



Thermalbright® Polyimide

High performance white polyimide

Thermalbright® Polyimide is a high performance white polyimide with wide ranging uses in display applications, electrical insulators, composites, industrial tapes, space structures, and many others. Thermalbright® Polyimide is useful in thermal control applications requiring low absorptivity, high emissivity, UV stability, and high temperature colorfastness. Thermalbright® Polyimide exhibits high optical density and hiding, making it an excellent high temperature white paint replacement material. Thermalbright® Polyimide is available in two grades: Thermalbright® C for Electrostatic Dissipative (ESD) applications, and Thermalbright® N for applications that require electrical insulation. Thermalbright® Polyimide is available as a liquid casting resin or film product.

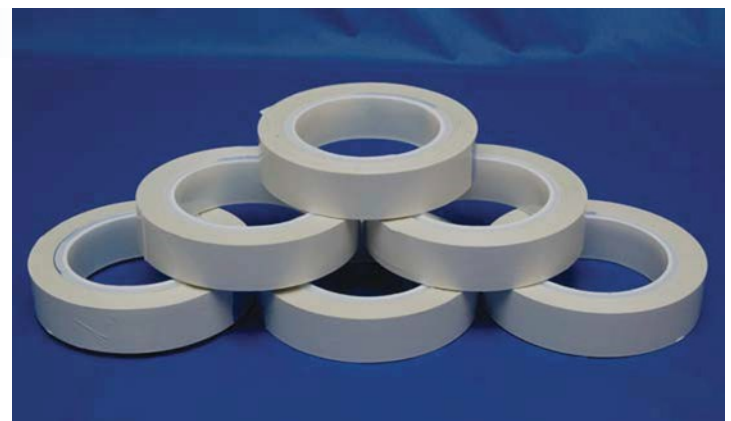
Characteristics

- Bright white color
- High optical density
- High temperature color stability
- Printable surface
- Extremely low moisture uptake
- Low temperature cure
- Conductive/nonconductive grades
- Vacuum coating compatible



Applications

- Paint replacement
- Electronics
- Displays
- Space structures
- Advanced composites
- Thermal control
- Insulation blankets
- Pressure sensitive tapes



Physical and Mechanical Properties

Property	ASTM Method	Thermalbright® N	Thermalbright® C	Units
Tensile Strength (1 mil; 23°C)	D882-02	58 (8.4)	79 (11.5)	MPa (ksi)
Young's Modulus (23°C)	D882-02	3.5 (513)	4.7 (684)	GPa (ksi)
Tensile Elongation at Break (1 mil; 23°C)	D882-02	2.0	1.9	%
Density	D792-08	2.08	1.95	g/cm ³
Water Absorption (24 hr immersion)	D570-98	0.2	0.4	%
Surface Resistivity	D257-91	> 10 ¹²	< 10 ¹²	Ohm/□
Volume Resistivity	D257-91	> 10 ⁹	< 10 ⁹	Ohm*cm

Optical Properties

Solar Absorptance (1 mil)	E903-96 ¹	0.11	0.29	-
Solar Transmittance (1 mil)	E903-96 ¹	0.18	0.12	-
Solar Reflectance (1 mil)	E903-96 ¹	0.71	0.59	-
Infrared Emissivity (hemispherical) (1 mil)	E408-71	0.64	0.77	-
L*a*b* (1 mil) (C/2°)	E1164-09a	94.2/-2.6/1.2	92.0/-2.8/1.1	-

¹ Data weighted to air mass zero solar irradiance values in ASTM E490-00a

Thermal Properties

Glass Transition Temperature (DSC)	E1356-03	263 (505)	263 (505)	°C (°F)
Linear CTE (1 mil; -130°C—110°C)	E831-06	40 (22)	27 (15)	ppm/°C (ppm/°F)

Material Availability

- Thermalbright® Polyimide is available as a liquid resin or film
- 12.5—25 micron film thicknesses; other thicknesses available upon request
- Continuous rolls of film up to 60 inches wide
- Thermalbright® Polyimide film can be supplied with many different metal and dielectric coatings
- Material is available as tape with choice of pressure sensitive adhesive chemistries
- Thermalbright® Polyimide is a highly customizable material. Contact us with your specific needs today

Warranty. The information contained herein is believed to be accurate and reliable. However, the user is responsible for determining the suitability and use of the final formulations/products. NeXolve warrants that its products will meet specifications, but not merchantability or fitness for use.

For more information contact:

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