

"Scotch" No. 06147 and 06149 Electrical Moisture Sealant Roll & Pad

1. Product Description

"Scotch" Brand 06147 roll and 06149 pads 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).

Product Features Are:

- 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 Thermoplastic, Rubber Wire Insulation
- Usable for Indoor or Outdoor Applications

2. Applications

- Bolted Connections
- Terminal Protection
- Insulation Displacement Connectors
- Lighting Connections

3. Data

Typical Properties

Test	Method	Value	Units
Thickness			
Vinyl	ASTM D-1000	7.0	Mils
Mastic	ASTM D-1000	38.0	Mils
Adhesion to Steel			
0°F.	ASTM D-1000	160	Oz./In.
30°F.	"	272	"
72°F.	"	67	"
Adhesion to Backing			
0°F.	ASTM D-1000	80	Oz./In.
30°F.	"	112	"
72°F.	"	59	"
Dielectric Strength	ASTM D-1000	13,500	Volts/Mil
	"	308	"
Elongation	ASTM D-1000	200	%
Breaking Strength	ASTM D-1000	20	Lbs./In. Width
Insulation Resistance	ASTM D-257-61	>1,000,000	Megohms

Chemical Properties

Water Vapor Transmission Rate ASTM D-3833 0.42 gm/100 sq. in./24 hrs.		
Water Absorption ASTM D-570 - .2%		
Solvent Resistance*	Days	Effect
Saturated Salt Solution	210	None
Bleach	210	None
Hydraulic Fluid	210	None
Liquid Detergent	210	None
Windshield Washer Solution	210	None
JP-4 Fuel	210	None
Horse Urine	210	None
* Insulated "Scotchlok connectors dipped twice daily for 10 minutes. Each dip at room temperature (73°F).		

4. Specifications

Product:

The insulation is a composite of an all weather polyvinyl chloride (PVC) backing and a thick rubber base pressure sensitive adhesive mastic. The product must be applicable at temperatures ranging from 32°F through 100°F without the loss of physical or electrical properties. The product must not degrade when exposed to various environments (indoor or outdoor). The product must also be compatible with all rubber and synthetic wire and cable insulations as well as other splicing compounds.

5. Characteristics and Test Data

Water Soak Test:

Specimens were made using #2 AWG stranded aluminum, cross linked polyethylene insulated 600 volt wire. Compression connectors were wrapped by rolling 06147 Electrical Moisture Sealant around connector and covering wire insulation 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 found to be in excess of 1×10^9 ohms.

Vibration Test:

It was felt that extended life of mechanically spliced wire connections could be achieved by wrapping these connections with Auto Electric Sealing Compound. "Scotchlok" brand "U" element connectors were insulated with 2-1/2" x 2-1/2" 06149 pads, placed on a vibrator which averaged 32 cycles per second at 1/16" displacement.

Specimens made without insulation averaged 12,000,000 cycles while insulated connections averaged 27,000,000 cycles.

The end values given above were determined by fracture of the splice causing mechanical and electrical failure.

6. Shelf-Life

Scotch 06147 and 06149 Electrical Moisture Sealants 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 to 50% relative humidity. Good stock rotation is also recommended.