

Dead Front Panels for Backlit User Interfaces

Automotive • Information Display • Industrial • Avionics • Home

Glass Fabrication



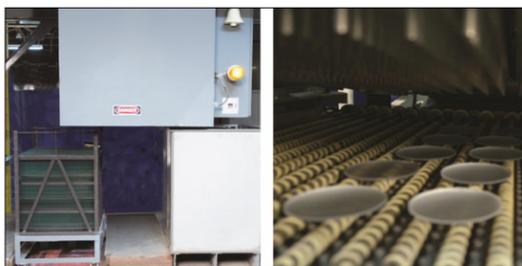
Coating Deposition



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.



Abrisa Industrial Glass
200 South Hallock Drive
Santa Paula, CA 93060

ZC&R Coatings for Optics
1401 Abalone Avenue
Torrance, CA 90501

(877) 622-7472

www.abrisatechnologies.com

info@abrisatechnologies.com

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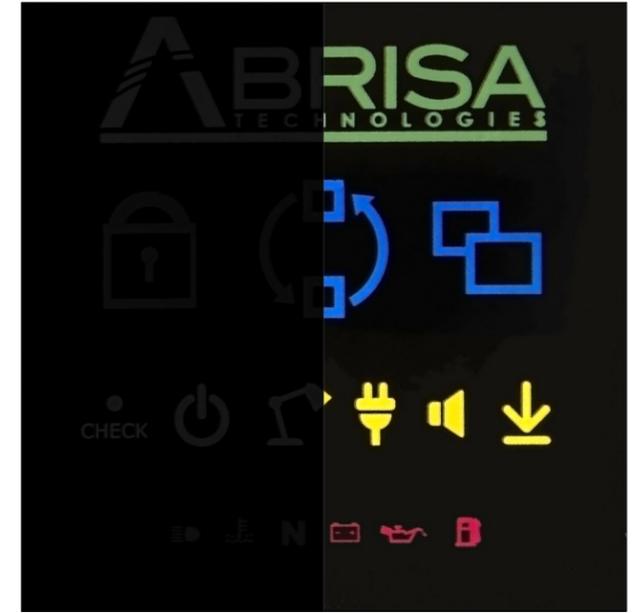
Abrisa Technologies now provides Dead Front Panels for Backlit Display and User Interface applications that afford equipment designers greater flexibility in achieving the overall clean lines and sleek uncluttered aesthetics they seek. When backlit, the Dead Front Panel illuminates and draws attention to icons and alpha-numeric indicators as required. When non-backlit, the icons remain hidden and the panel retains a more monochromatic and streamlined look, in perfect keeping with the dashboard or device they are installed into.

Dead Front Screen Printed Graphics

- **Transmission levels:** 5% or 10%
- **Colors:** Black as standard
- **Optional Colors:** White & PMS color matched
- **Minimum Feature Size:** 0.005" line widths
- **Printed Glass Size:** 0.3" x 0.3" up to 18" x 24"
- **Glass Thicknesses:** 0.030" up to maximum of 1"

Complete Solutions for Dead Front Panel Glass

- Proprietary screen printed graphics for control of contrast and luminosity
- Custom fabricated and shaped glass
- Chemical strengthening or heat tempering
- Non-glare sunlight readable options
- Anti-Reflection (AR) Coatings
- Oleophobic and anti-scratch coatings



10 Percent Transmission Level
Dead Front Panel - Off/On

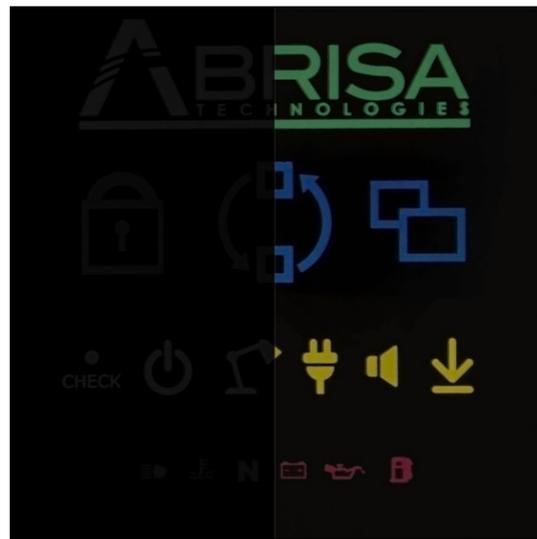
Applications

- Cockpit Control Panels
- User Interface Panels
- Display Controls
- Touch Keypads
- Vehicular Indicators
- Equipment Control Panels
- Lighting Control Panels
- Instrument Control Panels
- Appliance Indicator Panels
- Gauge Indicator Panels

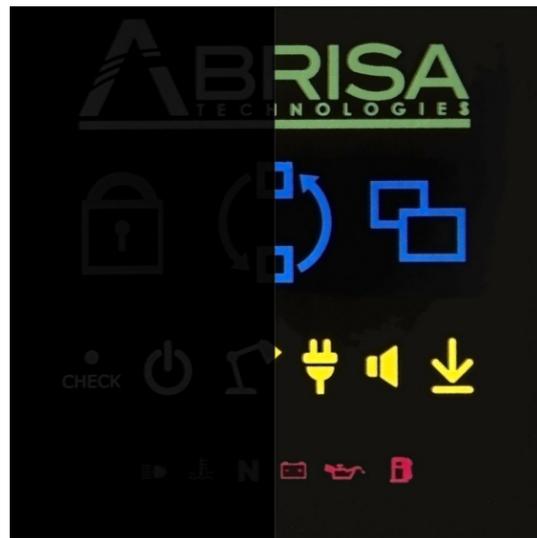
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www.abrisatechnologies.com • info@abrisatechnologies.com

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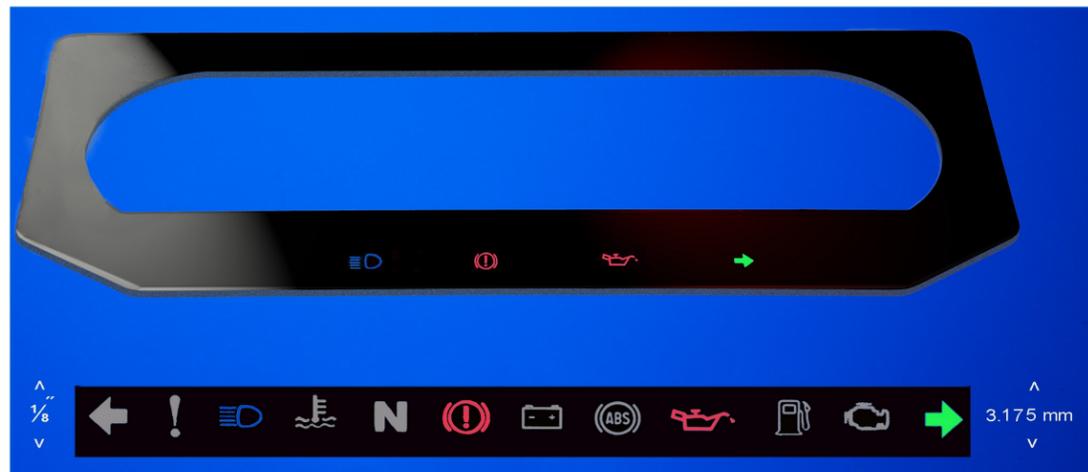
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Transmission: 5 %
Left: Monochromatic
Right: Color



Transmission: 10 %
Left: Monochromatic
Right: Color



Example of
Dead Front
Indicator Panel

Actual results may appear different based upon lighting, color, and other conditions.

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Abrisa Technologies provides complete solutions for your Dead Front Panels. From our vast selection of glass substrates to fabrication, strengthening, coating and screen printing, our ready-to-install Dead Front Panel glass offering is unequalled.

Dead Front Screen Printed Graphics

- Survive an acetone rub test
- Meet the class 4B, 5B crosshatch razor scribe adhesion standards of ASTM D3359
- Withstand temperatures up to 400°F

Dead Front Glass Capabilities

- Large selection of float, low expansion Borofloat® 33 borosilicate and high durability HIE™ aluminosilicate flat glass
- In-house chemical strengthening and heat tempering
- Cutting, shaping, hole drilling, slotting, beveling, grooving, and custom CNC machining

Additional Value-Added Options

- AR and non-glare (NG) coatings for “readability”
- Oleophobic anti-smudge, anti-print coatings for easy cleaning
- Anti-scratch, break resistant glass and coatings

Other Graphic Options

- High Opacity - “No Pinholes”
- Ceramic Frit - Durable and Glasslike
- Metallic Inks - Trendsetting, Reflective
- PMS Color Match Inks
- “Frosted” or Etched Glass Look
- Applied “Tint” and other Films

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
 - 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