) (High Humidity Method)	 $>1x10^6$ megohms

Engineering/ Architectural Specification:

Primary electrical insulation (branch wiring in wet or dry locations): All splices for 600 volt wire rated 105°C (220°F) and below shall be insulated with a minimum of two half-lapped layers of Scotch® Super 33+™ Vinyl Electrical Tape. All connectors having irregular surfaces shall be padded with 3M™ Scotchfil™ Electrical Insulation Putty or Scotch® Linerless Rubber Splicing Tape 130C prior to insulating with Scotch® Super 33+™ Vinyl Electrical 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 33+™ Vinyl Electrical Tape.

Installation Techniques:

Scotch® Super 33+™ Vinyl Electrical 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.

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Shelf Life & Storage	This product has a 5-year shelf life from date of manufacture when stored in a humidity controlled storage (10°C / 50°F to 27°C / 80 °F and <75% relative humidity).
Availability	Scotch® Super 33+™ Vinyl Electrical Tape is available from your local 3M authorized distributor in the following standard roll sizes: 3/4 in. x 66 ft. 3/4 in. x 52 ft. 3/4 in. x 20 ft. Other lengths and widths are available by special request. Please contact your local distributor; available from 3M.com/electrical [Where to Buy] or call 1.800.676.8381.

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