Scotch™ 2200, 2210
Vinyl Mastic Pads and Rolls

Data Sheet

Product Description

Scotch™ Brand 2200 Pads and 2210 Rolls are self fusing, rubber based insulating compounds laminated to a flexible, all weather grade vinyl (PVC) backing. These tape rolls and precut pads are designed to insulate, moisture seal and pad all connections up to 600 volts, and have excellent resistance to abrasion, moisture, alkalies, acid, copper corrosion and varying weather conditions (including sunlight).

- Polyvinyl chloride (PVC) backing
- Compatible rubber mastic
- Flexible over wide range of temperatures
- Highly resistant to ultraviolet light
- Easily installed to provide maximum protection
- Compatible with all common solid dielectric cable insulation
- Usable for indoor or outdoor applications

Applications

(600 volt maximum)

- Bolted connections
- Service drops
- Traffic signal wire connections
- Lighting connections
- Transformer bushing protection
- Padding bolted connections on bus bar
- Grounding rod connection protection
- Terminal protection
- Cable end sealing
- Secondary compression connections

Typical Data/Physical Properties

Backing

Color	Black
Thickness	
ASTM D-1000	7 mils
Breaking Strength	
ASTM D-1000	20 lbs/in width
Elongation	
ASTM D-1000	200%

Mastic

Thickness	
ASTM D-1000	
Pad	118 mils
Roll	83 mils

Composite

Thickness	
ASTM D-1000	
Pad	125 mils
Roll	90 mils
Adhesion to Steel	
ASTM D-1000	200 oz/in width
Adhesion to Polyethylene	
ASTM D-1000	200 oz/in width
Dielectric Strength	
ASTM D-1000	300 volts/mil
Insulation Resistance	
ASTM D-257	$>10^6$ megohms
Water Absorption	
ASTM D-570	0.75%
Water Vapor Transmission Rate	
ASTM D-3833	0.25 gm/100 sq.in./24 hrs.

Specifications

Product

The insulation is a composite of an all weather polyvinyl chloride (PVC) backing and a thick rubber based, pressure sensitive adhesive.

The product must be applicable at temperatures ranging from -18°C (0°F) to 38°C (100°F) without loss of physical or electrical properties.

The product must not degrade when exposed to various indoor or outdoor environments. It must also be compatible with all synthetic cable insulations and splicing compounds. When used in junction boxes, cable trays or gutters, connectors shall be overwrapped with at least one half lapped layer of glass cloth tape or varnished cambric tape before applying the product. Or, the entire product buildup shall be overwrapped with two half lapped layers of an adhesive coated cloth tape. Where use involves direct burial or continuous submersion in water, the product shall be overwrapped with a minimum of two half lapped layers of vinyl electrical tape.

Engineering/Architectural Specification

All splices for 600 volt wire rated at 80°C (176°F) and below shall be insulated with Scotch Brand 2200 Pad or 2210 Roll. The vinyl Mastic shall be protected from sharp edges and external pressure from heavy objects by at least on half lapped layer of Scotch Brand 27 or 69 Glass Cloth Tape, or Scotch 2510 Varnished Cambric Tape before applying Scotch Vinyl Mastic. Or overwrap the entire Vinyl Mastic buildup with two half lapped layers of an adhesive coated cloth tape.

When direct buried or submerged in water, splices shall be overwrapped with a minimum of two half lapped layers of Scotch Super 33+ or Super 88 Vinyl Electrical Tape.

Characteristics and Test Data

Specimens are made using 2 AWG stranded aluminum, cross linked polyethylene insulated 600 volt cable. The cables are connected with copper-aluminum split bolt as well as compression type connectors. Split bolts were insulated as shown under "Installation Techniques". Compression connectors were wrapped by rolling Scotch™ 2200 or 2210 around connector and covering cable jacket on each end by 1 inch.

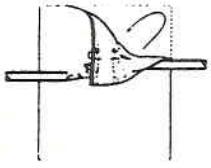
All specimens were then current cycled to 90°C conductor temperature, at room temperature in air for 24 hours, 2 hours on and 2 hours off. Specimens were then submerged in a 3% salt water solution and 120 volts was applied. Insulation resistance after 21 days was in excess of 10^6 megohms.

Installation Techniques

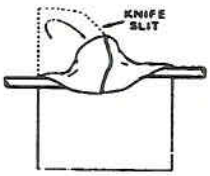
Compression inline connections shall be spiral wrapped.

For bolted inline and tap connections, 2210 Roll, cut into desired pad size, or 2200 Pad shall be installed as follows:

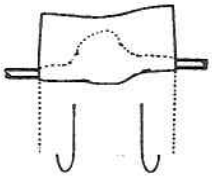
INLINE CONNECTIONS



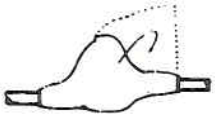
1. Wrap connector with Scotch 27 or 69 Glass Cloth Tape. Position bottom of connector in center of pad. Fold corner over connector. *Stretch* pad around cable.



2. Make knife slit and fold other corner over top of connector. *Stretch* pad around connector.

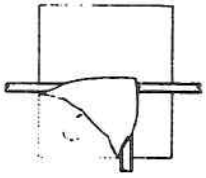


3. Fold bottom of pad up over connector.

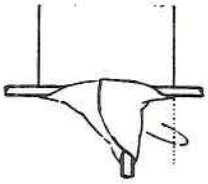


4. Fold both corners around connector. *Stretch* around cable so putty oozes from beneath vinyl backing.

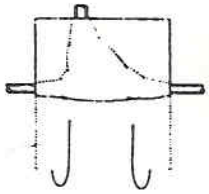
TAP CONNECTIONS



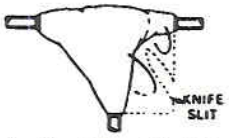
1. Wrap connector with Scotch 27 or 69 Glass Cloth Tape. Position connector in center of pad. Fold left corner of pad over connector. *Stretch* pad around cable and connector.



2. Fold other corner over connector. *Stretch* pad around cable and connector.



3. Fold top of pad over connector.



4. Make knife slit and fold both corners around connector. Stretch around cables so putty oozes from beneath vinyl backing.

Shelf Life

Scotch 2200 and 2210 have 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 40-50% relative humidity. Good stock rotation is recommended.

Availability

Scotch 2200 is available in 6 1/2" x 4 1/2" pads, and 3 1/4" x 4 1/2" pads from your electrical distributor. Scotch 2210 is available in a 4" x 10' roll from your electrical distributor.

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