



Scotch® Vinyl Electrical Tape 22

Data Sheet

February 2023

Product Description

Scotch® Vinyl Electrical Tape 22 is a black, professional grade, 10-mil (0.254 mm) thick electrical insulating tape composed of an elastic vinyl (PVC) film backing coated on one side with a non-corrosive, rubber-based pressure-sensitive adhesive.

- Commonly used in these types of applications:
 - UL510:** As primary insulation on applications up to 600V at max temperature of 80°C (176°F) on joints and splices in wires and cables in accordance with NFPA 70, National Electrical Code
 - CSA C22.2 No.197:** As primary insulation on applications up to 1000V at max temperature of 80°C (176°F) and a min temperature of -7°C (19°F) on joints and splices in wires and cables in accordance with Canadian Electrical Code, Part 1
 - IEC 60454-3-1:** Classification Type 2, Designation IEC 60454-3-1-2/F-PVCP/60 for thermal index of 60°C (140°F) and min temperature rating of -10°C (14°F)
 - Residential, commercial and industrial environments.
 - Where Flame Retardant rating is required – UL510
 - Cable jacket repair (up to 600V (UL) / 1000V (CSA) as primary insulation) and as mechanical protection when overwrapping rubber splicing, and mastic tapes used on LV/MV/HV joints and splices
 - Critical indoor and outdoor operations as determined by end-user where use of a general use vinyl electrical tape is not recommended
 - Where compatibility with most solid dielectric cable insulations, rubber and synthetic splicing compounds is required
 - Where reducing moisture ingress is needed, best results achieved when used as an overwrap in combination with a rubber splicing or mastic tape product.
 - For harnessing and bundling of wires and cable for faster build-up

Properties

Physical Properties	Value Imperial (Metric)	Mechanical Properties	Value Imperial (Metric)
Color – Visual	Black	Thickness³	10 mils +/- 1.0 (0.254 +/- 0.025 mm)
Adhesive	Rubber-based	Adhesion to Steel³ - Minimum 73° F (23°C)	18 oz/in (2.0 N/cm)
Backing	Vinyl (PVC)	Adhesion to Backing³ - Minimum 73°F (23°C)	18 oz/in (2.0 N/cm)
Flame Retardant UL510	Pass	Tensile Strength^{3,4} – Minimum	2400 psi / 24 lb/in (42 N/cm)
Temperature Rating UL510 ¹ - Maximum CSA - C22.2 No. 197 ² IEC 60454-3-1 - Type 2	176°F (80°C) 19°F to 176°F (-7°C to 80°C) 14°F to 140°F (-10°C to 60°C)	Elongation³ - Minimum 73°F (23°C)	150%
Electrical Properties	Value Imperial (Metric)		
Voltage Rating - Maximum UL510 ¹ / CSA C22.2 No. 197 ²	600 V / 1000 V		
Dielectric Strength³ - Minimum Standard Condition V/mil High Humidity	1000 V/mil (39.4 kV/mm) 90% of std.		
Insulation Resistance³ - Minimum (High Humidity)	1x10 ¹² ohms		

Notes:

- In accordance with NFPA 70, National Electrical Code
- In accordance with CSA C22.1, Canadian Electrical Code, Part 1
- ASTM D1000 Test Method - properties measured at room temperature 73°F (23°C) unless otherwise stated
- Tensile Strength "lb/in (N/cm)" values for reference only, based on nominal tape thickness of 10 mils

Scotch® Vinyl Electrical Tape 22

Agency Approvals & Self Certifications

- UL Listed: UL510 Standard “Insulating Tape”, Category OANZ, File No. E129200
 - CSA Listed: CSA-C22.2 No.197 “PVC Insulating Tape”, File No. 048769, Class 9052-02
 - VDE Marks License no. 130462 for Type 2: IEC 60454-3-1-2/F-PVCP/60
 - 3M Test report RPT-839539 available to UL510 Standard testing
-
- For Regulatory information including RoHS, REACH, please visit www.3M.com/regs
-

Installation Techniques

Scotch® Vinyl Electrical Tape 22 shall be applied in half-lapped layers with sufficient tension to produce a uniform wind (for most applications this tension will reduce the tape width to approximately 5/8 of 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 help prevent flagging.**

Shelf Life & Storage

This product has a 5-year shelf life (from date of manufacture) when stored in humidity-controlled storage (50°F/10°C to 80°F/27°C and <75% relative humidity).

Availability

Scotch® Vinyl Electrical Tape 22 is available from 3M authorized distributors

Also available from www.3M.com/electrical or call 1.800.245.3573.

Scotch® Vinyl Electrical Tape 22

TECHNICAL STATEMENT

Technical Information: The technical information, guidance, and other statements contained in this document or otherwise provided by 3M are based upon records, tests, or experience that 3M believes to be reliable, but the accuracy, completeness, and representative nature of such information is not guaranteed. Such information is intended for people with knowledge and technical skills sufficient to assess and apply their own informed judgment to the information. No license under any 3M or third-party intellectual property rights is granted or implied with this information.

Product Selection and Use: Many factors beyond 3M's control and uniquely within user's knowledge and control can affect the use and performance of a 3M product in a particular application. As a result, customer is solely responsible for evaluating the product and determining whether it is appropriate and suitable for customer's application, including conducting a workplace hazard assessment and reviewing all applicable regulations and standards (e.g., OSHA, ANSI, etc.). Failure to properly evaluate, select, and use a 3M product in accordance with all applicable instructions and with appropriate safety equipment, or to meet all applicable safety regulations, may result in injury, sickness, death, and/or harm to property.

Warranty, Limited Remedy, and Disclaimer: Unless a different warranty is specifically stated on the applicable 3M product packaging or product literature (in which case such warranty governs), 3M warrants that each 3M product meets the applicable 3M product specification at the time 3M ships the product. 3M MAKES NO OTHER WARRANTIES OR CONDITIONS, EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, ANY IMPLIED WARRANTY OR CONDITION OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, OR ARISING OUT OF A COURSE OF DEALING, CUSTOM, OR USAGE OF TRADE. If a 3M product does not conform to this warranty, then the sole and exclusive remedy is, at 3M's option, replacement or repair of the 3M product or refund of the purchase price. Warranty claims must be made within one (1) year from the date of 3M's shipment.

Limitation of Liability: Except for the limited remedy stated above, and except to the extent prohibited by applicable law, 3M will not be liable for any loss or damage arising from or related to the 3M product, whether direct, indirect, special, incidental, or consequential (including, but not limited to, lost profits or business opportunity), regardless of the legal or equitable theory asserted, including, but not limited to, warranty, contract, negligence, or strict liability.

Disclaimer: 3M industrial and occupational products are intended, labeled, and packaged for sale to trained industrial and occupational customers for workplace use. Unless specifically stated otherwise on the applicable product packaging or literature, these products are not intended, labeled, or packaged for sale to or use by consumers (e.g., for home, personal, primary or secondary school, recreational/sporting, or other uses not described in the applicable product packaging or literature), and must be selected and used in compliance with applicable health and safety regulations and standards (e.g., U.S. OSHA, ANSI), as well as all product literature, user instructions, warnings, and limitations, and the user must take any action required under any recall, field action or other product use notice. Misuse of 3M industrial and occupational products may result in injury, sickness, or death. For help with product selection and use, consult your on-site safety professional, industrial hygienist, or other subject matter expert. For additional product information, visit www.3M.com

3M and Scotch® are trademarks of 3M Company.



Electrical Markets Division
13011 McCallen Pass, Bldg. C
Austin, TX 78753
Phone: 800.245.3573
www.3M.com/electrical

Please Recycle. Printed in USA.
© 3M 2023. All Rights Reserved.
78-8124-4842-7 Rev G