



Decorative Glass Solutions



**HDCG**  
HIGH DEFINITION  
**GLASS**  
FOR ARCHITECTURE  
Digital Ceramic In-Glass Printing



# HDG

HIGH DEFINITION

# GLASS

FOR ARCHITECTURE

## Digital In-Glass Printing

HDG allows architects, designers and the glass industry to do more with glass.

*Imagine it. Print it in glass.*

High Definition Glass (HDG), 720 DPI digitally printed glass is now available from Hartung Glass Industries. HDG provides a new medium for artistic expression while enabling control over all architectural and decorative glass properties. The versatility of digital printing combined with the durability of ceramic inks makes HDG the preferred choice for any artistic glass application.

- Translucency/opacity
- SureStep slip resistant stair treads
- Solar heat gain coefficient
- Privacy levels
- Bird-friendly design

### HDG General Guidelines:

24 high definition print heads - 720 dpi

Minimum Digital Printed Size: 12" x 12"

Maximum Digital Printed Size: 84" x 142-1/2" (500-lbs)

Color matching to the most popular color systems including Pantone®, Benjamin Moore® and Sherwin Williams®.



HDG TWIST PATTERN

### When to select HDG Digital In-Glass Printing:

- One-offs or low volume projects (no screen costs)
- Marine & transportation applications
- High resolution, photo quality images
- Large mosaic facades
- Color matching
- Multiple colors

## HartungDigitalGlass.com

- Digitally Printed Glass Power Point Presentation
- Benefits of Digital Printing with Ceramic Frit
- Technical Specifications
  - Questions & Answers
  - Videos



DIGITAL IN-GLASS CERAMIC FRIT  
 CARMEL ACADEMIC CENTER, HAIFA, ISRAEL  
 PRINTED BY: SPIRAL GLASS, ISRAEL  
 ARCHITECT: KNAFO KLIMOR

FRONT COVER: IMPACT DECORATIVE FEATURING VANCEVA COLOR INTERLAYERS  
 CBC / RADIO-CANADA MEDIA LANTERNS, VANCOUVER, BC  
 KNIGHT SIGNS  
 ARCHITECT: HOTSON BAKKER BONIFACE HADEN





IMPRESSIONS SILK SCREENED CERAMIC FRIT  
 UNIVERSITY OF CALIFORNIA, DAVIS  
 TERCERO STUDENT HOUSING PHASE III  
 GUARDIAN SUNGUARD SNX 62/27 OVER CLEAR  
 GLAZING CONTRACTOR: MONTEZ GLASS  
 ARCHITECT: EHDD  
 SUSTAINABILITY: LEED PLATINUM

**When to select Impressions Silk Screened Ceramic Frit:**

- Medium to high volume projects
- Solid coverage
- Geometric shapes (lines, dots on, dots off)
- One color

**When to select Opaci-Coat-300® Silicone Spandrel:**

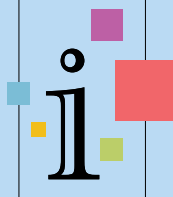
- Small to high volume projects
- Applied on #2 or #4 IGU surface only
- Full coverage only
- Color matching



IMPRESSIONS SILK SCREENED CERAMIC FRIT  
 JUNEAU SEAWALK, JUNEAU, AK  
 CUSTOM NATIVE AMERICAN FRIT PATTERN IN BLACK & HALF-TONES  
 COMMERCIAL CONTRACTORS OF ANCHORAGE



IMPRESSIONS SOLAR CONTROL CERAMIC FRIT  
 525 GOLDEN GATE (SAN FRANCISCO PUBLIC UTILITIES BUILDING)  
 IGU MAKEUP: 6MM PPG SOLARBAN 70XL - ARGON GAS - 6MM STARPHIRE BY PPG  
 GLAZING CONTRACTOR: BENSON INDUSTRIES



IMPRESSIONS

*Silk Screened Ceramic Frit*

**CERAMIC FRIT** continues to set the standard for Spandrel & Decorative glass color availability, design capability, durability and value. Whether printed digitally, silk screened or roll coated, ceramic frit ink is fired directly into the glass surface during heat treating resulting in superior adhesion which is extremely resistant to mechanical and chemical damage.

**Impressions Ceramic Frit General Guidelines:**

- Maximum size Rolled:** 84" x 142-1/2" (250-lbs)
  - Minimum size Rolled:** 18" x 3-1/2" (18" diagonal)
  - Maximum size Screened:** 78" x 140" (250-lbs)
  - Minimum size Screened:** 12" x 12"
- (5-1/2" x 5-1/2" undersize available at additional cost)

*Opaci-Coat-300® Silicone Spandrel*

**OPACI-COAT-300®** is a water-based silicone product that provides architects and designers further choice for their spandrel glass requirements. Opaci-Coat-300® coated glass may be specified in any color found on a color chip. Color matching is computerized and exact.



*When Color Matters*

**Opaci-Coat-300® Silicone Spandrel General Guidelines:**

Location	Max Rolled	Min Rolled	Max Sprayed	Min Sprayed	Max Weight
Tukwila, WA	75" x 120"	16" x 3-1/2"	75" x 120"	N/A	200-lbs
Wilsonville, OR	84" x 142-1/2"	18" x 3-1/2"	N/A	N/A	500-lbs
Sacramento, CA	N/A	N/A	75" x 120"	N/A	150-lbs



TRANSPORTATION MANAGEMENT CENTRE, VANCOUVER, BC  
 SPANDREL IGU MAKEUP: 6MM CARIBIA, SOLEXIA & AZURIA BY PPG  
 WITH OPACI-COAT-300® SILICONE SPANDREL MEDIUM GRAY  
 GLAZING CONTRACTOR: FLYNN CANADA

DOTS OFF PATTERN  
 1/8" Dots, 1/4" Centers  
 60% Coverage



SOLID PATTERN  
 100% Coverage

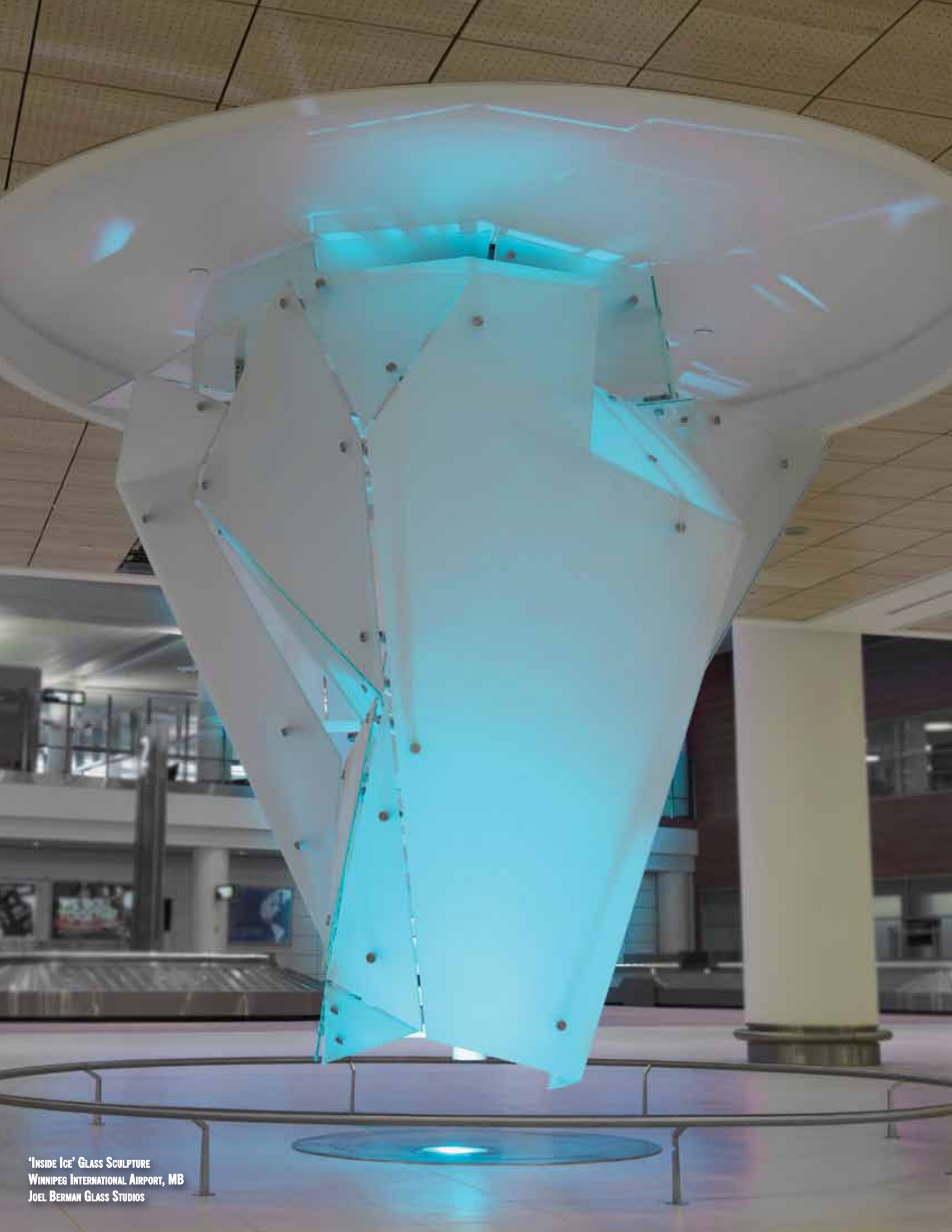


DOTS ON PATTERN  
 1/8" Dots, 1/4" Centers  
 40% Coverage



LINES PATTERN  
 1/8" Lines, 1/4" Centers  
 50% Coverage





'INSIDE ICE' GLASS SCULPTURE  
WINNIPEG INTERNATIONAL AIRPORT, MB  
JOEL BERMAN GLASS STUDIOS





**EAGLE FEATHER FAN**  
**BLACKFOOT CROSSING HISTORICAL PARK**  
 ARCHITECT: RON GOODFELLOW  
 GLAZING CONTRACTOR: ALBERTA GLASS

### Vanceva® Color Interlayers

Often a path for natural day lighting, today's windows offer Architects and Designers a dynamic palette on which to display color. Architects and Designers continue to push the envelope, developing innovative color design methods for every glazing application. When exploring light, form and space in the design process, glass can be the answer for all three considerations with the addition of Vanceva®. Now hospitals, living rooms, and urban facades can showcase color in the glazing design. Color and light are used not only to define space, but to stimulate and even inspire those who inhabit it.

We all see, perceive and experience color in different ways. Let the Vanceva® color experts at Hartung guide you through your next color selection to bring your exact design vision to life.

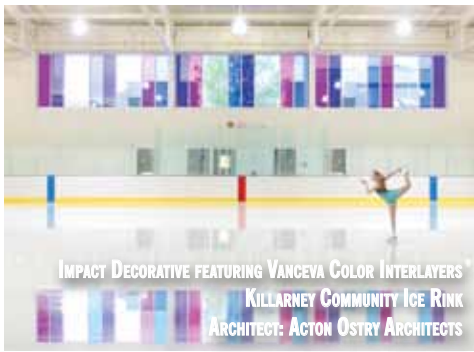


**IMPACT DECORATIVE BY LAMI GLASS**  
 LAMINATED GLASS BUTTONS  
 SHANGRI LA, VANCOUVER, BC

### SentryGlas® Certified Fabricator

SentryGlas® interlayers help create lighter, safer and stronger glass that can stand up to greater loads and higher threat levels. Taking advantage of the interlayer's extra stiffness and tear resistance, structural glass systems - from floors and stairs to balcony rails and minimally supported glass canopies - can enjoy new design freedom.

SentryGlas® is a registered trademark of E.I. du Pont de Nemours and Company or its affiliates for its brand of interlayers and is used under license.



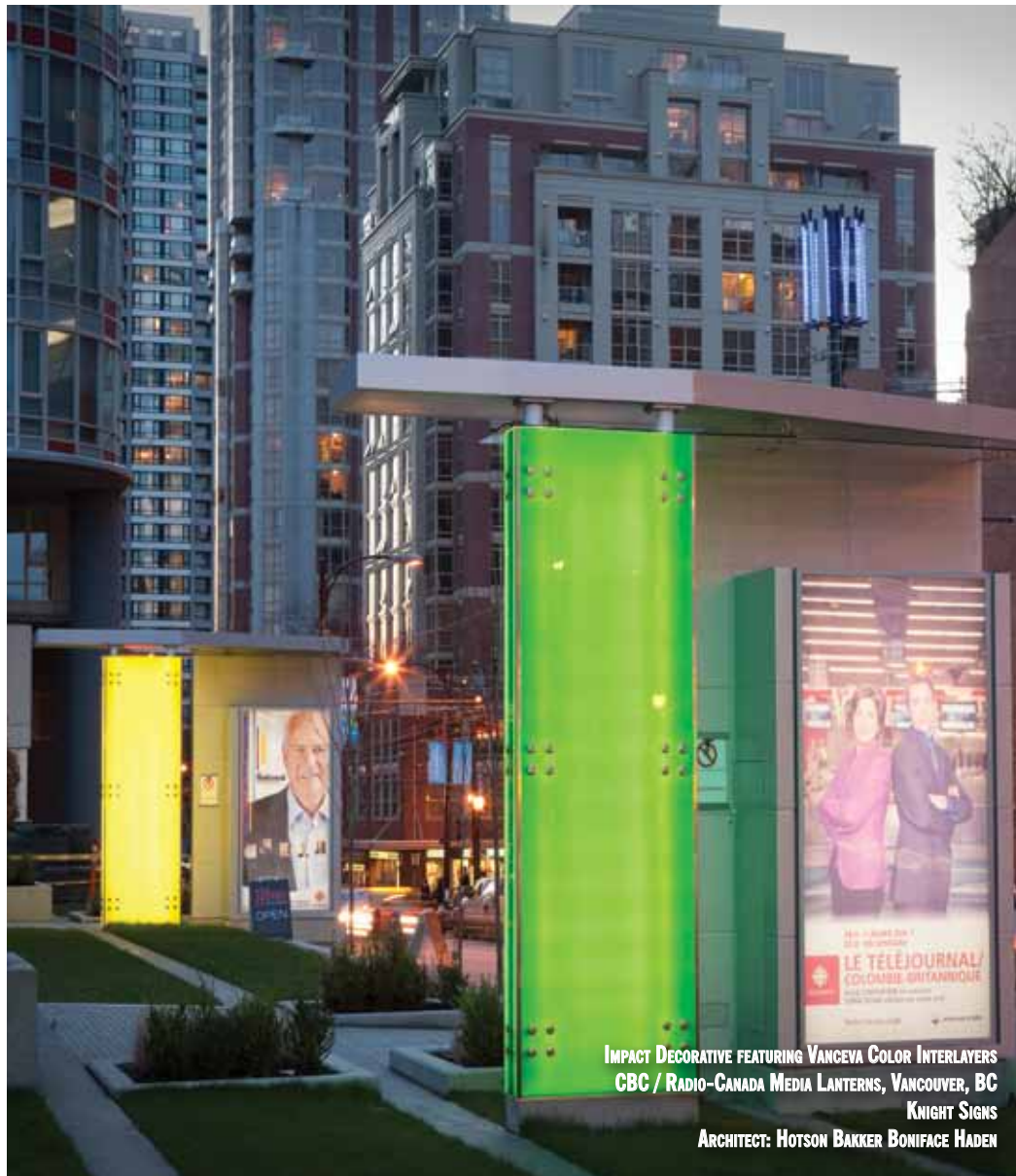
**IMPACT DECORATIVE FEATURING VANCEVA COLOR INTERLAYERS**  
 KILLARNEY COMMUNITY ICE RINK  
 ARCHITECT: ACTON OSTRY ARCHITECTS



**TOTAL VISION GLASS WALL WITH IMPACT DECORATIVE**  
 SCOTIA CENTER, CALGARY, AB  
 ARCHITECT: GIBBS GAGE ARCHITECTS

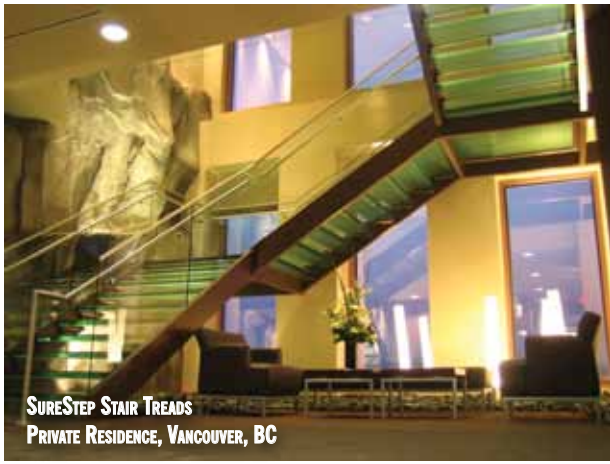


**IMPACT DECORATIVE FEATURING VANCEVA COLOR INTERLAYERS**  
 ROBSON SQUARE ICE RINK, VANCOUVER, BC  
 GLAZING CONTRACTOR: SUPERIOR GLASS

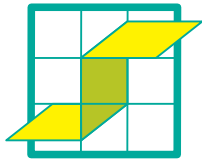


**IMPACT DECORATIVE FEATURING VANCEVA COLOR INTERLAYERS**  
 CBC / RADIO-CANADA MEDIA LANTERNS, VANCOUVER, BC  
 KNIGHT SIGNS  
 ARCHITECT: HOTSON BAKKER BONIFACE HADEN





**SURESTEP STAIR TREADS**  
PRIVATE RESIDENCE, VANCOUVER, BC



**SURE  
STEP**  
STAIR TREADS  
and FLOORING

*SureStep Stair Treads & Floors* from Hartung Studio are custom built to your exacting specifications. For optimal traction control, SureStep utilizes a permanently fused, non-slip ceramic frit which is available in a variety of colors.

SureStep Stair Treads & Flooring can be combined with many of the decorative architectural products available through Hartung Studio.



*Glass Marker Boards*

## *Switchable Privacy Glass*

**Gauzy Liquid Crystal Controllers** are the heart of our system. The patent-pending technology allows different levels of light to pass through various forms of glass. Unlike products that simply flick between opaque and transparent when you pass an electric current through, Gauzy liquid crystal privacy glass can fade between the two states seamlessly.



**SWITCHABLE PRIVACY GLASS**  
NANAIMO REGIONAL GENERAL HOSPITAL, NANAIMO, BC  
GLAZING CONTRACTOR: TRANSPARENT GLAZING  
ARCHITECT: STANTEC

*Scan this QR code to see the project:*



## *Custom Laser Etching*

**Stunning custom laser etch** for showers, corporate logos/branding, TVS all-glass doors, signage, decorative, etc.



**TVS ALL-GLASS DOOR WITH CUSTOM LASER ETCH**  
LUMMI TRIBAL CENTER, BELLINGHAM, WA



**TVS RAILING GLASS WITH CUSTOM LASER ETCH**  
LUMMI TRIBAL CENTER, BELLINGHAM, WA



**AMUR TIGER**



**EAGLE**

Frameless Interior Doors, Partitions & Walls by Hartung Studio always make an impression. Available for both residential and commercial applications, Hartung stocks an extensive selection of door hardware to suit nearly any application.

TOTAL VISION INTERIOR WALL & DOORS  
SAN FRANCISCO PUBLIC UTILITIES COMMISSION BUILDING  
GLAZING CONTRACTOR: PROGRESS GLASS

Hartung TVS All-Glass Doors can be combined with many of our decorative glass products including HDG Digital In-Glass Printing, allowing for the perfect combination of privacy, design, safety and resilience.



TOTAL  
VISION  
SYSTEMS

*Total Vision System All-Glass Doors* allow for maximum use of visibility, light and design. Working with the most trusted hardware suppliers in the industry including CRL and Dorma, HGI offers a complete line of entrance solutions, that include HGI WetSet™ & CRL Wedge-Lock™ rails, closers, locks, clamps, headers, channels, push/pulls, hinges, patch fittings and standoffs. Many systems are magnetic-lock and electric-strike compatible for panic, egress & deadbolt applications.

Hartung's new Total Vision System All-Glass Worksheet is available in Texas, Northern California and the Pacific Northwest.

This free tool helps simplify the estimating and ordering process by using an itemized checklist to build up your all-glass door. Ask your representative for a copy today.



*Custom Configurations are our Specialty*  
**Customize your enclosure to suit your lifestyle and personal tastes:**

- Designer glass options
- Multiple handle, knob, towel bar and headerless options available
- Custom edge designs or face beveled patterns
- Fully-rounded Euro header option
- One-piece Euro Towel bar
- Steam rooms
- Fixed or operable transoms
- Notched panels for steps and pony walls
- Gable walls for sloped roofs
- Mitred or butt joint glass-to-glass corners eliminating posts
- Industry leading water barrier systems
- 10 year glass protection with EasyClean10.com

*\*Some products are not available in all locations*

**EasyClean<sup>10</sup>**  
Glass Treatment

CUSTOM 1/2-IN. ALL-GLASS SHOWER ENCLOSURE  
COMPLETE WITH ORB FINISH AND CLEAR GLASS



Hartung Glass carries one of the widest selections of Decorative & Specialty Glass products on the West Coast; available in cut-size lites, stock sheets and cases.

Textured

Reflective

Mirror

Satin Etch

Berman Glass editions

Starphire by PPG

Tinted



**vetrotech**  
SAINT-GOBAIN

Fire Resistant Glass



Decorative Glass Solutions

For information, samples and locations:

Toll Free: 1-800-552-2227

[solutions@hartungstudio.com](mailto:solutions@hartungstudio.com)

[www.hartungstudio.com](http://www.hartungstudio.com)



GLUECHIP

BUBBLES

BRONZE

RAIN

SATIN ETCH

[www.hartungstudio.com](http://www.hartungstudio.com)