

Polyimide Film

Polyimide Films provide excellent electrical, thermal, physical, and chemical properties over a wide temperature range in a light-weight package (136 sq ft/lb [28 m/kg] for 1 mil) making them superior for electrical insulation applications.

Taimide® polyimide films are produced employing a world class process that makes them dimensionally stable and inherently isotropic, meeting exacting tolerances, physically strong and electrically sound in widths up to 61.8" (1570 mm). These products meet all of the requirements of ASTM D5213 which superseded MIL-P-46112B. TH Series polyimide films exceed UL 94 V-0 flammability, as well as a 455° (235°) Relative Thermal Index (RTI) for both electrical and mechanical properties (UL file E231847). These high performance films are exclusively manufactured to exacting specifications for the electrical insulation market by Taimide Technology, Inc. (Taiwan).



Packaging

Roll cores will be of sufficient strength to prevent collapsing from handling. The standard will be 3" (76.2mm) nominal on cardboard.

Roll lengths can be customized, but the standard is 5000 feet (1524m) for TH-025 1.0 mil film and 2500 feet (762m) for TH-050 2.0 mil film. Rolls can be StablEdge® wound as well as flat pads or universal packages. Consult customer service for details.

Width tolerances on slit materials will be held to 1/64" (0.4mm) up to the max width of 61.8" (1570mm).

Splices are possible with slit width orders. They will be held to a minimum, if they occur. Minimum length between splices will be 300 feet (91m).

Features/Benefits:

- Temperature resistant from -445°F to over 752°F
- Dimensionally stable
- Available adhesive coated
- Available in slit widths
- Available in StablEdge put-ups

Andrew Roberts Inc. is a leading converter and fabricator of high performance coated fabrics tapes & belts. Our converting capabilities include:

Die Cutting - Slitting - Sheeting - Heat Sealing - Sewing

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(continued)

Norton® High Performance Films: Polyimide

| Properties | Item Thickness | Units mils (µm) | Norton® | | Test Condition | Test Method |
|------------|----------------------------------|--------------------------------|----------------------|----------------------|---|---------------|
| | | | TH-025 1.0 (25) | TH-050 2.0 (50) | | |
| Mechanical | Tensile Strength | lbs/inch (kgf/mm) | 34 (0.55) | 70 (1.1) | 68°F (20°C) | ASTM D882 |
| | Elongation | % | 85 | 85 | 68°F 20°C | ASTM D882 |
| | Young's Modulus | kgf/mm ² | 300 | 300 | 68°F 20°C | ASTM D882 |
| Electrical | Dielectric Breakdown | V/mil | 7000 | 6500 | 60 Hz, 68°F (20°C) | ASTM D149 |
| | Dielectric Constant | – | 3.3 | 3.3 | 1MHz, 68°F (20°C) | ASTM D150 |
| | Dissipation Factor | – | 0.004 | 0.004 | 1MHz, 68°F (20°C) | ASTM D150 |
| | Volume Resistivity | Ω – cm | >10 ¹⁶ | >10 ¹⁶ | 500V, 68°F (20°C) | ASTM D257 |
| | Surface Resistance | Ω | >10 ¹⁶ | >10 ¹⁶ | 500V, 68°F (20°C) | ASTM D257 |
| Thermal | Coefficient of Thermal Expansion | ppm/°F (ppm/°C) | 25 (45) | 25 (45) | 212-392°F (100-200°C) | ASTM D696 |
| | Heat Shrinkage | % | 0.08 | 0.08 | 392°F, 2hr (200°C) | ASTM D5213-04 |
| | Tg (Glass Transition) | °F (°C) | 716-770 (380-410) | 716-770 (380-410) | – | DSC,TMA |
| Physical | Moisture Absorption | % | 2.8 | 2.8 | 68°F (20°C), 24hr Immersion | ASTM D570 |
| | Density | g/cc | 1.46 | 1.46 | 68°F (20°C) | ASTM D1505 |
| Chemical | MEK | Tensile Strength MD Retained % | 100 | 100 | 68°F (20°C), 10min Immersion, then test after 24hrs | ASTM D882 |

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