



## CORIN<sup>®</sup> XLS Polyimide

### Transparent polyimide with exceptional Atomic Oxygen resistance

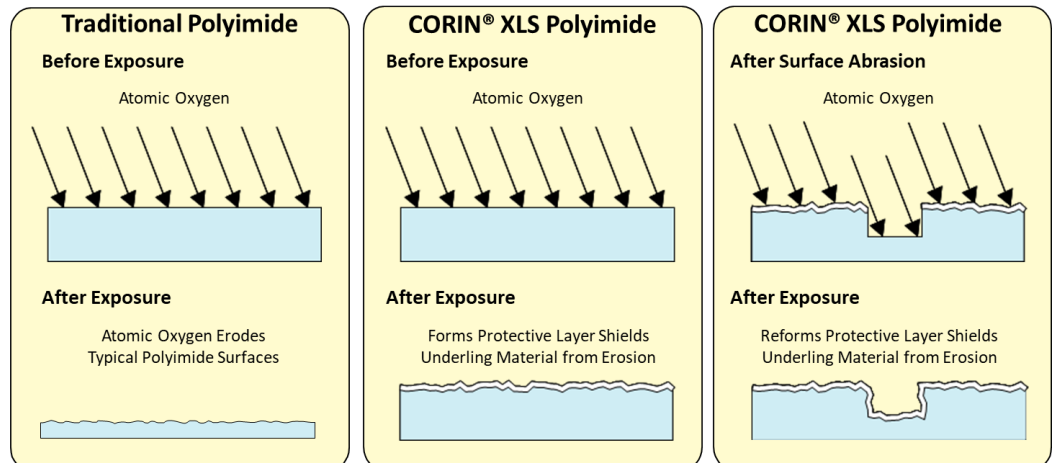
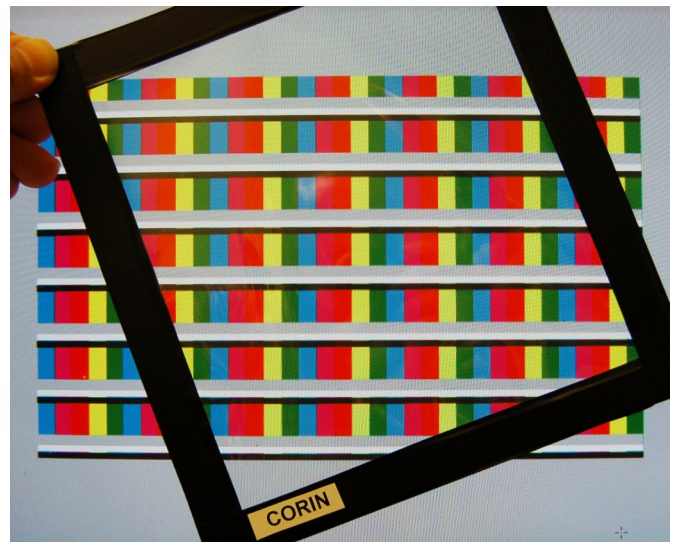
CORIN<sup>®</sup> XLS Polyimide is a colorless, clear, organic/inorganic nanocomposite with exceptional resistance to atomic oxygen erosion. CORIN<sup>®</sup> XLS exhibits a glass transition temperature in excess of 250°C, making it suitable for many high temperature applications. CORIN<sup>®</sup> XLS is available as a raw polymer powder, liquid casting resin, or film product.

### Characteristics

- Exceptionally low AO erosion rates
- Highly transparent
- High T<sub>g</sub>
- Low temperature cure
- Low dielectric constant
- Solvent soluble
- Vacuum coating compatible

### Applications

- AO rich space environments
- Thermal control
- Optical filters/mirrors
- Electrical insulation
- Composites
- Displays



# Typical Properties of CORIN<sup>®</sup> XLS

## Physical and Mechanical Properties

Property	ASTM Method	Value	Units
Tensile Strength (1 mil; 23°C)	D882-02	74 (11)	MPa (ksi)
Young's Modulus (23°C)	D882-02	2.1 (310)	GPa (ksi)
Tensile Elongation at Break (1 mil; 23°C)	D882-02	8	%
Density	D792-08	1.4	g/cm <sup>3</sup>
Surface Resistivity	D257-91	> 10 <sup>12</sup>	Ohm/□
Volume Resistivity	D257-91	> 10 <sup>9</sup>	Ohm*cm
AO Erosion Yield	-	3.05 x 10 <sup>-26</sup>	cm <sup>3</sup> /atom

## Optical Properties

Solar Absorptance (1 mil)	E903-96 <sup>1</sup>	0.08	-
Solar Transmittance (1 mil)	E903-96 <sup>1</sup>	0.84	-
Solar Reflectance (1 mil)	E903-96 <sup>1</sup>	0.08	-
Average % transmission 400-780 nm (1 mil)	-	88	%
50% Transmission UV Cutoff (1 mil)	-	392	nm
Haze (1 mil)	D1003-11	0.7	%
Refractive Index (Abbe, 549 nm)	D542-00	1.54	-
Infrared Emissivity (hemispherical, 1 mil)	E408-13	0.62	-

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

## Thermal Properties

Glass Transition Temp. (DSC)	E1356-03	266 (511)	°C (°F)
Linear CTE (1 mil; 125°C—175°C)	E831-06	68 (38)	ppm/°C (ppm/°F)

## Material Availability

- CORIN<sup>®</sup> XLS 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
- CORIN<sup>®</sup> XLS Polyimide film can be supplied with many different metal and dielectric coatings
- Material is available as tape with choice of pressure sensitive adhesive chemistries
- CORIN<sup>®</sup> XLS 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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