Scotch® Linerless Rubber Splicing Tape 130C

Data Sheet **November 2017**

Product Description

Scotch® Linerless Rubber Splicing Tape 130C is a highly conformable, linerless, ethylene rubber (EPR), high-voltage insulating tape, formulated to provide excellent thermal dissipation of splice heat. The tape is designed for use in splicing and terminating wires and cables. Rated up to 90˚C continuous operating temperatures and short-term 130˚C overload service. The tape has excellent physical and electrical properties, which provide immediate moisture seals and void-free build-ups. This product can be used for low and high-voltage (through 69 kV) applications.

Features

- Linerless, self-bonding, primary insulating tape rated through 69 kV
- High thermal conductivity
- Ethylene propylene base
- Excellent physical and electrical properties
- Designed to insulate splices and terminate cables whose overload temperatures can reach 130˚C
- Physical and electrical properties unaffected by degree of stretch
- Compatible with common, solid dielectric cable insulation
- Uniform tape unwind from roll
- Small roll size (O.D.)
- Five-year shelf life
- Stable over wide application temperature range
- Weather resistant

Applications

- Primary insulation for splicing all types of solid dielectric insulated cables through 69 kV
- Primary insulation for building stress cones on all types of solid dielectric insulated cables up to 35 kV bus bar insulation
- Jacketing (secondary insulation) on high-voltage splices and terminations
- Moisture-sealing electrical connections
- Bus bar insulation
- End-sealing high-voltage cables
- Motor leads
- Jacket repairs

Specifications

The high-voltage corona resistant tape must be supplied without a liner, be 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 of either physical or electrical properties. The tape must not split, crack, slip, or flag when exposed to various environments (indoor or outdoor). The tape must be compatible with all synthetic cable insulations and have a shelf life of five years.

Engineering /Architectural

Splicing and terminating solid dielectric cable shall be done in accordance with drawings engineered by the splice material manufacturer. All splices and terminations shall be insulated using Scotch® Linerless Rubber Splicing Tape 130C.

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Typical Physical and Electrical 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)	Typical Value US units (metric)
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)	850%
Operating Temperature (ASTM D 4388)	194°F (90°C)
Emergency Overload (ASTM D 4388)	266°F (130°C)
Thermal Conductivity (23°C) (ASTM C 518)	0.3 W/m°C
Ozone Resistance (ASTM D 4388)	Passes
Heat Resistance (ASTM D 4388)	Passes
UV Resistance (ASTM D 4388)	Passes

Electrical Properties (Test Method)	Typical Value US units (metric)
Dielectric Strength ASTM D 4325 Original ASTM D 4325 24 hrs in H_2O ASTM D 4325 96 hrs @ 23°C 96% RH	 750 V/mil (29.5 Kv/mm) 750 V/mil (29.5 Kv/mm) 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
Dielectric Constant ASTM D 4325 1200 V@ 60 Hz 23°C 90°C	 3.5 3.6
Dissipation Factor ASTM D 4325 1200 V@ 60 Hz 23°C 90°C	 0.70% 3.00%

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Installation Techniques

This tape should be applied in successive half-lapped level wound layers until desired build-up is reached. It should be applied like any rubber tape; that is, the side of the tape wrapped inside the roll should be applied outside 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 130C tape. Stretch tape in 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. The tape should be stretched to a minimum of 3/4 its original width. Always attempt to half-lap to produce a uniform buildup. When using 130C tape for splicing cable above 15 kV, always highly elongate the tape throughout the entire splice. Techniques for proper usage of 130C tape are contained in standard and special prints available though the "3M System for Splicing and Terminating" program. These are available through the local 3M Electrical Products Division representative.

Shelf Life & Storage

Scotch® Linerless Rubber Splicing Tape 130C has a 5 year shelf life from the date of manufacture when stored in a temperature and humidity controlled environment: 10^0C/50^0F to 27^0C/80^0F and <75% relative humidity.

Availability

The 130C tape is available from your electrical distributor in the following roll sizes.

3/4 in. by 30 ft. (19 mm x 9,1 m)	1 in. by 30 ft. (25,4 mm x 9,1 m)
1 1/2 in. by 30 ft. (38 mm x 9,1 m)	2 in. by 30 ft. (50,8 mm x 9,1 m)

Please contact your local distributor; available from 3M.com/electrical [Where to Buy] or call 1.800.245.3573.

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