

AGC Dragontrail™ Chemically Strengthened Glass

Cover Glass • Displays • Sensors • Scanners

Glass Fabrication



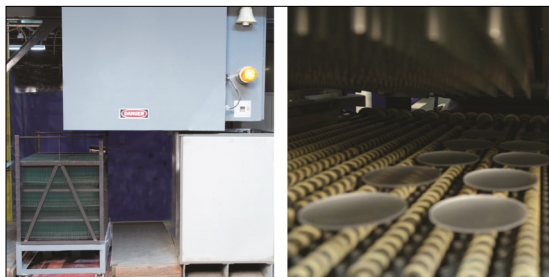
Coating Deposition



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



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DT 10/22



Your Total Solution Partner

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Asahi Glass Corporation (AGC) Dragontrail™ is innovative High Ion-Exchange (HIE™) aluminosilicate glass with superior strength, scratch resistance and a beautiful surface finish that is made by applying a proprietary chemical strengthening and tempering process to the highly even and flat float material.

Dragontrail™ supports low profile and reduced weight portable field and industrial devices with a toughness 6x that of soda lime float. It is environmentally friendly and is produced without the use of lead, arsenic and antimony.

Dragontrail™ is an excellent choice of a transparent and damage resistant window or display enhancement glass that helps to enhance the usable lifetime of high contact touch displays, field and industrial image sensors, document scanners and on board vehicular and avionics displays.

Benefits:

- 6x stronger than soda lime float glass
- Damage and scratch resistant
 - Vicker's hardness 673
 - > 600 MPa strength
 - 35 < Depth of Layer* (DOL) < 45µm
- **Sheet Size**
 - 48" x 29" (1219.2mm x 736.6mm) standard
 - 60" x 48" (1524mm x 736.6mm) available**
- **Thicknesses**
 - Stock thicknesses include 0.8mm and 1.1mm
 - Other thicknesses of 0.5 to 5.0mm may be available upon special request**

** Minimum order quantity may apply, confirm prior to order placement.



Applications:

- Display cover glass
- Sensor windows
- Mobile touch device displays
- Scanner beds
- Industrial machine vision
- Obstacle avoidance

* **Depth of Layer (DOL)** is a measurement of the compressive strength of glass specific to chemically strengthened glass. It is the depth into the surface of glass to which compressive stress is introduced. It is defined as the distance from the physical surface to the zero stress point internal to the glass.



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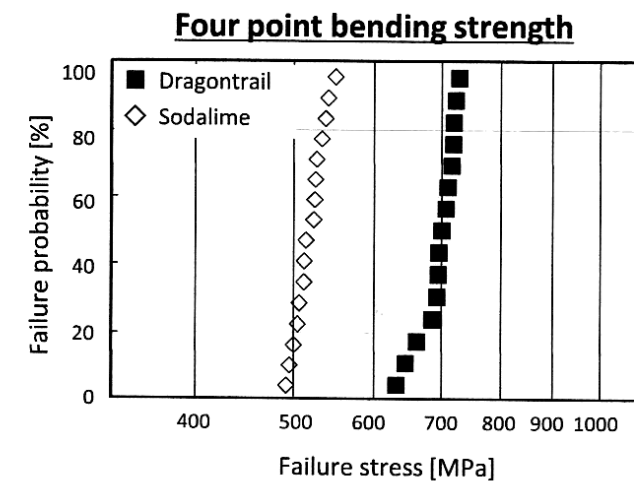
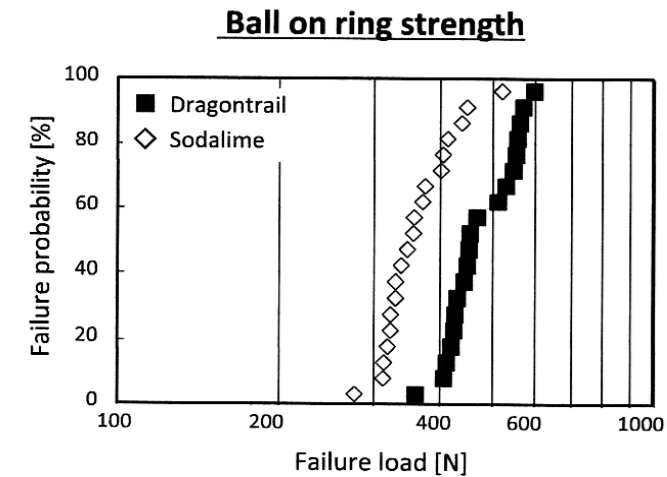
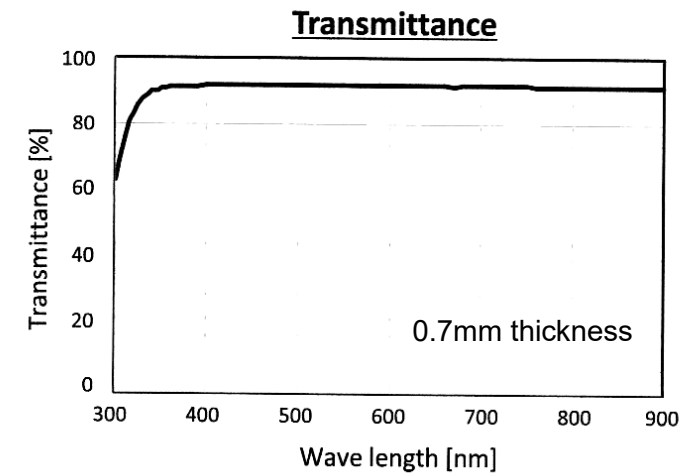
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Mechanical Properties	Measurement	Dragontrail™
Density	g/cm ³	2.48
Young's Modulus	GPa	74
Poisson's Ratio	μ	0.23
Shear Modulus	GPa	30
Vickers Hardness (before CS)		596
Vickers Hardness (after CS)		673
Thermal Properties		
CTE (Thermal Expansion)	(50-350°C) x 10 ⁻⁷ / °C	98
Strain Point	°C	556
Annealing Point	°C	606
Softening Point	°C	821
Optical Properties		
Refractive Index	Nd	1.51
Photoelastic Constant	nm/cm/MPa	28.3
Electrical Properties		
Dielectric Constant/Loss Tangent	MHz	
• 1 MHz		7.4/0.019
• 2400 MHz		7.4/0.011
Chemical Properties		
Weight Loss	Mg/cm ²	
• HCl 0.1 mol/l - 90° for 20 hrs		0.03
• NaOH 0.1 mol/l - 90° for 20 hrs		0.56
• HF 5% - 25° for 20 hrs		11.8

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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