Scotch®
Heavy Duty Vinyl Electrical Tape 22

Data Sheet **July 2015**

Description	Scotch® Heavy Duty Vinyl Electrical Tape 22 is a premium grade, 10-mil thick, vinyl insulating tape. It is designed to perform continuously in ambient temperatures up to 80°C (176°F). The tape is conformable for cold weather applications down to -10°C (15°F). It has excellent resistance to abrasion, moisture, alkalies, acids, corrosion and varying weather conditions. The combination of elastic backing and aggressive adhesive provides moisture-tight electrical and mechanical protection with minimum bulk. Scotch® Tape 22 is an Underwriters' Laboratories Listed and Canadian Standards Association Certified "Insulating Tape."
Agency Approvals & Self Certifications	UL Listed; UL 510 Standard "Insulating Tape" (product category OANZ), File E129200 CSA Certification; Standard C22.2 No. 197-M1983 "PVC Insulating Tape," File LR48769 For RoHS information, please vist www.3M.com/ROHS
Features	• Polyvinyl chloride (PVC) backing • Pressure-sensitive rubber-based adhesive • Compatible with solid dielectric cable insulations • Inhibits corrosion of electrical conductors • For indoor or outdoor applications • Increased mechanical strength • Extra physical protection against abrasion
Applications	• Primary electrical insulation for all wire and cable splices rated up to 600 volts and 80°C (176°F) • Primary electrical insulation for 600-volt bus applications, and protective jacketing for high- and low-voltage bus • Protective jacketing for high-voltage cable splices and repairs • Harnessing of wires and cables

Scotch® Heavy Duty Vinyl Electrical Tape 22

Typical Properties

Not for specifications. Values are typical, not to be considered minimum or maximum. Properties measured at room temperature 73°F (23°C) unless otherwise stated.

Physical Properties (Test Method ASTM D-1000*)	**Typical Value** US units (metric)
Color	Black
Thickness*	10 mils
Temperature Rating UL 510 CSA C22.2 No 197-M1983	 80ºC (176ºF) 80ºC (176ºF)
Adhesion to Steel* 22ºC (72ºF)	 20 oz. /in. (2,2 N/10 mm)
Adhesion to Backing* 22ºC (72ºF)	 20 oz. /in. (2,2 N/10 mm)
Breaking Strength* 22ºC (72ºF)	 20 lbs./in. (35 N/10 mm)
Ultimate Elongation*	200%
Flagging*	< 0.1 in. (2,5 mm)
Telescoping 24 hrs. W 50ºC (120ºF)	 < 0.1 in. (2,5 mm)
Flammability UL 510	 Pass

Electrical Properties (Test Method ASTM D-1000*)	**Typical Value** US units (metric)
Voltage Rating UL 510	600V
Dielectric Breakdown* Standard condition High Humidity Condition	 12,000 volts 90% of Standard
Insulation Resistance*	> 1x 10^6 Megohms

Product Specifications

Scotch® Heavy Duty Vinyl Electrical Tape 22 is based on polyvinyl chloride (PVC) and/or its copolymers, and has a rubber-based, pressure-sensitive adhesive. The tape shall be 10 mils thick, and be UL Listed and marked per UL Standard 510 as "Flame-Retardant and Cold-Resistant." The tape must be applied at temperatures ranging from 15°F through 100°F (-10°C through 38°C), without loss of physical properties. It shall be classified for use in both indoor and outdoor environments. The tape shall be compatible with synthetic cable insulations, jackets and splicing compounds. Scotch® Tape 22 will remain stable and will not telescope more than 0.1 inches when maintained at temperatures below 120°F (50°C).

Scotch® Heavy Duty Vinyl Electrical Tape 22

Engineering/ Architectural Specifications	Primary electrical insulation (branch wiring in wet or dry locations): All splices for 600-volt wire rated 80°C (176°F) and below shall be insulated with a minimum of two half-lapped layers of Scotch® Heavy Duty Vinyl Electrical Tape 22. All connectors having irregular surfaces shall be padded with 3M™ Scotchfil™ Electrical Insulation Putty or Scotch® Linerless Rubber Splicing Tape 130C prior to insulating with this tape. **Mechanical Protection (outer jacketing)** All rubber and thermoplastic insulating high voltage power cable tape splices and repairs shall be over wrapped with at least two half-lapped layers of Scotch® Tape 22.
Installation	Scotch® 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's width to approximately 5/8 of its 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 prevent flagging.
Availability	Please contact your local distributor; available from 3M.com/electrical [Where to Buy] or call 1.800.245.3573.
Shelf Life & Storage	This product has a 5-year shelf life from date of manufacture when stored in a humidity controlled storage (10°C/50ºF to 27°C/80ºF and <75% relative humidity).

3M, Scotch and Scotchfil are trademarks of 3M Company.

Important Notice	All statements, technical information, and recommendations related to 3M's products are based on information believed to be reliable, but the accuracy or completeness is not guaranteed. Before using this product, you must evaluate it and determine if it is suitable for your intended application. You assume all risks and liability associated with such use. Any statements related to the product, which are not contained in 3M's current publications, or any contrary statements contained on your purchase order, shall have no force or effect unless expressly agreed upon, in writing, by an authorized officer of 3M.
Warranty; Limited Remedy; Limited Liability	This product will be free from defects in material and manufacture at the time of purchase. 3M MAKES NO OTHER WARRANTIES INCLUDING, BUT NOT LIMITED TO, ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. If this product is defective within the warranty period stated above, your exclusive remedy shall be, at 3M's option, to replace or repair the 3M product or refund the purchase price of the 3M product. Except where prohibited by law, 3M will not be liable for any indirect, special, incidental or consequential loss or damage arising from this 3M product, regardless of the legal theory asserted.

3M

Electrical Markets Division
6801 River Place Blvd.
Austin, TX 78726-9000
800.245.3573
FAX: 800.245.0329
www.3M.com/electrical

Please recycle
© 3M 2015 All rights reserved
78-8124-4842-7 Rev D

Scotch® Heavy Duty Vinyl Electrical Tape 22