

PRO-NG™ 120 - HIE™ Non-Glare Aluminosilicate

High-Contact • Wide-Angle Viewing • Sunlight Readable • Portable

Glass Fabrication



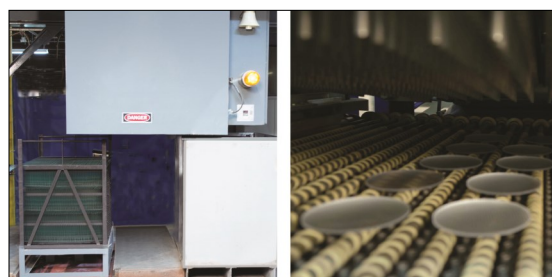
Coating Deposition



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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PRO-NG 120 1022



Your Total Solution Partner

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Abrisa Technologies' PRO-NG™ 120, High-Ion Exchange (HIE™) non-glare aluminosilicate provides 120 gloss level glare reduction in an extra-thin, lightweight format with up to 6x the strength of standard soda lime float. This new HIE™ strengthened non-glare material is ideal for installed or portable displays with large viewing angles and/or in need of bright/sunlight readability where thinner profile, lightweight, and enhanced durability is key. PRO-NG™ 120 is ideal for ruggedized or high-contact displays used in cockpit, cabin, portable field instruments, signature pads, and industrial equipment control panels where both management of glare and high clarity, low haze viewing of the display is key.



Formats & Options:

- Sheet Sizes up to 400 x 500 mm
- Thickness 1.1 mm
- Other Sizes, Thicknesses, Coatings & Oleophobic may be available upon request - Consult Factory

Display & Indicator Applications:

- Ruggedized Portable Devices
- In-Cockpit Monitoring & Navigation Systems
- In-Vehicle Wide-Angle Displays
- Outdoor Sunlight Readable Displays
- High-Contact Touch Control Pads
- Lightweight, Slim Profile Hand-Helds

Features:

- Extra-Thin & Lightweight
- HIE™ Ultra-Strong & Scratch Resistant
- Wide-Angle Non-Glare
- Excellent Resolution
- Reduced Fingerprint Visibility

General Properties: (Typical)

PRO-NG™ 120 Property	Single Side Non-Glare
Gloss Value	120 ±20
Transmission	>89%
Reflection (photopic)	~8%
Density (g/cm ³)	2.48
Resolution (line/mm pair)	14.25

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PRO-NG™ 120 is an extra-thin HIE™ aluminosilicate that supports low profile and reduced weight portable field, in-cockpit, outdoor, and industrial devices with a toughness that is 6X stronger than soda lime float glass. It is environmentally friendly and is produced without the use of lead, arsenic, and antimony.

HIE™ Damage & Scratch Resistance:

- 6X stronger than Soda Lime (SL) Float Glass
- > 600MPa Strength
- Depth of Layer* (DOL) 35-45 microns

* **Depth of Layer (DOL)** is a measurement of the compressive strength of the glass specific to chemically strengthened glass. It is the depth into the surface of the 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.

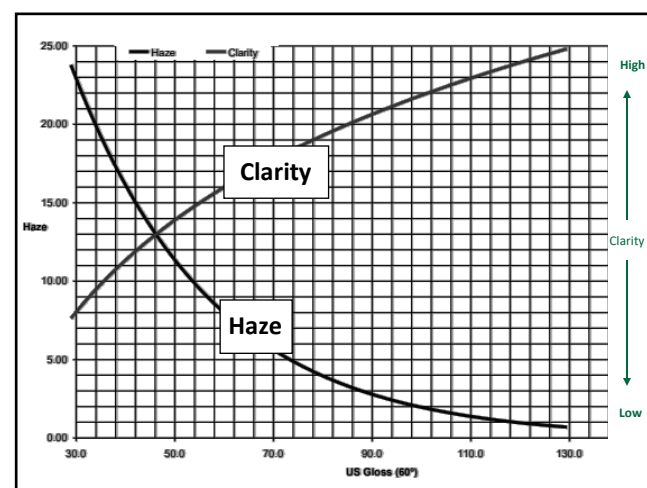


Clarity, Haze & Resolution:

- 120 Gloss ± 20%
- Haze* < 2%
- Clarity > 90%
- Resolution** 14.25 line/mm pair

$$\text{*Haze: } \frac{\text{Diffuse Transmission}}{\text{Total Transmission}} \times 100$$

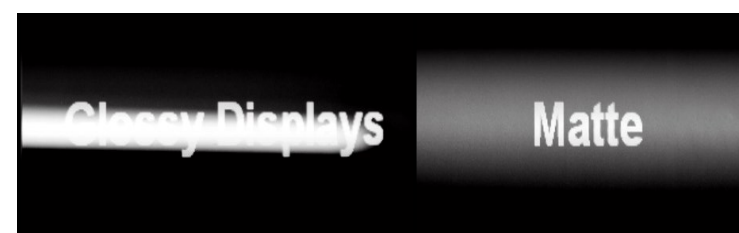
**Resolution: Per 1951 USAF Test Chart



Haze & Clarity vs. Gloss

Non-Glare Surface Structure:

- Permanently Acid-Etched < 0.08 microns
- Wide-Angle Glare Reduction
- Fingerprint Resistant
- Nice Tactile Feel for Touch & Sign



Standard Float Glass

PRO-NG™ 120



Standard Float Glass

PRO-NG™ 120

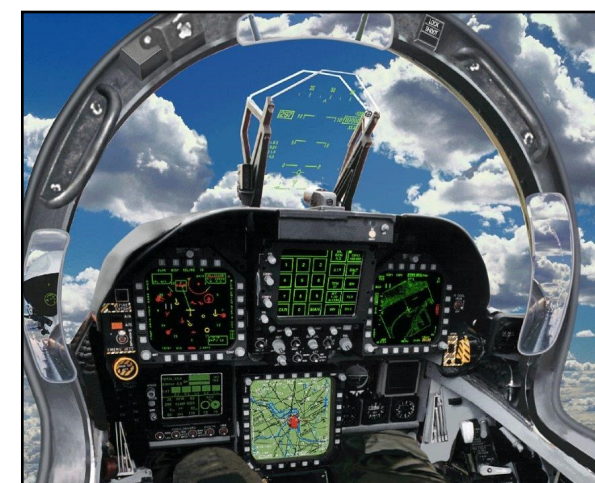
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Typical Applications:



Touch & E-Signature Pads



In-Cockpit & Cabin Displays



High Traffic Control Pads

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® Eagle XG®
 - SCHOTT AF32, D263® & AS 87
- **Other**
 - Applied Films & Tints
 - Gasket Application
 - Edge Treatment/Blackening
 - Laser Marking (QR & Barcodes, S/N)

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
- Dead Front Ink - Partially Transmissive
- Infrared IR Transmitting Ink
- Silver Epoxy, Silver Frit, CrNiAu Bus Bars