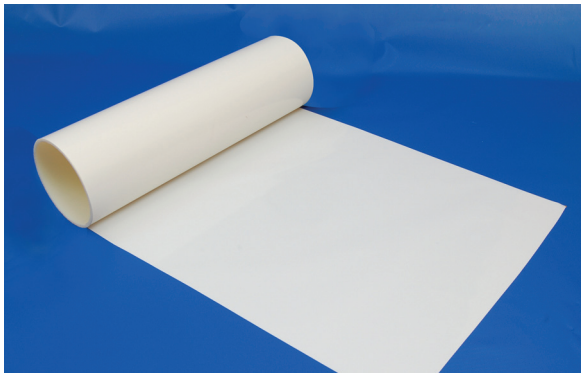
NeXolve™
Technology for Today & Tomorrow

Thermalbright™ Polyimide (LaRC™-CP1)

NeXolve's Thermalbright Polyimide is a CP1 colorless polyimide filled with inert white pigments. Typical polyimides are orange-colored and highly absorptive when filled with white pigments, but since CP1 is intrinsically colorless the resultant material is bright white in color.



Thermalbright Polyimide is useful in thermal control applications requiring low absorptivity, UV and VUV stability, and high temperature color stability.

Thermalbright Polyimide exhibits high optical density and hiding, as well as high emissivity (>0.80 at 1 mil thickness).

Typical Properties of Thermalbright™ Polyimide (LaRC™-CP1)

Properties	ASTM Method	Typical Properties[1]			
Optical / Solar					
		Transmissivity (τ)	Reflectivity (R)	Absorptivity (α)	
Solar properties, 0.5 mil	E1175-87	0.16	0.54	0.29	
Solar properties, 1.0 mil	E1175-87	0.08	0.57	0.35	
Solar properties, 2.0 mil	E1175-87	0.02	0.57	0.41	
		SI Units		U.S. Units	
		Value	Units	Value	Units
Mechanical					
Tensile Strength at 23 °C (73 °F)	D282	50	MPa	7.2	ksi
Tensile Modulus at 23 °C (73 °F)	D282	6.5	GPa	940	ksi
Tensile Elongation at 23 °C (73 °F)	D282	2.0	%	2.0	%
Thermal					
Glass Transition Temperature (DSC)	E1356-03	263	°C	505	°F
Linear CTE (125 °C – 175 °C, 1.0 mil)	E831-06	40	µm/m/°C	20	µin/in/°F

[1] Actual properties of individual batches will vary within specification limits.

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. ManTech International Corporation warrants that its products will meet specifications, but not merchantability or fitness for use.

About NeXolve Corporation

NeXolve Corporation manufactures high-performance polymer materials for aerospace, electronics and display applications. These materials include colorless polyimides, continuous rolls of ultralightweight polyimides (0.1 mil to 0.3 mil), low/zero CTE polyimides, photosensitive polyimides and other high-performance products. In addition to the manufacture of specialized polymer materials, NeXolve produces new compositions and formulations for specific customer applications, as well as manufacturing aerospace flight hardware, such as the five-layer sunshield – roughly the size of a tennis court – for the NASA James Webb Space Telescope, successor to the Hubble.

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