Data Sheet

Scotch™ 2242
Linerless Electrical Rubber Tape

Product Description

Scotch™ 2242 Electrical Tape is an economical, general purpose, rubber tape. The tape is a highly conformable, linerless EPR (Ethylene Propylene Rubber) based electrical insulating tape. The tape is designed for use in splicing and terminating wires and cables rated up to 90°C. The tape will meet industry specifications for flame retardance and has the necessary physical and electrical properties to provide immediate moisture seals and void–free buildup.

Tape Features:

- Linerless, self–bonding, insulating tape
- Ethylene propylene base
- Flame retardant
- Physical and electrical properties unaffected by degree of stretch
- Uniform tape unwind from roll
- Small roll size (OD)
- Five year shelf life
- Stable over wide application temperature range
- Weather Resistant

Applications

- Primary insulation for cable splices and terminations
- Moisture–sealing and insulating electrical connections
- Bus bar insulation
- Moisture–sealing of cable ends
- Motor leads
- Wire and cable jacket repair

Data: Physical and Electrical Properties

Physical Properties

Color	Black
Thickness ASTM D–4325	30 mils (0.762 mm)
Tensile Strength ASTM D–4325	250 psi (1.72 MPa)
Ultimate Elongation ASTM D–4325	1000 %
Operating Temperature ASTM D–4388	90°C (194°F)
Emergency Overload ASTM D–4388	130°C (266°F)
Thermal Resistivity 3M Transient	300°C cm/watt
Ozone Resistance ASTM D–4388	Passes
Heat Resistance ASTM D–4388	Passes
UV Resistance ASTM D–4388	Passes
Flame Resistance IEEE Std 27–1974 ANSI C37.20C 74	Passes

Electrical Properties

Dielectric Strength ASTM D–4325 Original	 750 V/mil (29.5 KV/mm)
ASTM D–4325 24 hrs in H_2O	750 V/mil (29.5 KV/mm)
ASTM D–4325 96 hrs @ 23°C 96% RH	730 V/mil (28.7 KV/mm)
Volume Resistivity ASTM D–4325 Original Aged 96 hrs @ 23°C 96% RH	 $>10^{15}$ ohm–cm $>10^{14}$ ohm–cm
Dielctric Constant ASTM D–4325 1200 V @ 60 Hz 23°C	 3.5
Dissipation Factor ASTM D–4325 1200 V @ 60 Hz 23°C	 0.70%

*This data is not to be used for specifications. Values listed are for typical properties and should not be considered minimum or maximum.

Specifications

Product

The high–voltage corona resistant tape must be supplied without a liner and based on ethylene propylene rubber and be capable of emergency operating cable temperature of 130°C. The tape must be capable of being applied in either stretched or unstretched conditions without resulting in loss in either physical or electrical properties. The tape must not split, crack, slip or flag when exposed to various environments (indoors or outdoor). The tape must be compatible with all synthetic cable insulations and have a shelf life of five years. The tape must be flame retardant.

Engineering/Architectural

Splicing and terminating solid dielectric cables shall be done in accordance with drawings engineered by the splice material manufacturer such as the 2047 Series available from the 3M company.

Installation Techniques

Scotch™ 2242 Electrical Tape should be applied in successive half–lapped level wound layers until desired buildup is reached.

This tape should be applied like any rubber tape: that is, the side of the tape wrapped inside the roll should be applied ouside on the splice. (Tacky side up.) This will help prevent the roll from getting progressively further away from the work area.

To eliminate voids in critical areas, highly elongate 2242 Tape. Stretch tape in these critical areas just short of the breaking point; doing so will not alter its physical or electrical properties. In less critical areas, less elongation may be used. Normally 2242 Tape is stretched 3/4 of its original width in these critical areas. Always attempt to half–lap to produce a uniform buildup.

Shelf Life

Scotch™ 2242 Electrical Tape has a 5–year shelf life (from date of manufacture) when stored under the following recommended storage conditions. Store behind present stock in a clean dry place at a temperature of 70°F and 40 to 50% relative humidity. Good stock rotation is also recommended.

Availability

Scotch™ 2242 Electrical Tape is available in 3/4 in. by 15 ft, and 1–1/2 in. by 15 ft rolls from your electrical distributor.

80–6104–3993–9

Litho in U.S.A

3M Electrical Products Division

6801 River Place Blvd.
Austin, TX 78726–9000

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