



VICTREX® PEEK™ FILM TECHNOLOGY

For Adhesive Tapes

Victrex APTIV™ film is ideal for use as a high performance tape backing. It's a super-tough, strong film providing an excellent combination of friction and wear properties along with high heat resistance and excellent electrical properties.

APTIV film-backed tape can be coated on one side or both sides with a variety of adhesive systems including silicone or acrylic.

KEY FEATURES

- **High Temperature Resistance** — withstands continuous operating temperatures of up to 220°C (428°F) and even higher temperatures for short durations.
- **Wear Resistance** — over wide range of pressure, velocity, temperature and counterfacial roughness.
- **Hydrolysis Resistance** — retains mechanical properties and dimensional stability when exposed to water or steam at elevated temperatures and pressures.
- **Chemical Resistance** — excellent resistance to a wide range of chemical environments including solvents, acids, bases, fuels, and hydrocarbons even at elevated temperatures.
- **Electrical Properties** — maintained over a wide frequency, temperature and humidity range.
- **Radiation Resistance** — withstands over 10⁹ rads exposure without embrittlement.

APTIV FILM VS. POLYIMIDE

When compared to polyimide film, crystalline APTIV film offers:

- **Lower Moisture Absorption**
- **Improved Tear and Puncture Strength**
- **Better Abrasion Performance**
- **Better Chemical Resistance**
- **Comparable Properties** – crystalline APTIV film has comparable physical, electrical and thermal aging properties to polyimide.



APPLICATIONS

- Automotive gaskets and fuel system components
- Aerospace components
- Bearing surfaces
- Oil field equipment (down-hole) requiring abrasion and chemical resistance
- Electrical insulation
- Motor and transformer slot liners
- Semiconductor processing equipment
- Nuclear components
- Aerospace erosion protection
- Medical components
- Battery insulation
- High temperature masking tape

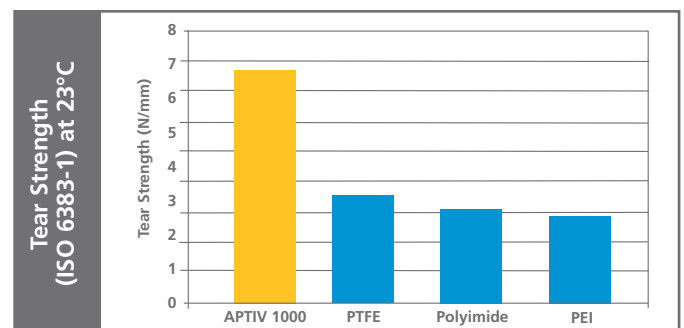
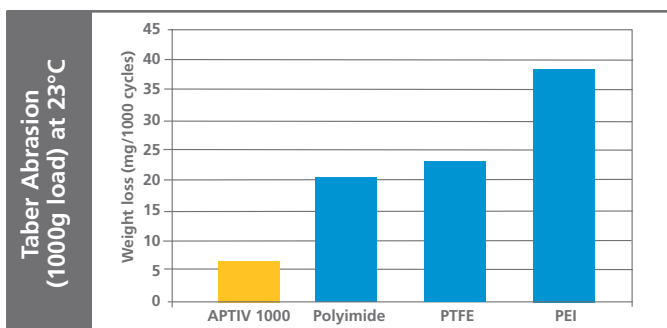
PRODUCT AVAILABILITY

APTIV film-backed tapes are available for sampling and sale in thicknesses of 25 microns (0.001") and above, in a range of widths. Silicone and acrylic adhesive systems are available.

MEETS APPROVALS/STANDARDS

APTIV film meets a variety of aerospace, automotive, food/water, medical/pharmaceutical and military/nuclear approvals and standards. Contact Victrex for more information.

| Property | Test Method | Test Condition | Units | Crystalline PEEK (50 microns) |
|---|----------------|--------------------------|---------------|-------------------------------|
| Specific Gravity | ISO 1183 | 23°C | | 1.30 |
| Typical Crystallinity | DSC | | % | 30 |
| Shrinkage | TM-VX-84 | 125°C | % | 0.1 |
| Shrinkage | TM-VX-84 | 200°C | % | <2 |
| Water Absorption (50% RH) | ISO62 | 23°C, 24h | % | 0.04 |
| Tensile Modulus | ISO 527 | 23°C | GPa (kpsi) | 2.8 (406) |
| Tensile Strength (at yield) | ISO 527 | 23°C | MPa (kpsi) | 90 (13.1) |
| Tensile Elongation (at yield) | ISO 527 | 23°C | % | 6 |
| Tensile Strength (at break) | ISO 527 | 23°C | MPa (kpsi) | 120 (17.4) |
| Tensile Elongation (at break) | ISO 527 | 23°C | % | >150 |
| Puncture Strength | Def Stan 81-75 | 23°C | kJ/m2 | 26 |
| Tear Strength | ISO 6383-1 | 23°C | N/mm | 6.7 |
| Folding Endurance | MIT | 23°C | | 30,000 |
| Glass Transition Temperature | DSC | | °C (°F) | 143 (289) |
| Melting Temperature | DSC | | °C (°F) | 343 (649) |
| Coefficient of Linear Thermal Expansion | ASTM D696 | MD, <Tg | ppm | 47 |
| Dielectric Strength | ASTM D149 | 23°C, 1/4 inch electrode | kV/mm (V/mil) | 190 (4826) |
| Volume Resistivity | ASTM D257 | 100V, 23°C | Ohm cm | 4 x 10 ¹⁶ |
| Dielectric Constant | ASTM D150 | 23°C, 10 MHz | | 3.5 |
| Loss Tangent | ASTM D150 | 23°C, 10 MHz | | 0.002 |



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