# Scotch® Vinyl Electrical Tape Super 88

**Data Sheet** **June 2022**

***Product Description***

Scotch® Vinyl Electrical Tape Super 88 is a black, professional grade, nominal 8.5-mil (0.216 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) 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 -18°C (0°F) on joints and splices in wires and cables in accordance with Canadian Electrical Code, Part 1
  - ***IEC 60454-3-1:*** Classification Type 7, Designation IEC 60454-3-1-7/F-PVCP/90 for thermal index of 90°C (194°F) and min temperature rating of -18°C (0°F)
  - Industrial, commercial and residential environments
  - Where Flame Retardant and Sunlight, Cold Resistance 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 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 where faster build-up is needed
- Country of Origin: USA

## *Properties*

| ***Physical Properties*** | ***Value Imperial (Metric)*** |
|---|---|
| ***Color – Visual*** | Black |
| ***Adhesive*** | Rubber-based |
| ***Backing*** | Vinyl (PVC) |
| ***Flame Retardant Sunlight, Cold Resistant*** - UL510 | Pass |
| ***Temperature Rating***<br>UL510[1]<br>CSA - C22.2 No. 197[2]<br>IEC 60454-3-1 - Type 7 | <br>14°F to 176°F (-10°C to 80°C)<br>0°F to 221°F (-18°C to 105°C)<br>0°F to 194°F (-18°C to 90°C) |

| ***Mechanical Properties*** | ***Value Imperial (Metric)*** |
|---|---|
| ***Thickness[3]*** | 8.5 mils +/- 0.8<br>(0.216 +/- 0.02 mm) |
| ***Adhesion to Steel[3] - Minimum***<br>73°F (23°C)<br>0°F (-18°C) | <br>18 oz/in (2.0 N/cm)<br>30 oz/in (2.2 N/cm) |
| ***Adhesion to Backing[3] - Minimum***<br>73°F (23°C)<br>0°F (-18°C) | <br>18 oz/in (2.0 N/cm)<br>30 oz/in (2.0 N/cm) |
| ***Tensile Strength[3,4] – Minimum*** | 2094 psi / 17.8 lb/in<br>(31.2 N/cm) |
| ***Elongation[3] - Minimum***<br>73°F (23°C)<br>0°F (-18°C) | <br>225%<br>125% |

| ***Electrical Properties*** | ***Value Imperial (Metric)*** |
|---|---|
| ***Voltage Rating - Maximum***<br>UL510[1] / CSA C22.2 No. 197[2] | 600 V / 1000 V |
| ***Dielectric Strength[3] - Minimum***<br>Standard Condition<br>V/mil High Humidity | 1000 V/mil (39.4 kV/mm)<br>90% of std. |
| ***Insulation Resistance[3] - Minimum***<br>(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 8.5 mils

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| | |
|---|---|
| ***Agency Approvals & Self Certifications*** | • UL Listed: UL 510 Standard "Insulating Tape", Category OANZ, File No. E129200<br>• CSA Listed: CSA-C22.2 No.197 "PVC Insulating Tape", File No. 048769, Class 9052-02<br>• VDE Mark Certificate no. 130462; Type 7: IEC 60454-3-1-7/F-PVCP/90<br>• Qualified Product Listed: QPL-24391 per Governing Spec MIL-I-24391C, ¾" width only<br>• 3M Test Report RPT-681720 available to MIL-I-24391C Standard testing<br>• 3M Test Report RPT-820816 available to UL510 Standard testing<br><br>• For Regulatory information including RoHS, REACH, please visit www.3M.com/regs |
| ***Installation Techniques*** | Scotch® Vinyl Electrical Tape Super 88 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 Super 88 is available from 3M authorized distributors<br><br>Also available from www.3M.com/electrical or call 1.800.245.3573. |

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