

# SELF-FUSING SILICONE TAPE



Self-fusing silicone tape from Freudenberg Sealing Technologies is made of a specially formulated silicone rubber capable of fusing to itself to create a flexible, homogeneous barrier. The tape starts to tack within seconds, forms an air- and watertight seal within minutes, and permanently fuses to itself within 24 hours.

Self-fusing silicone tape contains no adhesive, which makes for residue-free installation and removal and, unlike traditional adhesive based tapes, it can be applied to surfaces that are wet or dirty without any impact on performance. It has excellent dielectric strength, ozone resistance, high and low temperature stability, and moisture resistance.

## Applications

- **Insulation for electrical systems**—Protection for motor and generator coils and leads without any residue left behind on removal
- **Harness wrapping and wire bundling**—Meets Class H insulation requirements. Easy application and removal
- **Splicing, terminating, and bonding**—Ideal field repair system. Significantly easier and cleaner application than traditional tapes and potting compounds
- **Aircraft applications**—Flame retardant versions available to secure insulation to hot air ducting
- **Automotive applications**—Easily installed as a battery weather wrap to prevent corrosive buildup on terminals

## VALUES FOR THE CUSTOMER

- **Quick acting**—Starts to tack instantly and forms a permanent bond within 24 hours
- **Sealing**—Forms a homogeneous, void-free, air- and watertight seal
- **No adhesive**—Can be applied to unclean surfaces and leaves no residue behind
- **Protects**—Against UV, ozone, fungus, salt water, fuels, oils, coolants, acids, and cleaners
- **Flexibility**—Remains flexible even when exposed to abrasion and temperatures down to  $-65^{\circ}\text{C}$
- **Insulation**—Provides up to 8000 volts at 0.5 mm thickness
- **Fire and heat resistance**—Can be made to meet fire-resistant and fireproof specifications, and can function without melting above  $+260^{\circ}\text{C}$
- **Electrical advantages**—silicone tape has superior arc and corona resistance
- **Custom designs**—available to meet a wide range of applications



## FEATURES AND BENEFITS

### Tape Cross Sections

**Rectangular Tape:** This tape has a uniform thickness across the cross section. It is ideal for applications where a smooth, even outer layer of tape is not required. It most resembles traditional electrical tapes.

**Triangular Guideline Tape:** This tape has a tapered triangular cross-section that is thicker in the middle and has a different colored cross-section running down the center line. It is ideal for applications where the thickness of the coating must not have any visible overlap.

**Sinusoidal Rectangular Tape:** This tape has a uniform cross section with a continuous piece of sinusoidal glass yarn encapsulated inside. This provides the tape with increased tear resistance and controlled elongation. This tape is ideal for applications requiring both excellent mechanical characteristics, and the ability to conform to complex shapes.

### Availability/Possibilities:

- Width: available range from 6.3 mm to 101 mm wide
- Thickness: available range from 0.2 mm to 3.2 mm
- Color: virtually any color can be color-matched
- Fabric reinforcement: both controlled stretch and non-stretch products available
- Flame retardant limits can be increased to meet UL94
- Fireproof—15 minutes flame @ 1090 °C—self-fusing tape products potentially available
- Arc/track resistance can be increased
- Chemical resistance can be increased

Properties* of Self-Fusing Silicone Tape	Silicone Tape	Fabric-Reinforced Silicone Tape
Standard color	red	red
Hardness, shore "A"	25 to 85	50 to 60
Tensile strength	55 bar	207 bar
Elongation at break	500%	34%
Brittle point	-68 °C	-68 °C
Dielectric strength	675 volts/mil	675 volts/mil

\* Properties obtained from 25.4 x 0.5 mm tape. Values listed are typical and should not be used for preparation of specifications



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