



3M™ Temflex™ Vinyl Electrical Tape 178

Data Sheet

October 2025

Product Description 3M™ Temflex™ Vinyl Electrical Tape 178 is a multi-purpose, general use grade, nominal 7-mil (0.17 mm) thick electrical insulating tape composed of an elastic vinyl (PVC) film backing, coated on one side with a non-corrosive adhesive and available in 9 colours.

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 90°C (194°F) and min temperature of -7°C (19°F) on joints and splices in wires and cables in accordance with Canadian Electrical Code, Part 1
- Industrial, commercial and residential environments
- Where Flame Retardant and Cold Resistance rating is required – UL510
- Marking of safety areas and equipment and phase coding
- 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
- Indoor and weather protected outdoor operations as determined by end-user where use of a professional grade vinyl electrical tape is not 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 minimum bulk is required
- Wire pulling and fishing

Properties

Physical Properties	Value Imperial (Metric)	Mechanical Properties	Value Imperial (Metric)
Colour – Visual	Black, Blue, Brown, Gray, Green, Orange, Red, White, Yellow	Thickness³	7 mils +/-1.0 (0.17+/- 0.025 mm)
Adhesive	Rubber-based	Adhesion to Steel³ - Minimum	16 oz/in (1.8 N/cm)
Backing	Vinyl (PVC)	Adhesion to Backing³ - Minimum	16 oz/in (1.8 N/cm)
Flame Retardant, Cold Resistant UL510	Pass	Tensile Strength^{3,4} – Minimum	15.7 lb/in, 27.5 N/cm
Temperature Rating UL510 ¹ CSA - C22.2 No. 197 ²	14°F to 176°F (-10°C to 80°C) 19°F to 194°F (-7°C to 90°C)	Elongation³ - Minimum	100%
Electrical Properties	Value Imperial (Metric)		
Voltage Rating - Maximum UL510 ¹ / CSA C22.2 No. 197 ²	600V / 1000V		
Dielectric Strength³ - Minimum Standard Condition High Humidity Condition	1000 V/mil (39.4 kV/mm) 90% of std.		
Insulation Resistance³ - Minimum (High Humidity)	1x10 ⁶ ohms		

Notes:

1. In accordance with NFPA 70, National Electrical Code
2. In accordance with 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 7 mils

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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 • For Regulatory information including RoHS, REACH, please visit www.3M.com/regs
Installation Techniques	3M™ Temflex™ Vinyl Electrical Tape 178 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 24-month 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	3M™ Temflex™ Vinyl Electrical Tape 178 is available from 3M authorized distributors. Also available from www.3M.ca/electrical or call 1.800.245.3573.

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Electrical Markets Division

3M Canada

P.O. Box 5757

London, Ontario N6A 4T1

1-800-364-3577

www.3m.ca/electrical

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