

NovaClear® Polyimide

High temperature colorless polyimide with low yellowness index



NovaClear® Polyimide is a transparent, colorless polyimide with temperature durability comparable to many traditional amber polyimides. NovaClear® has a low yellowness index and high Tg which make this material suitable for use in display applications with high temperatures. NovaClear® is available as a film, liquid resin, or raw polymer powder. Liquid NovaClear® resin can be direct coated onto many substrates; however, unlike traditional polyimide resins, no high temperature cure is required for this material. NovaClear® can be custom formulated with pigments, dyes and many other additive chemistries to meet the needs of many applications. Contact us today to learn how NovaClear® can work for you.

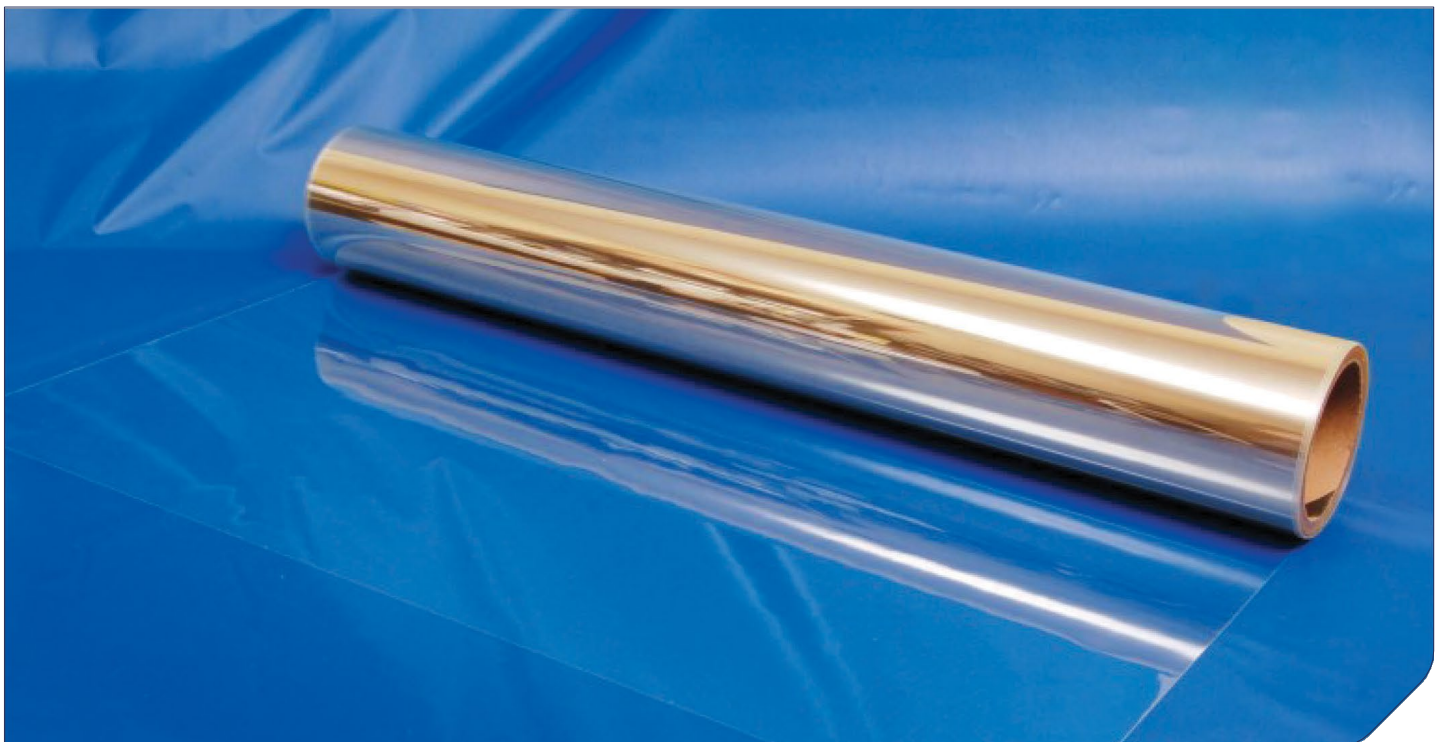
CHARACTERISTICS

- High Tg
- Highly transparent
- Low yellowness index
- Low moisture uptake
- Low temperature cure
- Solvent soluble
- Vacuum coating compatible



APPLICATIONS

- Dielectric layer for microelectronics
- Advanced composites
- Space structures
- Displays
- Thermal control for aerospace applications



NovaClear® Polyimide film roll

TYPICAL PROPERTIES OF NOVACLEAR® POLYIMIDE

PHYSICAL AND MECHANICAL PROPERTIES			
PROPERTY	ASTM METHOD	VALUE	UNITS
Tensile Strength (1 mil; 23°C)	D882-02	142 (21)	MPa (ksi)
Young's Modulus (23°C)	D882-02	4.8 (698)	GPa (ksi)
Tensile Elongation at Break (1 mil; 23°C)	D882-02	5	%
Density	D792-08	1.4	g/cm ³
Water Absorption (24 hr immersion)	D570-98	0.4	%
Dielectric constant (10 GHz)	-	2.4 - 2.5	-
Surface Resistivity	D257-91	>10 ¹²	Ohm/□
Volume Resistivity	D257-91	>10 ⁹	Ohm*cm
OPTICAL PROPERTIES			
Solar Absorptance (1 mil)	E903-96 ¹	0.08	-
Solar Transmittance (1 mil)	E903-96 ¹	0.83	-
Solar Reflectance (1 mil)	E903-96 ¹	0.09	-
Average % transmission 400-780 nm (1 mil)	-	88	%
50% Transmission UV Cutoff (1 mil)	-	400	nm
Haze (1 mil)	D1003 -11	0.4	%
Yellowness Index (1 mil)	D1925-70	8.0	-
Infrared Emissivity (hemispherical, 1 mil)	E408-13	0.51	-
¹ Data weighted to air mass zero solar irradiance values in ASTM E490-00a			
THERMAL PROPERTIES			
Glass Transition Temp. (DSC)	E1356-03	335 (635)	°C (°F)
Linear CTE (1 mil; -115°C—+250°C)	E831-06	38	ppm/°C (ppm/°F)
Shrinkage (1 mil, 200°C, 1 hour)	D2305-10	0.38	%
MATERIAL AVAILABILITY			
<ul style="list-style-type: none"> • NovaClear® Polyimide is available as a raw powder, liquid resin, or film • 2.5—25 micron film thicknesses available. Other thicknesses available upon request • Continuous rolls of film up to 60 inches wide • NovaClear® Polyimide film can be supplied with many different metal and dielectric coatings • Material is available as tape with choice of pressure sensitive adhesive chemistries • NovaClear® 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.