

Semi-Transparent Mirrors for Hidden Smart Displays

LCD Mirrors • Hospitality • Surveillance • Security

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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Your Total Solution Partner

Semi-Transparent Mirrors for Hidden Smart Displays

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An emerging trend in hotel, restaurant, and retail displays is the use of aesthetically pleasing high performance Semi-Transparent Mirrors to create a hidden smart display mirror combination. The display unit is located behind the mirror, hidden from view until powered on; projecting a clear and sharp image on command.

The semi-transparent mirror coating is available on low iron soda lime glass for low absorption and on grey glass when a more opaque look is needed; as when hiding TVs, security, and surveillance equipment.

All of the Semi-Transparent Mirrors supplied by Abrisa Technologies have an elegant "silver" reflection that remains stable under wide viewing angles. The optical coating has superior color neutral performance across the visible spectrum, to help maintain the original color of the LCD display image.

Applications:

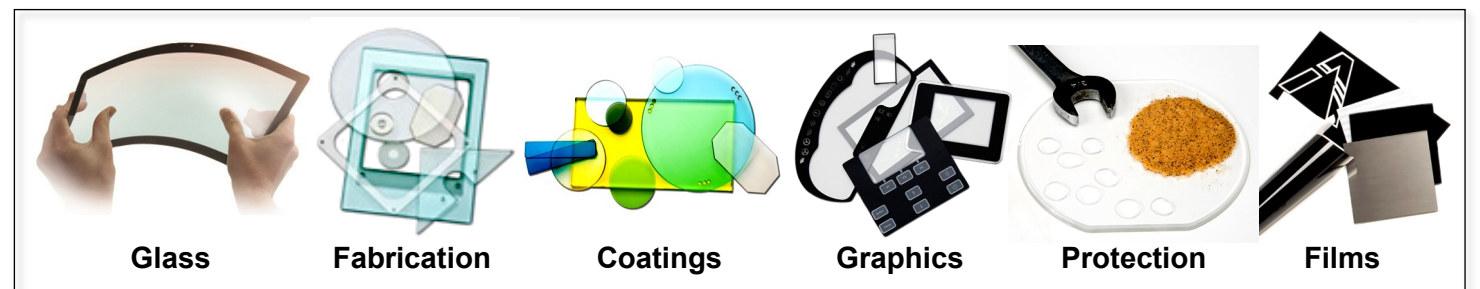
- LCD/Mirror Displays
- Hidden Smart Displays
- Hotel Mirror Displays
- Hidden Surveillance Equipment
- Active Automotive Mirrors
- Interrogation Room Windows



Large and small format Semi-Transparent Mirrors from Abrisa Technologies can be screen printed, have any one of many high quality edge treatments applied, be machined to any shape as well as have a host of other feature options applied to fit each unique application requirement.

Sheet Size, Thickness & Custom Features

- Large sheet sizes (up to 126" x 88") are ideal for a wide array of digital signage applications and other large format mirrors and displays
- Standard substrate thicknesses are: 3mm and 4mm
- OEM Custom thicknesses may be available
- Custom shapes/features



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Selecting Your Semi-Transparent Mirror

Application specific factors determine the right product choice. These include ambient lighting levels relative to display brightness, the need to temper the glass for safety purposes, whether the mirror is to be bonded to a display surface and whether the images to be displayed are highly pixelated or not.

Selection Guidance:

- Use 35/65 (R/T) for high ambient lighting; 50/50 (R/T) for medium and 65/35 (R/T) for low ambient lighting
- 2-sided grey glass (50/20) offers superior ambient light blocking, ideal for when display is in the “off” state to hide the mechanics of the display/equipment that may otherwise be partially visible through the glass.
- 1-sided coating recommended when optically bonding or laminating, to help reduce ghost imaging.

Product Name	Base Glass	Approx. Mirror R/T Ratio	R% ± 3 Avg. Reflectance	T% ± 3 Avg. Transmission	Side 1 Coating	Side 2 Coating
STM-LI 35/65 2-Sided (Std.) 1-Sided (Optional)	Low Iron 3mm Thick	35/65	35%	65%	Mirror Low R	AR (Std.) Uncoated (Optional)
STM-LI 50/50 2-Sided (Std.) 1-Sided (Optional)	Low Iron 4mm Thick	50/50	50%	50%	Mirror Medium R	AR (Std.) Uncoated (Optional)
STM-LI 65/35 2-Sided (Std.)	Low Iron 4mm Thick	65/35	65%	35%	Mirror High R	Mirror
STM-LI 50/20 2-Sided (Std.)	Grey Glass 4mm Thick	50/20	50%	20%	Mirror Security	Mirror

R/T curves are a representation, actual curve may vary.

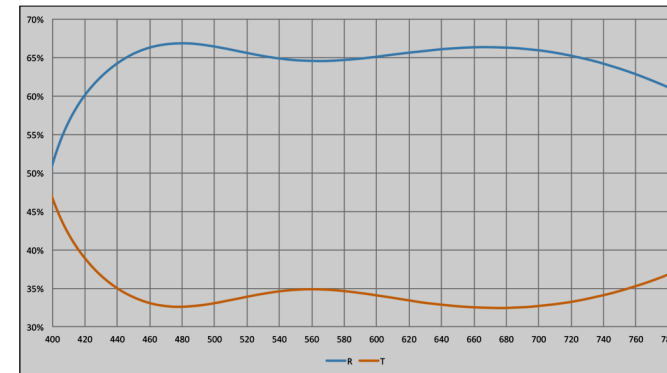
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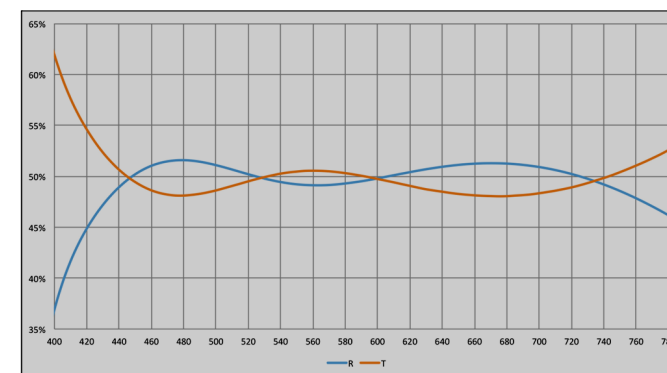
Spectral Performance

All Semi-Transparent Mirrors supplied by Abrisa Technologies have an elegant “silver” reflection that remains stable under wide viewing angles. With superior color neutral performance across the visible spectrum, the optical coating has limited effect on the true color of the display image.

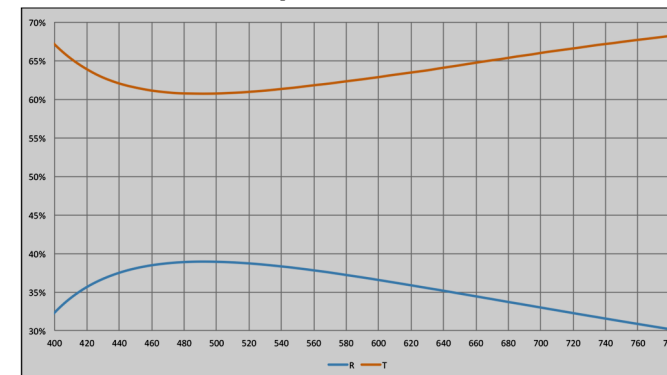
Semi-Transparent Mirror - High R



Semi-Transparent Mirror - Medium R



Semi-Transparent Mirror - Low R



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