

# RockeTape<sup>™</sup> Heat Resistant Thermal Tape

RT-AZ Polyimide

### **Product Description**

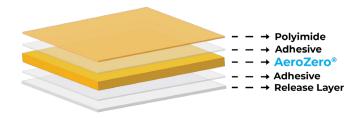
RT-AZ PI consists of a 165 micron (6.5 mil) AeroZero<sup>®</sup> polyimide aerogel film with a 25.4 micron (1 mil) external polyimide film joined with a 25.4 micron (1 mil) adhesive. The adhesive is a high-performance engineering grade silicone pressure sensitive adhesive (PSA) with a release layer that is peeled off before application to a substrate. Potential substrates include stainless steel, aluminum, glass, and polymer substrates such as polyimides, polyether ketones, polyurethanes, and polyesters. Typical use is thermal barrier/protection of parts in the Aerospace, Defense and Electronic industries.

## Application

Prior to peeling the release liner from the adhesive, ensure the surface is clean and free of loose particles. Standard application temperature is 25 °C (77 °F) and the recommended set time for optimal adhesion is 3 days prior to testing. The minimum application temperature is 10 °C (50 °F) and minimum set time is 24 hours before performing any tests. Increasing temperature and dwell time may increase adhesion strength.

#### **Features**

- Ultra-thin thermal protection system (TPS)
- Lightweight
- ◊ RF transparent
- Flexibility enables use on complex parts
- Easy application with permanent bonding
- ♦ Flame retardant



#### Uses

- ♦ Launch vehicle protection
- Supersonic munition and aircraft
- High performance race cars and boats

## **Standard Dimensions**

 Standard Roll: 25 mm wide x 7.6 m long (1 in x 25 ft)

#### Storage

Recommended Storage Conditions:

- Temperature: below 25 °C (77 °F)
- ♦ Relative Humidity: below 50%





#### Lighten. Protect. Perform.

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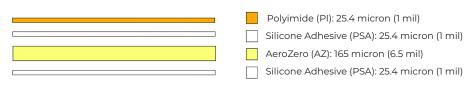
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Method Value Physical and Mechanical Properties 5010-1151-251 Product Code In-House Method Thickness, µm (mil) 240 (9.5) ASTM D882-12 Tensile Strength, MPa (ksi) 15 (2) ASTM D882-12 450 (65) Young's Modulus, MPa (ksi) Tensile Elongation at Break, % ASTM D882-12 8 Density, g/cm<sup>3</sup> In-House Method 0.58 **Thermal Properties** Method Value ASTM C518-10 Thermal Conductivity (25 °C), W/m•K 0.046 ASTM C1784-20 Specific Heat Capacity (25 °C), J/g•°C 1.22 ASTM E408-13 IR Emissivity (Polyimide Surface) 0.85 Method Thermomechanical Properties Value ASTM E1640-13 Glass Transition Temp (AZ T<sub>a</sub>, DMA), °C (°F) 305 (580) ASTM 2550-17 Decomposition Temp (10 wt% loss, TGA), °C (°F) 410 (770) Method **Additional Properties** Value Adhesive Strength: 180 °peel/3 day-RT dwell time AZ film on 50.8 micron (2 mil) AI Foil (lb/in) **ASTM D3330** >200 (1.1) **UL Flammability Rating** UL94 VTM0 VTM-0

Data within this table are typical values for the polyimide product family. *Product Code # 5010-11S1-251* 





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Blueshift products are manufactured under a certified AS 9100D/ ISO 9001:2015 Quality Management System facility. See our website for more information on Blueshift products.

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