PRO-HC-VIS1 - Anti-Abrasion Hard Coat Clear Glass

POS Scanners ● Passport & Transit Pass Readers ● Field-Use

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 TECHNOLOGIES
HEF® PHOTONICS

CERTIFIED ISO 9001:2015 · ITAR International Traffic in Arms Regulations Compliant · REACH COMPLIANT · COMPLIANT ROHS

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Your Total Solution Partner

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Abrisa Technologies now offers **PRO-HC-VIS1,** a protective anti-abrasion hard coat clear glass coating option for high traffic contact scanner applications which delivers up to 40X more linear taber abrasion resistance when compared to uncoated glass and HIE™ chemically strengthened glass surfaces.

Scanner beds experience abrasion damage from produce/product packaging, cell phones, keys, baskets, dirt, and debris and other items that are dragged across or in physical contact with them. Over time, damage results in the development of haze which clouds the glass and leads to a failure to read or capture data, QR, barcodes, and images required for purchase transactions or Identity verification. This is of particular concern for (POS) Point-of-Sale contact scanners, airport or mass transit "ticket" scanner/readers where replacement and maintenance is not only inconvenient, but downtime impacts critical passenger traffic flow or purchase transaction capacity.

Point-of-Sale (POS) Grocery Scanner

PRO-HC-VIS1 coating can be applied to a wide range of Abrisa Technologies' materials:

- **Low Iron Soda Lime & SCHOTT Borofloat®**
- **Non-Glare & Anti-Reflection Coated Glass**
- **HIE™ Aluminosilicate Strengthened Glass**
- **Custom Coated Technical or Specialty Glass**

Applications:

- **Point-of-Sale (POS) Contact Scanners**
- **Passport & Document Scanners/Readers**
- **Mass Transit "Pass" Scanners/Readers**
- **Signature Transaction/Document Pads**
- **Industrial Machine Vision Parts Inspection**
- **Parcel & Package Scanners/Readers**
- **Ruggedized Defense Transparencies**

Performance:

- **Transparent to Eye, Camera, Diode**
- **20-40X Enhanced Wear Resistance**
- **100-400X Enhanced Resistance to Sand**
- **-40° to 70°C: Industrial, Outdoor, Freezer**
- **Format Sizes from mm's to 16" x 23"**
- **Easy-to-Clean & Sanitize Surfaces**

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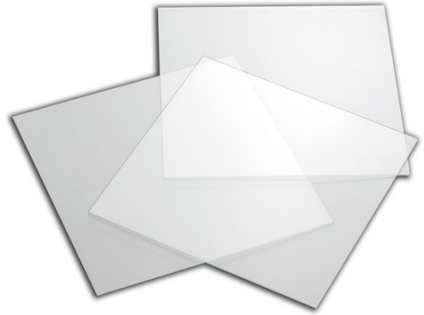
PRO-HC-VIS1 Anti-Abrasion Hard Coat Clear Glass coating provides a highly abrasion resistant surface capable of maintaining clarity through tens of thousands of successful scanning events for high device uptime hours.

PRO-HC-VIS1 can be applied to a large selection of Abrisa Technologies' specialty glass substrates.



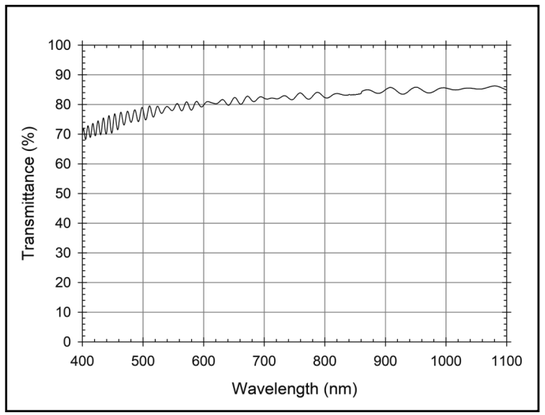
Clarity & Transparency from 400-1000nm:

- Cameras, Sensors, VIS/NIR Lasers, Humans

Damage Resistance and Haze:

- Enhanced Abrasion Resistance*
  - 20-40X Reduced Haze vs Uncoated Glass/HIE™ Aluminosilicates
- Enhanced Resistance to Sand**
  - 100-400X Reduced Haze vs. Uncoated Glass/HIE™ Aluminosilicates

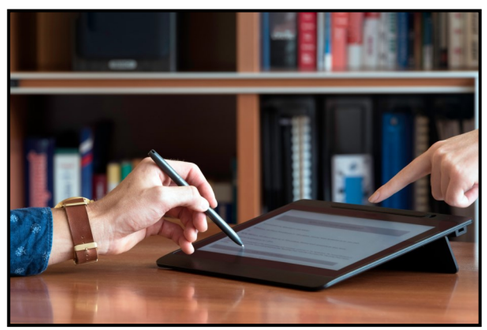
* 10K Cycles Coated, 1K Cycles Uncoated - Linear Taber
**ASTM D968 Falling Sand



Typical Transmission on 2.0mm Coning Gorilla® Glass 3

Options:

- 1 or 2 Sides Coated. Glass as Thin as 2.0mm ***
- Standard, HIE™ Strengthened or Heat Toughened Glass
- Standard Anti-Reflection & Non-Glare on Side 2
- Screen Printing, On-Demand Laser Graphics & Identifiers
- Custom Optical Coatings on Side 2
- Applied Safety Film, Gaskets, or Other Films on Side 2



Signature/Transaction Pads

*** **1.0mm upon special request**

Abrisa Technologies, provides Total Solutions inclusive of glass, fabrication, HIE™ chemical strengthening, anti-reflection (AR) or non-glare (NG) reduction properties, applied safety films and gaskets, screen printed epoxy or ceramic frit graphics, specialty optical coatings, and laser marked unique identifiers.

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Typical Applications:

Passport/Document & ID Readers

Mass Transit Pass/Ticket Readers

Industrial Machine Vision Parts Inspection

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