



# Scotch® Vinyl Electrical Tape 35

## Data Sheet

February 2023

### Product Description

Scotch® Vinyl Electrical Tape 35 is a professional grade, nominal 7-mil (0.178 mm) thick color-coding electrical insulating tape available in 10 colors 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) and min temperature of -10°C (14°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 105°C (221°F) and a min temperature of -10°C (14°F) on joints and splices in wires and cables in accordance with Canadian Electrical Code, Part 1
  - IEC 60454-3-1:** Classification Type 6, Designation IEC 60454-3-1-6/F-PVCP/90 for thermal index of 90°C (194°F) and min temperature rating of -10°C (14°F)
  - Industrial, Commercial and Residential environments
  - Where Flame Retardant and Sunlight<sup>5</sup>, Cold Resistance rating is required – UL510
  - Marking of safety areas and equipment and identifying cable on cell sites, phase coding, motor leads, and piping systems
  - 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
- Available in 10 fade-resistant colors, see table below

### Properties

| Physical Properties   | Value<br>Imperial (Metric)   | Mechanical Properties   | Value<br>Imperial (Metric)             |
|---|--|---|--|
| <b>Color<sup>5</sup> – Visual</b>   | Blue, Brown, Gray, Green, Orange, Pink, Red, Violet, White, Yellow                               | <b>Thickness<sup>3</sup></b>                                    | 7 mils +/- 0.7<br>(0.178 +/- 0.018 mm) |
| <b>Adhesive</b>   | Rubber-based   | <b>Adhesion to Steel<sup>3</sup> - Minimum</b><br>73°F (23°C)   | 16 oz/in (1.8 N/cm)                    |
| <b>Backing</b>  | Vinyl (PVC)  | <b>Adhesion to Backing<sup>3</sup> - Minimum</b><br>73°F (23°C) | 16 oz/in (1.8 N/cm)                    |
| <b>Flame Retardant</b><br><b>Sunlight<sup>5</sup>, Cold Resistant</b> - UL510   | Pass <sup>5</sup>  | <b>Tensile Strength<sup>3,4</sup> - Minimum</b>                 | 2087 psi / 14.6 lb/in<br>(25.6 N/cm)   |
| <b>Temperature Rating</b><br>UL510 <sup>1</sup> - Maximum<br>CSA - C22.2 No. 197 <sup>2</sup><br>IEC 60454-3-1 - Type 6 | 14°F to 176°F (-10°C to 80°C)<br>14°F to 221°F (-10°C to 105°C)<br>14°F to 194°F (-10°C to 90°C) | <b>Elongation<sup>3</sup> - Minimum</b><br>73°F (23°C)          | 125%                                   |
| <b>Electrical Properties</b>  | <b>Value<br/>Imperial (Metric)</b>   |   |  |
| <b>Voltage Rating - Maximum</b>   | 600 V / 1000 V   |   |  |
| <b>Dielectric Strength<sup>3</sup> - Minimum</b><br>Standard Condition<br>V/mil High Humidity                           | 1000 V/mil (39.4 kV/mm)<br>90% of std.   |   |  |
| <b>Insulation Resistance<sup>3</sup> - Minimum</b><br>(High Humidity)   | 1x10 <sup>12</sup> 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 7 mils
- Color White is rated as UL Sunlight Resistant

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### Agency Approvals & Self Certifications

- UL Listed: UL 510 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 6: IEC 60454-3-1-6/F-PVC P/90
  - 3M Test Report RPT-794203 available to UL510 Standard testing
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- For Regulatory information including RoHS, REACH, please visit [www.3M.com/regs](http://www.3M.com/regs)
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### Installation Techniques

Scotch® Vinyl Electrical Tape 35 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.**

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### 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).

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### Availability

Scotch® Vinyl Electrical Tape 35 is available from 3M authorized distributors

Also available from [www.3M.com/electrical](http://www.3M.com/electrical) or call 1.800.245.3573.

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