



# Scotch® Rubber Mastic Tape 2228

Data Sheet

March 2020

**Product Description** Scotch® Rubber Mastic Tape 2228 is a conformable self-fusing rubber electrical insulating and sealing tape. Scotch® Rubber Mastic Tape 2228 consists of an ethylene propylene rubber (EPR) backing coated with an aggressive, temperature-stable mastic adhesive. The tape is made 65 mils (1,65 mm) thick for quick application build-up. It is designed for electrical insulating and moisture sealing applications. Scotch® Rubber Mastic Tape 2228 is a UL recognized component for applications up to 130°C. It offers excellent resistance to moisture and ultraviolet exposure and is intended for both indoor and weather exposed outdoor applications.

**Agency Approvals & Self Certifications** UL recognized component listing not to exceed 130°C (266°F), Product Category OANZ2, and 3M File No. E17385

For RoHS information, please visit [www.3M.com/ROHS](http://www.3M.com/ROHS)

- Product Features**
- Conformable for application over irregular surfaces.
  - Compatible with solid dielectric cable insulations.
  - Self-fusing tape.
  - Flexible over wide temperature range.
  - Excellent weather and moisture resistance.
  - Excellent adhesion and sealing characteristics with copper, aluminum and power cable jacket materials.
  - Thick construction allows quick application build-up and padding over irregular connections.

- Applications**
- Primary electrical insulation for cable and wire connections rated up to 1000 volts.
  - Electrical insulation and vibration padding for motor leads rated up to 1000 volts.
  - Primary electrical insulation for bus bar connections rated up to 35kV (3M drawing 2047B-106)
  - Padding for irregular shaped bus bar bolted connections.
  - Moisture seal for cable and wire connections.
  - Moisture seal for service drops.
  - Moisture seal for ground wire and rod connections
  - Jacket seal on power cable applications

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## Installation

Scotch® Rubber Mastic Tape 2228 should be applied in half-lapped layers until desired insulation build up is reached. Stretch the tape to 3/4 of its original width during application for good conformability and to obtain a moisture tight seal. Scotch® Rubber Mastic Tape 2228 should be overwrapped for mechanical protection with two half-lapped layers of Scotch® Super 33+™ Vinyl Electrical Tape.

## Typical Properties

Properties	Typical Value
Temperature Rating <sup>6</sup>	266°F (130°C)
Color	Black
Thickness <sup>1</sup>	65 mil (1,65mm)
Adhesion <sup>5</sup>	Steel 15.0lb/in (26,2N/10mm) PE 10.0lb/in (17,5N/10mm)
Fusion <sup>4</sup>	Pass (Type I)
Tensile Strength <sup>1</sup>	150psi (1,03N/mm <sup>2</sup> )
Elongation <sup>1</sup>	1000%
Dielectric Breakdown <sup>1</sup> (Wet or Dry)	500V/mil (19,7kV/mm)
Dielectric Constant <sup>1</sup>	3.5
Dissipation Factor <sup>1</sup>	1.0%
Water Absorption <sup>3</sup>	0.15%
Water Vapor Transmission Rate <sup>2</sup>	0.1g/100in <sup>2</sup> /24hr
Ozone Resistance <sup>2</sup>	Pass
Heat Resistance <sup>4</sup>	Pass, 130°C
UV Resistance <sup>4</sup>	Pass

*Note: These are typical values and should not be used for specification purposes.*

\* Foot notes: 1. ASTM-D-4325 Test method

2. ASTM-D-3833 Test method

3. ASTM-570 Test method

4. ASTM-D-4388 Test method

5. ASTM-D-1000 Test method

6. UL recognized component, Product Category OANZ2, and 3M File No. E17385

## 3M Water Seal Test

Samples were constructed using Scotch® Rubber Mastic Tape 2228 as a seal between PVC cable jackets and connecting ground wires (3M™ Cable Grounding Kit 2252). The specimens were thermal cycled in water baths at 25°C and 90°C. The total test time of 336 hours revealed no significant change in insulation resistance. The results meet requirements listed in UL 486D Standard for Insulated Wire Connectors for Use With Underground Connectors for insulation resistance (6.0 megohms, section 7.1) and dielectric voltage withstand (2.2kV, 1 minute, section 8.1).

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**Specification**            The tape shall be 65 mils (1,65 mm) thick. The tape must be ethylene propylene rubber based and coated with a rubber mastic pressure-sensitive adhesive. The tape shall be a UL recognized component for applications up to 130°C. The tape must be applicable at temperatures of 0°C to 38°C without loss of physical properties. The tape must be classified for use in both indoor and weather-exposed outdoor environments. The tape must not split or crack when exposed to normal operating temperatures and environments. The tape must be compatible with synthetic cable and wire insulations. The tape shall not be corrosive to aluminum or copper conductors.

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**Shelf-Life**                Scotch® Rubber Mastic Tape 2228 has a five-year shelf life (from date of manufacture) when stored in a humidity-controlled storage (10°C/50°F to 27°C/80°F and < 75% relative humidity). Good stock rotation is recommended.

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**Availability**             Scotch® Rubber Mastic Tape 2228 is available from your local 3M authorized distributor.

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78-9237-0114-4 Rev C