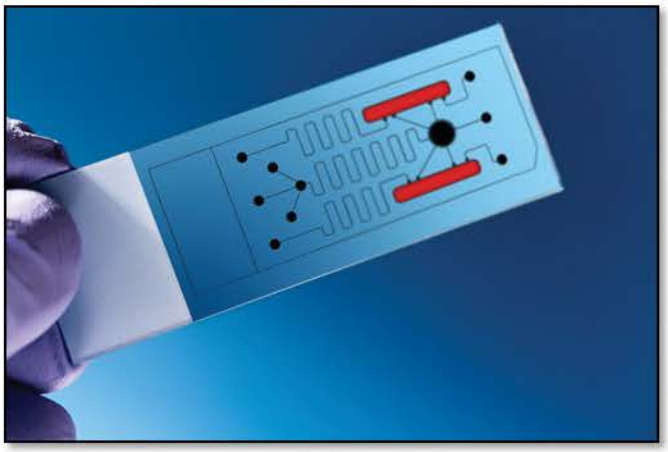
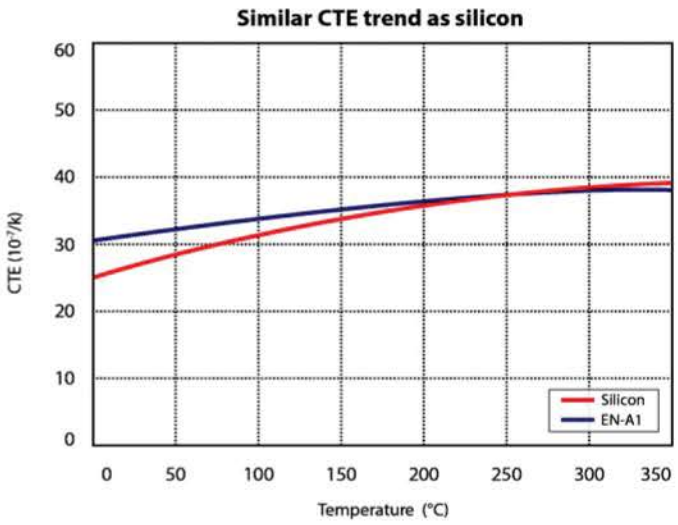
AGC EN-A1 Alkali Free Boro-Aluminosilicate Glass

Displays • Image Sensors • LC Devices • Biosensors/Arrays

Abrisa Technologies offers Asahi Glass Corporation (AGC) EN-A1 material, a highly transmissive, alkali-free thin boro-aluminosilicate glass that is ideal for highly sensitive bio-photo detection applications, high through-put sensor applications and as enhancement glass for thin displays and cover glass for micro arrays.



Its coefficient of thermal expansion (CTE) of 38 x 10^{-7} is well matched to silicon, making it an ideal and economical choice for use as a glass polishing substrate for the thinning process (back grinding) of semiconductor chips supporting low profile electronic device manufacture.



Key Features:

- Alkali-free
- CTE well matched to silicon
- Standard thicknesses 0.3, 0.5, 0.7mm
- Sizes up to 25" x 20" (635mm x 508mm)
- High Transmittance from 400 - 2300nm
- Good chemical resistance
- Low fluorescense at genomic excitation wavelengths

Applications:

- Image sensor windows
- Cover glass for micro arrays
- Display enhancement glass
- Biosensors
- Glass for semiconductor thinning
- Low weight, reduced profile designs

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Mechanical Properties	Measurement	EN-A1
Density	g/cm^3	2.51
Young's Modulus	GPa	77
Poisson's Ratio		0.22
Thermal Properties		
CTE (Thermal Expansion)	(50-250ºC) x 10^{-7} / ºC	38
Glass Transformation Point	ºC	720
Strain/Softening Point	ºC	950
Optical Properties		
Refractive Index	Nd	1.52
Electrical Properties		
Bulk/Volume Resistivity	Log (Ω • cm)	13.6
Dielectric Constant	At 0.001 GHz RT At 10 GHz RT	5.5 5.5
Dissipation Factor	At 0.001 GHz RT At 10 GHz RT	0.002 0.006
Chemical Properties		
Acid Resistance **(HF 5% at 25ºC, 20 min.)**	Mg/cm^2	3.1

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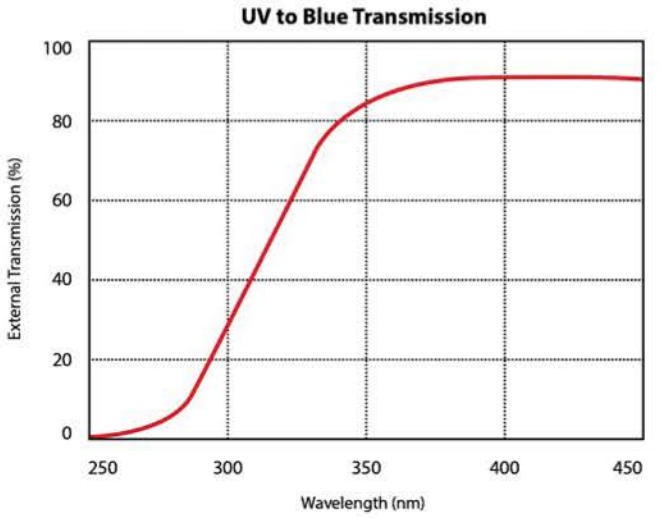
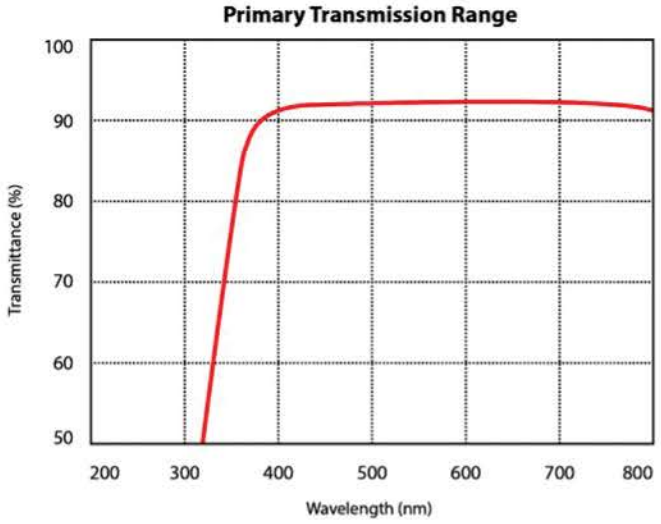
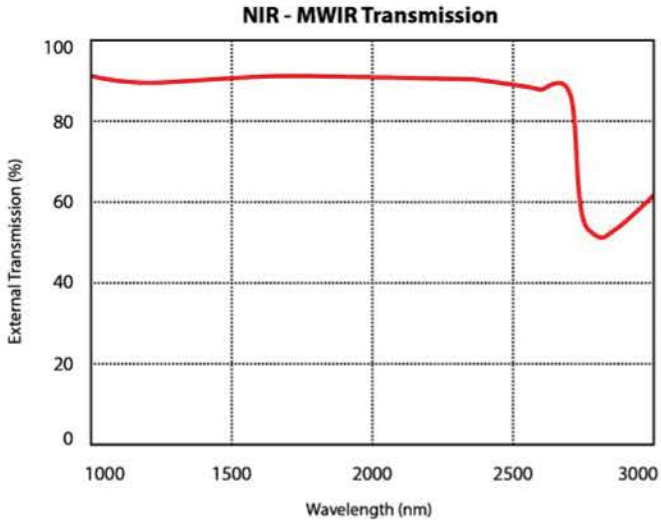
Transmission Curves







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

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Glass Fabrication

Coating Deposition

CNC Machining

Strengthening - Chemical & Heat

Screen Printing of Graphics

Abrisa Technologies is a recognized global supplier of high quality, fabricated glass components, optical thin film coatings, and custom glass solutions for a wide variety of industries.

Our US based Abrisa Industrial Glass fabrication facility in Santa Paula, CA and our ZC&R Coatings for Optics facility in Torrance, CA serve diverse industries such as microelectronics and displays, semiconductor, military, automotive, aerospace, medical, biomedical and scientific R&D.

We provide custom specialty flat glass and coating products for applications such as: flat panel display, touch and gesture recognition; visible to IR imaging and surveillance; entertainment, indoor and outdoor lighting; advanced instrumentation; and photonics.

ABRISA TECHNOLOGIES

CERTIFIED ISO 9001:2015 COMPANY

International Traffic In Arms Regulations Compliant ITAR

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