FORMS+SURFACES®

CASTGLASS™ INTERVALS LEVELS™

CastGlass Intervals Levels glass features precise, small-scale textures laminated with interlayers in a choice of black or white. With this collection, production innovations unique to F+S build on the artisanal heritage of kiln cast glass but propel the material forward with an infusion of geometric precision. The result: high-impact low-relief designs at an intimate, intricate scale. Intervals Levels glass is available exclusively in our LEVELe Wall Cladding and Column Systems and LEVELe and LEVELc Elevator Interiors.

MATERIAL DESCRIPTION

Intervals Levels Glass is characterized by three parameters that define each design:

TEXTURE	INTERLAYER	CONFIGURATION
Textures define the surface appearance of your glass. Each texture is formed by casting the glass on a hand-crafted mold that is fired in a kiln.	Interlayers add the color aspect to Intervals Levels glass. Intervals Levels interlayers are optimized per designs, and are standard in Black or White. Custom interlayer colors will be considered on a per-project basis; contact F+S to discuss project-specific requirements. Designs shown on pages 2 and 3 incorporate both texture and interlayer.	Refers to the amount of light transmitted - or not - through the glass. To a large extent, the end-use for your glass will determine the glass configuration. As outlined below, one standard option exists. **Reflect** is a single-sided configuration comprised of an interlayer between a transparent lite of textured glass and a protective backer.

PRODUCTS & APPLICATIONS

Intervals Levels Glass is sold exclusively as part of our wall cladding and other Systems. Please see the chart below for details.

| LEVELe & LEVELc 2000 ELEVATOR INTERIORS	LEVELe WALL CLADDING & COLUMN SYSTEMS
Intervals Levels Glass is available as a standard inset option in our LEVELc Elevator Interiors and LEVELe Elevator Interiors when using Capture panel frames.	Intervals Levels Glass is available as a standard inset option in our LEVELe Wall Cladding and Column Systems when using Capture panel frames.

HOW TO SPECIFY

A Design Guide is available to lead you through the specification process in a simple, checkbox format. The Design Guide captures all the information needed to generate a quote.

CONFIGURATION OPTION

REFLECT
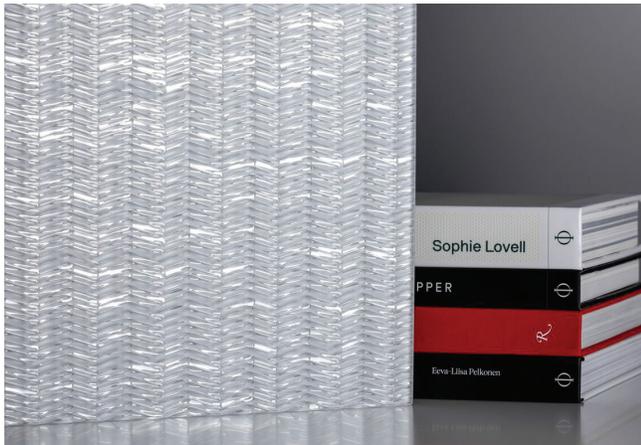
Intervals Levels Glass, Reflect, is a single-sided configuration that consists of an interlayer between a transparent lite of textured glass and a protective backer.

Typical Applications: Reflect is ideal for one-sided applications where glass will be used against another surface, for example, in LEVELe Elevator Interiors or LEVELe Wall Cladding or Column Systems.

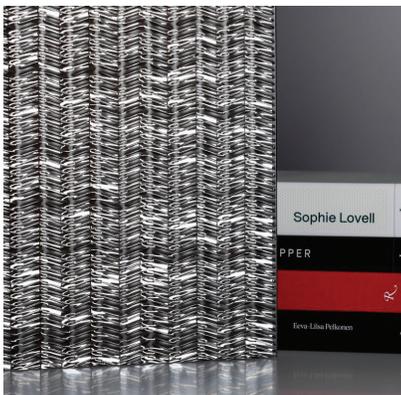## DESIGN OPTIONS: TEXTURE + INTERLAYER SHOWN IN BLACK
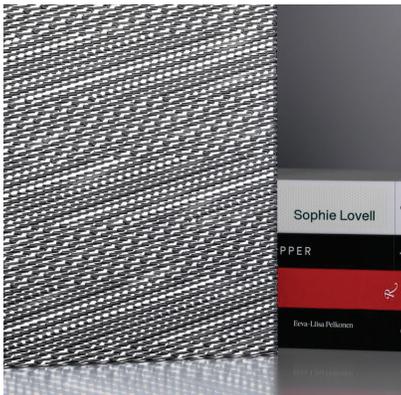
CODA™ + SWITCH™
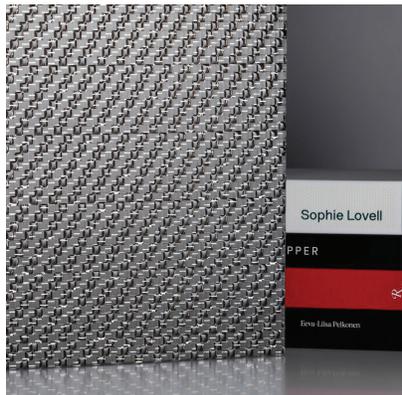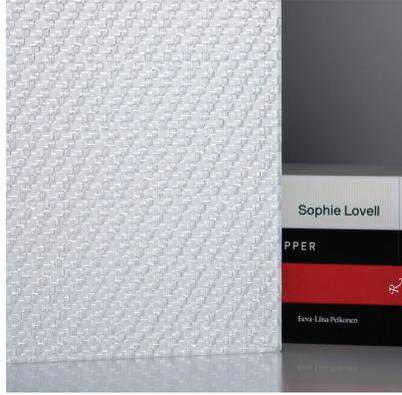

ORIGIN™ + CASCADE™

PROSE™ + GRID™

VERSE™ + POINTE™
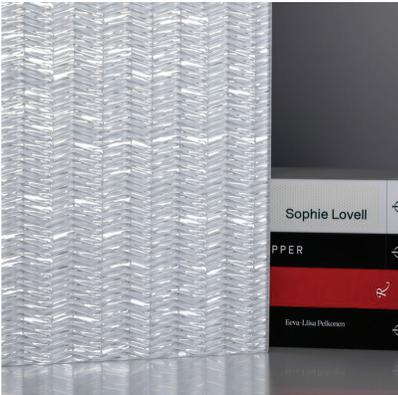
DESIGN OPTIONS: TEXTURE + INTERLAYER SHOWN IN WHITE

CODA + SWITCH

ORIGIN + CASCADE

PROSE + GRID

VERSE + POINTE

PRODUCT PERFORMANCE-COMPLIANCE WITH STANDARDS

CastGlass Intervals Levels architectural glass complies with all major building codes as laminated safety glass and meets the following U.S. industry standards:

GLASS QUALITY	SAFETY GLAZING
• ASTM C1036–Specification for Flat Glass • ASTM C1172–Specification for Laminated Architectural Flat Glass augmented by Levels Kiln Cast Glass inspection guidelines for laminated glass, and level CBA rated in accordance with ASTM E-773–Test Method for Seal Durability of Sealed Insulating Glass Units • ASTM C1172-03 – Specification for Maximum Allowable Overall Bow and Warp for Laminated other than Annealed Transparent Glasses	• ANSI Z-97.1-Safety Performance Specifications and Methods of Test for Safety Glazing Material Used in Buildings • CPSC 16 CFR 1201-Safety Standard for Architectural Glazing Materials, Category I and II

CastGlass Intervals Levels architectural glass complies with and meet the following Canadian industry standards:

GLASS QUALITY	SAFETY GLAZING
• CAN/CGSB-12.1-M – Specification for M90 Tempered or Laminated Glass	• CAN/CGSB-12.1-M – Safety Performance Specifications and Methods of Test for Safety Glazing Material Used in Buildings

GRAPHICS DIMENSIONS AND TOLERANCES

GRAPHIC FEATURE	DIMENSION	
Size	±1/8"	±3.2 mm
Registration	±1/8"	±3.2 mm
Color Trap	+1/8"	+3.2 mm
Panel-to-Panel Match	±1/4"	±6.4 mm

Registration is placement of the interlayer within the glass area. The **Color Trap** is the overlap of adjoining imprinted densities or colors. **Panel-to-Panel Match** can be controlled more tightly in the field, during glazing, when the glazing system is designed to accommodate shimming.

INSPECTION GUIDELINES

VISION AREA GLAZING - To incorporate unique product characteristics, the following table supersedes ASTM C1172, Table 3.

CHARACTERISTIC	SIZE THRU 25 SF (2.33M2)		SIZE OVER 25 SF (2.33m2)	
	CENTRAL	OUTER	CENTRAL	OUTER
Boil (Bubble)	1/16" (1.6 mm)	3/32" (2.4 mm)	1/8" (3.2 mm)	3/16" (4.8 mm)
Blow-In, Edge Boil	N/A	C 1/4" (6.4 mm) E 1/32" (0.8 mm)	N/A	C 1/4" (6.4 mm) E 1/16" (1.6 mm)
Discoloration	None	None	None	None
Fuse	1/32" (0.8 mm)	1/16" (1.6 mm)	1/16" (1.6 mm)	3/32" (2.4 mm)
Hair, Lint (Single Strand)	Light	Medium	Light	Medium
Inside Dirt (Spot)	1/16" (1.6 mm)	3/32" (2.4 mm)	3/32" (2.4 mm)	5/32" (4.0 mm)
Concentrated Lint (Area)	Light	Light	Light	Light
Separation, Delamination	None	1/4" (6.4 mm)	None	1/4" (6.4 mm)
Short Interlayer	N/A	C 1/4" (6.4 mm) E 1/16" (1.6 mm)	N/A	C 1/4" (6.4 mm) E 3/32" (2.4 mm)
Interlayer Scuff, Dirt Streak	Light	Light	Light	Light
Interlayer Edge Ripple 6" (15.2 cm) max length	N/A	C 1/2" (12.7 mm) E 3/8" (9.5 mm)	N/A	C 1/2" E 3/8" (9.5 mm)
Interlayer Pinholes, Voids 1/16" (1.6mm) max diameter	No Clusters	Clusters	No Clusters	Clusters
Interlayer Streaking, Mottling	Medium	Medium	Medium	Medium
Interlayer Roll-Wave Distortion	Heavy	Medium	Heavy	Medium

The **Central Area** is an area formed by an oval or circle whose axes or diameters, when centered, do not exceed 80% of the overall dimension; the **Outer Area** is the remaining perimeter.

C = Conventionally glazed, unexposed edge; **E** = Butt-glazed or other exposed edge

Light = Barely noticeable when viewed from a distance of three feet (one meter) under normal lighting conditions

Medium = Noticeable from three, but not 11 feet (one, not 3.5m)

Heavy = Plainly noticeable from any viewing distance

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ULTRA-VIOLET SCREENING

Intervals Levels glass transmits less than one-tenth of one percent of UV. It blocks over 99.5% of solar radiation at wavelengths 380 NM and below, where by comparison, 1/4" clear float glass transmits over 70%.

RECEIVING, STORAGE, HANDLING, PROTECTION, AND MAINTENANCE

ORDERING	RECEIVING
• Plan the order to avoid off-site storage and to minimize rehandling and time in storage at the job site before installation. • Prepare boxing, trailer and floor loading schedules in consideration of weight limitations and handling and distribution needs.	• Intervals Levels glass is sold and shipped on an F.O.B. FACTORY basis. Inspect all glass upon arrival. • Before unloading, inspect handling equipment, rigging and surrounding conditions for safety compliance and inspect the general condition of the shipment for load shifting or possible damage in transit. • Inspect the shipment for any shortage, abuse, wetness or other transit damage; note such on the bill of lading or delivery ticket and obtain the driver's signature as acknowledgment. • Inventory received materials; immediately report any shortage to Intervals Levels glass and report concealed damage to the carrier. • If necessary, file a written freight claim with the carrier and order replacement glass from Intervals Levels glass.
STORAGE	**HANDLING**
• Store indoors at moderate temperature (above the dew point). • If outdoor storage is required, shade from direct sunlight and cover with tarpaulins or plastic (for plastic, particularly, allow for air circulation in and around the cases—condensation can lead to glass surface staining). • Support both sides of vertically stored cases. • Wet glass must be towel dried prior to storage as prolonged moisture exposure can cause permanent surface staining.	• During handling, wear hard-hats, safety shoes, gloves, and glazing gauntlets and follow all established safety procedures. • The movement and installation of glass needs to be handled with suction cups suitable for textured glass. • Remove the lid of the crate and unpack lite-by-lite; never end-pick glass or move partially unpacked cases. • Exercise care to prevent damage to the glass; edge damage may lead to thermally associated glass breakage after installation. • Cushion lites at bottom-edge quarter points on soft, firm blocks, free from glass chips, dirt or foreign matter. • Stack glass on edge and lean against a structural column or other sturdy upright or rack at an angle of five to seven degrees from vertical; place interleaving between lites. Never slide one lite against another. • Check finished surfaces and glass edges for damage before installation; set only acceptable material.
PROTECTION	**MAINTENANCE**
• Install finished materials after potentially damaging construction activities nearby—such as welding, sandblasting and fireproofing—have been completed. If the construction schedule does not allow for this, protect the glazing from damage by other processes. • Immediately after glass is set, identify the openings with streamers or ribbons suitably attached to the framing or surround and held free from the glass; do apply warning markers directly to the glass.	• Never use fluoride salts or hydrogen-fluoride producing compounds to wash the glass or surrounding surfaces; avoid use of razor blades or abrasive cleansers. • Use soft, clean, grit-free cloths and a mild soap, detergent or glass cleaning solution for normal washing, rinse with clean water, and squeegee dry; ordinary window-washing techniques are appropriate. Windex® or similar glass cleaners are recommended. Harsh chemicals can damage the glass coating. • Remove any stains from weathering steel by washing frequently during the weathering period (according to the steel manufacturer's recommendations). • Remove any runoff from concrete, stucco or other alkaline materials by frequent window washing.