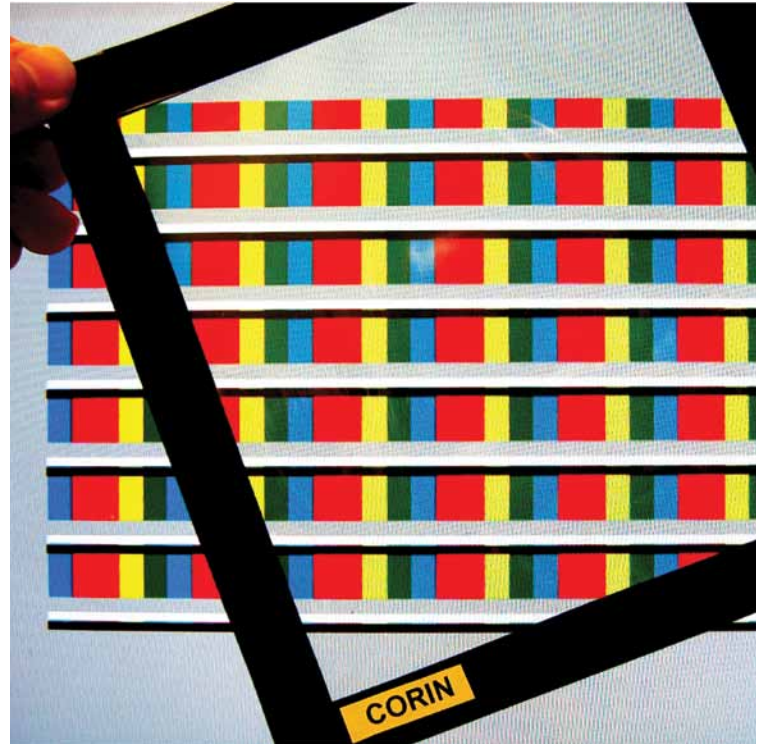


CORIN XLS Polyimide

NeXolve's **CORIN XLS Polyimide** is a colorless, clear, organic/inorganic sprayable nanocomposite that is resistant to radiation and atomic oxygen erosion. **CORIN XLS Polyimide** is ideal for use in national security applications, such as satellites, and also in solar panels and light-emitting organic displays.

CORIN XLS Polyimide combines polyimide and nanocomposite technologies to deliver unsurpassed levels of optical clarity and oxidative stability, as well as stability to solar radiation. This fluorinated polyimide nanocomposite offers the highest atomic oxygen (AO) durability as well as the highest light transmission of all the CORIN grades, making it an ideal lightweight substitute material for glass used in space photovoltaic (PV) arrays in low earth orbit (LEO).



CORIN XLS Polyimide is optically transparent and exhibits a glass transition temperature greater than 250 degrees centigrade.

CORIN XLS Polyimide exhibits a glass transition temperature in excess of 250°C and can be used as a replacement for glass substrates in display applications.

CORIN XLS Polyimide can be processed with organic solvents for spray, dip or casting applications as well as with hot isostatic press (HIP). This multipurpose material is available in film (standard thicknesses of 0.5 mil and 1.0 mil, other thicknesses available), solvent-based liquid resin or powder form.

CORIN XLS Polyimide is manufactured in continuous rolls of 0.1, 0.25, 0.50, and 1.0 mil thickness.



Typical Properties of CORIN XLS Polyimide

Properties	ASTM Test Method	Typical Properties ⁽¹⁾			
		SI Units		U.S. Units	
		Value	Units	Value	Units
Optical					
Solar Absorptivity at 25 µm (1 mil)	E1175-87	0.08			
50% Trans. UV Cutoff, 12 µm film (0.5 mil)		377	nm		
50% Trans. UV Cutoff, 25 µm film (1 mil)		392	nm		
50% Trans. UV Cutoff, 38 µm film (1.5 mil)		407	nm		
Refractive Index (Abbe, 589 nm)	D542-00	1.54			
Mechanical					
Tensile Strength at 23°C (73 °F) (1.0 mil)	D282	74	MPa	11	ksi
Tensile Modulus at 23°C (73 °F) (1.0 mil)	D282	2.1	GPa	310	ksi
Tensile Elongation at 23°C (73 °F) (1.0 mil)	D282	8.0	%	8.0	%
Thermal					
Glass Transition Temperature (DSC)	E1356-03	266	°C	511	°F
Glass Transition Temperature (DMA)	E1356-03	251	°C	483	°F
Linear CTE (125°C – 175°C, 1 mil)	E831-06	68	µm/m/°C	38	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. NeXolve warrants that its products 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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NeXolve Corporation is a wholly owned subsidiary of ManTech International Corporation.