



Durability, transparency, three-dimensional interlayers, and . . . playfulness? Reconsider your view of architectural glass applications. 3form Glass™ is artistic, ethereal, and open to your creative customization.

A dramatic centerpiece. It is a premium product with unbelievable depth and interlayers that are delicately and dimensionally preserved. Play with suspended sequins, spontaneous bubbles captured in mid-formation, or the fluid lines of underwater flora.

Product Description

3form Glass is produced by encapsulating organics and fabrics with a poured cast resin. This artistic technique enables the possibilities of capturing a beautiful 3-dimensional appearance without sacrificing clarity or the natural beauty of the interlayer materials. 3form Glass is based on a patent-pending liquid lamination technology. The technology sets itself apart in two ways: first, the lamination process allows even distribution of objects throughout the glass, and second, it makes possible clean, exposed edges that allow for a frameless application. The result is a seamless fusion of glass, resin and interlayers into spectacularly dramatic panels.

FEATURES AND BENEFITS

- Made to order size, ready to install
- Timeless properties of glass - durable long-lasting product that is easy to care for
- Non-combustible finish
- High flexural stiffness to allow for long unsupported spans
- Optically clear - to showcase crisp aesthetic interlayers
- Easy to clean
- Excellent chemical resistance which reduces potential harm incurred by cleaning agents
- the resilience and strength of laminated safety glass (meets the applicable requirements as stated in the European standard EN 12600 [1] for a class: 1(B)1)
- Glass can be made opaque with the addition of an opaque white or mirror backing

AVAILABLE INTERLAYERS

Bubble	Seaweed*
Cascade: Lime, Scarlet, Tangerine, Turquoise, Milk	Sequins Silver
Creekside*	Tangle
Curly Willow*	Dichroic: Solar, Lunar
Harmony*	Cosmos
Larkspur*	Illusion
Pineapple weave	

* Poured Glass utilizing natural products as a decorative interlayer may change in appearance over time. Natural materials are also subject to inherent inconsistency in color, texture and shape.

GLASS TYPES

3form Glass is produced with standard clear float glass. Low-iron (colorless) or specialty glass finishes and etching traditionally available in glass may also be incorporated with 3form Glass. Such specialty glass projects are custom projects and additional fees apply. 3form Poured Glass is not able to be produced with tempered glass.

PANEL SIZES AND TOLERANCES

widths up to 1500 mm, lengths up to 3048 mm, maximum surface areas up to 3.5 m²
maximum width, length and surface area is always depending on the interlayer, see material specs www.3form.eu

Standard gauge 18 mm for Sequins Silver, Harmony, Creekside and Bubble
Standard gauge 22 mm for Larkspur
Standard gauge 25 mm for Tangle
Standard gauge 19 mm for other collection items

Gauge tolerances are an inherent part of working with resin. Given the unique casting process for 3form Glass a given gauge is subject to a +/- 5% thickness tolerance.
All dimensions and squareness (standard or custom) are subject to a to a 3.1 mm (1/8") tolerance.

Specifications

FLAMMABILITY

3form Glass may be used in areas requiring fire rated surface finishes. 3form Glass has a non-combustible surface that allows for use in all glazing applications, interior finishes, and light transmitting applications.

SAFETY GLAZING

3form Glass panels have been independently tested in accordance with EN 12600 [1]. Class: 1(B)1

PANEL WEIGHT

Thickness	Weight flux
19 mm (3/4")	36.6 kg/m ² (7.5 lb/ft ²)

EXPANSION/CONTRACTION ALLOWANCES

The resin used in manufacturing of 3form Poured Glass will expand and contract nominally with fluctuations in temperature. Because the glass does not expand and contract at the same rates as the resin, cracking or delamination may occur if panels are subjected to temperature fluctuations.

USAGE LIMITATIONS

3form Poured Glass is not suitable for use in exterior applications. Do not install 3form Poured Glass in applications that may experience wide temperature fluctuations.

FABRICATION LIMITATIONS

- 3form Poured Glass is NOT to be horizontally or vertically point supported
- All inside corners of cut-outs must have a minimum radius of 9.5 mm. Cut-outs with radii smaller than 9.5 mm result in areas of stress concentrations that can result in glass breakage.
- The edges of cut-outs must be at least 50 mm from the edge of the glass panel
- The edge of any cut-out larger than 0.1 m² should be located 125 mm from the edge
- The minimum diameter cut-out that can be cut in poured glass is 9.5 mm

EDGE SEALING

3form Poured Glass panels that incorporate organic or fabric interlayers should be either fully framed or edge sealed when used in wet/high moisture applications. This will prevent moisture from wicking into the interlayer. If moisture is allowed to wick into the interlayer, aesthetic, mechanical and physical properties may be compromised.

DEFLECTION

3form Glass will exhibit different amounts of deflection given a variety of factors: fastening techniques, loads, gauges and panel dimensions to list a few. Your 3form Representative can assist you with general deflection guidelines for your application. If your application has specific engineering requirements, please contact the 3form Product Management for additional direction.

HEAT FORMING/ COLD BENDING

3form Glass cannot be heat formed and is only sold as flat sheets.

EDGE FINISHING

3form Glass comes standard with a "swiped" edge. "Swiped" means that the edge is free of glass shards. In addition, edges can be polished and beveled which is the recommended finish for applications where the edges are exposed.

STORAGE

Follow these guidelines to avoid damage to 3form Poured Glass while in storage:

1. Store in a cool, dry, well ventilated area where it will not be subject to rain or direct sun. If storage is expected to be prolonged, or in areas where temperature differentials can become extreme, it is highly recommended that temporary temperature and humidity controlled storage facilities be utilized to prevent damage to 3form Poured Glass
2. Cover crates with plastic or canvas. Sufficient air circulation (under, across the top, around the sides, and between the crates) is encouraged to reduce the potential of condensation within the crates. Tenting may be required to achieve the necessary circulation.
3. Secure crates to building columns if possible, otherwise stand several cases together and fasten them to each other with scrap lumber, to prevent the crates from tipping onto their sides and possibly damaging the glass inside.
4. Never store 3form Poured Glass in standing water.

INSTALLATION GUIDELINES

3form recommends that Poured Glass panels be installed and handled by an experienced glazier.

SOUND TRANSMISSION CLASS (STC) VALUES FOR POURED GLASS

Measurement protocol: ASTM E 90 - Standard Test Method for Laboratory Measurement of Airborne Sound Transmission Loss of Building Partitions and Elements.

Thickness 19 mm (3/4") **STC Values** 36

THERMAL INSULATION VALUES FOR POURED GLASS

Thickness 19 mm (3/4") **Winter U-Value (W/m²-°C)** 5.73 **Summer U-Value (W/m²-°C)** 5.68

Select Mechanical and Physical Properties

					TYPICAL VALUE					
			UNITS		2 MM (0.060")		3 MM (0.118")		6 MM (0.236")	
PROPERTY*	CONDITIONS	ASTM METHOD	SI	U.S. CUSTOM-ARY	SI	U.S. CUSTOM-ARY	SI	U.S. CUSTOM-ARY	SI	U.S. CUSTOM-ARY
GENERAL										
Continuous Max Use Temperature	—	—	°C	°F	110	230	110	230	110	230
MECHANICAL										
Youngs Modulus	5,0 mm/min (0,2 in./min)	D 623	GPa	psi	72	10.442.000	72	10.442.000	72	10.442.000
Shear Modulus	1,27 mm/min (0,05 in./min)	D 623	GPa	psi	30	4.350.000	2.100	4.350.000	2.000	4.350.000
Flexural Strength	1,27 mm/min (0,05 in./min)	D 790	MPa	psi	71	10.300	77	11.200	83	12.000
Hardness (Moh's Scale)	—	—	—	—	—	6-7	—	6-7	—	6-7
Knoop Hardness	—	C1326	kg/mm ²	lb/in ²	585	832.065	585	832.065	585	832.065
Safety Glazing	75°F 23,8°C <small>See Note</small>	ANSI Z97.1	—	—	—	—	—	—	PASS IMPACT PASS BOIL	
Thermal ₁ coefficient of expansion	—	E 831	10 ⁻⁶ /°C	—	8,6	—	—	—	—	—

Note 1: 3form Glass panels have also been independantly tested in accordance with EN 12600 [1]. Class: 1(B)1

Cleaning Instructions

3form Glass, like all glass materials, should be cleaned periodically. Since glass products can be permanently damaged if improperly cleaned, 3form recommends strict compliance with the following procedures for properly cleaning glass surfaces.

DO:

- Clean glass when dirt and residue appear
- Exercise special care when cleaning coated glass surfaces
- Avoid cleaning tinted and coated glass surfaces in direct sunlight
- Start cleaning at the top of the building and continue to lower levels

- Soak the glass surface with clean water and soap solution to loosen dirt and debris
- Use a mild, non-abrasive commercial window cleaning solution
- Use a squeegee to remove all of the cleaning solution
- Dry all cleaning solution from window gaskets, sealants and frames
- Clean one small area and check to see if procedures have caused any damage

DO NOT:

- Use scrapers of any size or type for cleaning glass
- Allow dirt and residue to remain on glass or adjacent materials for an extended period of time
- Begin cleaning glass without knowing if a coated surface is exposed
- Begin cleaning without rinsing excessive dirt and debris
- Use abrasive cleaning solutions or materials
- Allow metal parts of cleaning equipment to contact the glass
- Trap abrasive particles between the cleaning materials and the glass surface
- Allow splashed materials to dry on the glass surface

PRESSURE WASHING

Pressure washing can also be an effective way to remove miscellaneous debris from surfaces of 3form Glass installations that are in exterior or hard-to-reach places.

Pre-soak panels with a light water spray to loosen and remove incidental surface debris.

It is recommended that the water pressure for cleaning Glass panels be 200 bar (3.000 psi) or less. 3form Glass can be damaged if high pressure is concentrated in a single position too long. Use a gradual sweeping motion over the application. Never concentrate water spray in a single position. Pressure nozzle should never be positioned closer than 203 mm (8") from the panel surface.

Test a portion of the sheet first before spraying. If test piece shows any sign of material fatigue, abrasion or delamination - discontinue pressure washing and proceed with manual cleaning instructions as described above.

Coated or painted parts are not suitable for pressure washing as finish may be stripped off. Pressure washing is not suitable for Glass panels that have been edge sealed. If using detergent, use mild detergents only. Rinse sheet with light water spray after washing.

DO NOT:

- Concentrate spray in single position
- Use more than 200 bar (3.000 psi) pressure
- Pressure wash Glass panels that have been painted or coated to maintain coating integrity
- Pressure wash Glass panels with sealed edges to ensure edge seals remain intact

IMPORTANT

If a cleaning material is found to be incompatible in a short-term test, it will usually be found to be incompatible in the field. The converse, however, is not always true. Favorable performance is no guarantee that actual end-use conditions have been duplicated. Therefore, these results should be used as a guide only and it is recommended that the user test the products under actual end-use conditions.