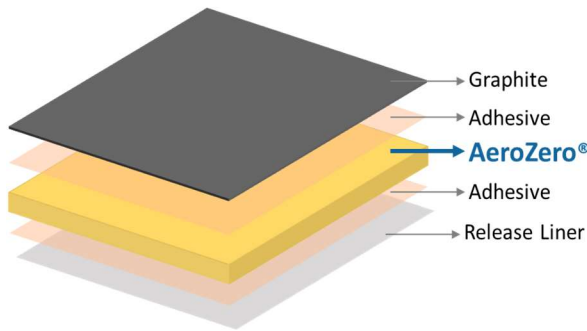




ROCKETAPE™ RTGRS Graphite Heat Resistant Thermal Insulation Tape



Features

- Ultra-thin and lightweight thermal insulation tape
- Easy peel and stick application to flat or complex 3D surfaces
- Excellent adhesion onto a wide range of substrates
- Excellent thermal insulator combined with a heat spreading graphite facing layer
- Highly insulative with low thermal conductivity
 - Protects sensitive components from extreme temperature swings
 - Isolates high temperature zones (hot spot reduction)
 - Enhances thermal endurance of parts/devices
 - Enables component size reduction
- High intermittent heat resistance > 1000 °F (538 °C)
- Flame retardant (UL94 VTM-0 compliant)

Product Description

RTGRS Graphite consists of a 6.5-mil AeroZero® polyimide aerogel film with a double-sided 1-mil adhesive layer and a 2-mil graphite sheet bonded on one side. The adhesive is a high-performance engineering grade silicone pressure sensitive adhesive (PSA) with a release layer that is peeled off before application to a substrate. Potential substrates include stainless steel, aluminum, glass, and polymer substrates such as carbon fiber, polyimides, polyether ketones, polyurethanes, and polyesters. Typical use is thermal barrier/protection of parts used in the Aerospace, Defense, Electronics & Communications Equipment, and High-Performance Racing industries.

Storage

Recommended storage conditions:
 Temperature: below 25 °C (~77 °F)
 Relative Humidity: below 50%

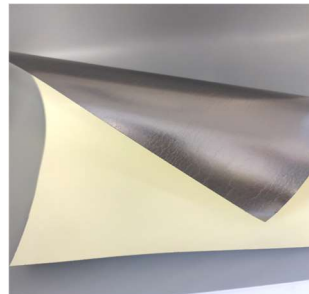
Applications

Leading Edge thermal insulation protection for:

- Exterior leading aero surfaces for rockets, supersonic munitions, and aircraft
- High performance race cars and boats

Standard Dimensions

- Standard Roll: 1 in wide x 25 ft long
- Other sizes available upon request



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| PHYSICAL AND MECHANICAL PROPERTIES | METHOD | VALUE | UNITS |
|------------------------------------|-----------------|-------------------------|-------------------|
| Thickness | In-house method | 267 ± 38 (10.5 ± 1.5) | µm (mil) |
| Tensile Strength | ASTM D882-12 | 4.5 ± 0.5 (0.65 ± 0.07) | MPa (ksi) |
| Young's Modulus | ASTM D882-12 | 415 ± 40 (60 ± 5.8) | MPa (ksi) |
| Tensile Elongation at Break | ASTM D882-12 | 4 ± 1 | % |
| Density | In-house method | 0.70 ± 0.05 | g/cm ³ |

| THERMAL PROPERTIES | METHOD | VALUE | UNITS |
|------------------------------|--------------|---------------|-------|
| Thermal Conductivity (23 °C) | ASTM C518-21 | 0.053 ± 0.005 | W/mK |

| THERMOMECHANICAL PROPERTIES | METHOD | VALUE | UNITS |
|---|---------------|-----------|---------|
| Glass Transition Temperature (AeroZero Tg, DMA) | ASTM E1640-13 | 305 (580) | °C (°F) |
| Decomposition Temperature (10 wt% loss, TGA) | ASTM E2550-17 | 470 (878) | °C (°F) |

| ADDITIONAL PROPERTIES | METHOD | VALUE | UNITS |
|---|------------|------------|-------------|
| Adhesive strength: 180°peel/3 day-RT dwell time RockeTape on 2-mil Al Foil substrate | ASTM D3330 | >300 (1.7) | N/m (lb/in) |
| UL Flammability Rating | UL94VTM | VTM-0 | - |

Data within this table are typical values for the listed product. The above data is not intended to indicate product specifications. Actual product specifications are available upon request.

Application

Prepare the surface by removing any loose particles, wipe the surface with isopropyl alcohol and allow to dry. Remove the release liner from the tape and apply to the surface with adequate finger or mechanical pressure. Standard application temperature is 25 °C (72 °F) and the minimum application temperature is 10 °C (50 °F). The minimum set time is 24 hours before performing any tests, with maximum adhesion being reached at 72 hrs. Increasing the temperature and dwell time may increase adhesion strength.

Blueshift products are manufactured under a certified AS9100D/ISO9001:2015 Quality Management System facility. For more information on Blueshift Materials Film and Laminate products, please visit our website.