



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:

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

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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.

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TECHNICAL STATEMENT

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