

# Corning® Eagle XG® LCD Slim Glass

Optical Windows • LCD Displays • Active Matrix Flat Panel Displays

## Glass Fabrication



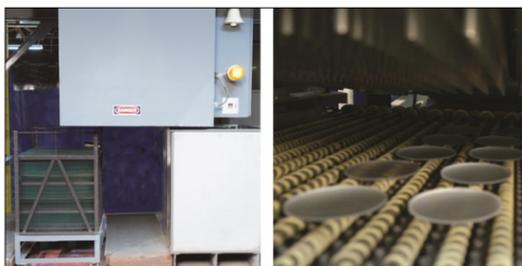
## Coating Deposition



## CNC Machining



## Strengthening - Chemical & Heat



## Screen Printing of Graphics



Abrisa Technologies, a member of HEF Photonics, is a globally recognized technology glass fabrication and optical thin film coating company with expertise in high volume manufacturing and engineering capabilities, delivering Total Solutions that provide excellent performance, fitness-for-use and economies of scale.

Our US based, state-of-the-art ISO 9001:2015 and ITAR registered facilities include Abrisa Industrial Glass in Santa Paula, CA and ZC&R Coatings for Optics in Torrance CA. These two divisions produce solutions from cut-to-order coated glass components to custom complex and ready-to-install fabricated, strengthened, optically coated, electronically enabled and branded sub-assemblies.

Our Total Solutions serve a variety of markets including Micro-Electronics, Defense and Avionics, Display, Industrial Automation, Optical Sensors, Imaging, Photonics, Medical & Dental, Life Science and more.



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CEXG 10\_22



Your Total Solution Partner

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## Emerging Applications Drive Increased Demand for Thinner, Lighter LCD Display Panels

Corning® EAGLE XG® Slim Glass substrates enable panel manufacturers to innovate for thinner, lighter, and more environmentally conscious display panels. EAGLE XG® Slim Glass delivers dimensional stability and exceptionally clean, smooth, flat surfaces – qualities essential to the successful manufacturing of LCD displays.

The glass composition includes no added heavy metals, reducing the environmental impact of manufacturing. EAGLE XG® Slim Glass also features exceptional thinness, helping panel-makers reduce or completely avoid the potential environmental and health hazards associated with panel thinning.

## Key Features & Benefits:

- Environmentally Friendly - No Heavy Metals
- Excellent Surface Quality
- Good Thermal Properties
- Low Density
- High Chemical Durability & Resistance

## Applications:

- Liquid Crystal Displays (LCDs)
- Active Matrix Flat Panel Displays

**Glass Type:** Alkaline Earth Boro-Aluminosilicate

**Forms Available:** Fusion Drawn



Industry-leading LCD glass substrates for evolving displays

## Sheet Sizes:

- Up to 61" x 52" (1549.4 x 1320.8mm)

## Thicknesses:

EAGLE XG Slim Glass is available from Abrisa Technologies stock:

- 0.5mm, 0.7mm and 1.1mm
- 0.3 and 0.4mm on Special Request



**Abrisa Technologies • 200 South Hallock Drive, Santa Paula, CA 93060 • (877) 622-7472**  
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Mechanical Properties	Metric	English
Density (20°C, 68°F)	2.38g/cc	148.5lb/ft <sup>3</sup>
Young's Modulus	73.6GPs	10.7 x 10 <sup>6</sup> psi
Shear Modulus	30.1GPa	4.4 x 10 <sup>6</sup> psi
Poisson's Ratio	0.23	
Vicker's Hardness (200 gm load, 25 sec dwell)	560	
Thermal Expansion Properties	Metric	English
0 - 300°C	31.7 x 10 <sup>-7</sup> /°C (0 - 300°C)	17.7 x 10 <sup>-7</sup> /°F (32 - 572°F)
Room Temp. to Setting Point	35.5 x 10 <sup>-7</sup> /°C (25 - 675°C)	19.7 x 10 <sup>-7</sup> /°F (77 - 1247°F)

Thermal Conductivity is a calculated value, and is equal to the product of the thermal diffusivity multiplied by specific heat multiplied by the density of the glass

Temperature °C	Specific Heat (J/gm - °K)	Thermal Diffusivity (cm <sup>2</sup> /sec)	Thermal Conductivity
23	0.768	0.00601	0.0109
100	0.896	0.00572	0.0122
200	0.998	0.00546	0.0129
300	1.067	0.00530	0.0134
400	1.110	0.00522	0.0137
500	1.154	0.00518	0.0142

## Viscosity:

- Working Point (10<sup>4</sup> poises) 1293°C or 2359°F
- Softening Point (10<sup>7.6</sup> poises) 971°C or 1780°F
- Annealing Point (10<sup>13</sup> poises) 722°C or 1332°F
- Strain Point (10<sup>14.5</sup> poises) 669°C or 1236°F

## Electrical:

- Log<sub>10</sub> Volume Resistivity (ohm-cm)
- 12.9 @ 250°C, 482°F
  - 8.8 @ 500°C, 932°F

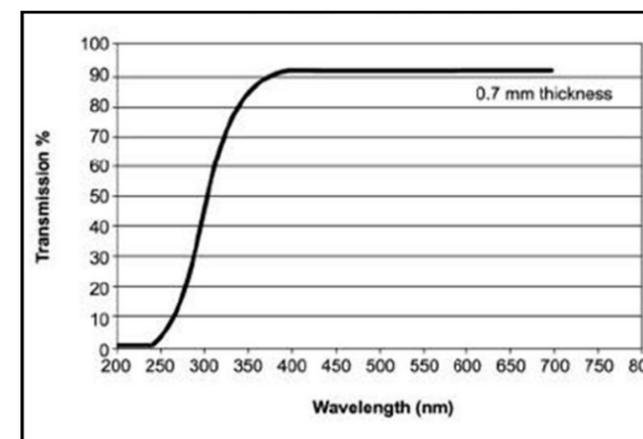
Birefringence Constant: 331 (nm/cm) / (kg/mm<sup>2</sup>)

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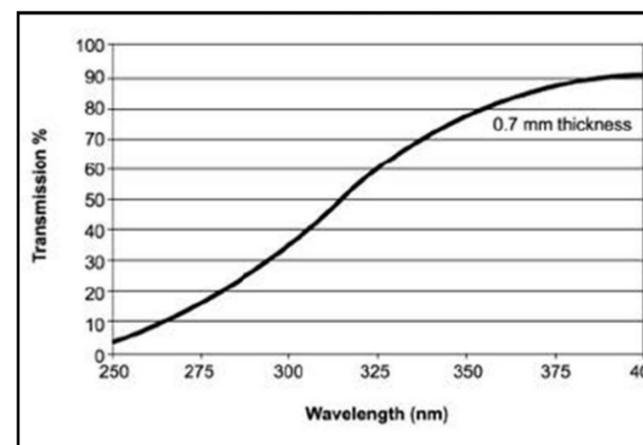
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Optical Wavelength	Refractive Index
435.8nm	1.5198
467.8nm	1.5169
480nm	1.5160
508.6nm	1.5141
546.1nm	1.5119
589.3nm	1.5099
643.8nm	1.5078

## Optical Transmission:



## UV Transmission:



## Options

### Coatings:

- Custom V-Coat, Multi-band, Broadband AR
- AR Coatings to MIL-C-14806 A
- ITO/IMITO for EMI Shielding, Heater, LC Devices
- Custom SWP, LWP, Bandpass, UV & NIR Blocker
- Broad/Narrowband Scanning Mirror Coatings
- Deposition onto Filters, Silicon & Other Materials
- Autoclavable, Bio or Chemically Compatible

### Substrates:

- Fabrication to Shape & Size**
  - Cut & Seam or Circle Ground to Size & Shape
  - Precision CNC - Holes, Bevels, Steps, Notches
- Damage Resistant Substrates**
  - HIE™ Aluminosilicates
    - AGC Dragontrail™
    - Corning® Gorilla®
    - SCHOTT AS 87
  - Chemically Strengthened Soda Lime Float
- Low Expansion Chemically Resistant Substrates**
  - SCHOTT Borofloat® 33
- Ultra Thin and Wafer Substrates**
  - AGC EN-A1
  - Corning® 0211 & Eagle XG®
  - SCHOTT AF32, D263® & AS 87
- Other**
  - Applied Films & Tints
  - Gasket Application
  - Edge Treatment/Blackening

### Easy-to-Clean & Anti-Fog Solutions:

- Oleo/Hydrophobic Options
- ITO Heater, HTAF Anti-Fog Solutions

### Graphics & Bus Bars:

- Color Matched Epoxy Ink
- Non-Conductive Ink
- High Temperature Frit Ink
- Deadfront Ink - Partially Transmissive
- Infrared IR Transmitting Ink
- Silver Epoxy, Silver Frit, CrNiAu Bus Bars