Global

Security Glazing

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Company Profile

Global Security Glazing, with over 60 years of experience in quality manufacturing, has emerged as the single source for all of your security and architectural glazing requirements. Offering a complete line of security products, including all-glass laminates, glass-clad polycarbonates, and laminated polycarbonates, Global Security Glazing has the product and solution to meet all of your design challenges.

Global Security Glazing products are fully tested to specific standards and threat levels for projects requiring bullet resistant, attack resistant, and blast resistant glazing, such as correctional facilities, embassies, courthouses, and hospitals. All of our products are covered by our Single Responsibility® Program, which ensures that one firm has handled all phases of manufacturing.

In addition to institutional security products, Global Security Glazing has a complete line of custom architectural products to meet complex designs for glass and glazing. Our 15,000m² facility is fully equipped with state-of-the-art manufacturing capabilities for glass laminating, tempering, chemical strengthening, and insulating. Our products meet specifications for a wide variety of applications.

Skylight Glazing
Zoo Glazing
Aquarium Glazing
Stadium Glazing
Toughened/Laminated Glass for structural glass wall systems
Insulated/Laminated Glass for blast mitigation
Celaré Architectural Glazing – Decorative Laminated Glass

At Architectural Glass & Cladding, our service extends beyond our quality products. We offer assistance with design solutions, architectural specifications, technical support, and customer service support from price quotation to product delivery. Contact us on (07) 5523-2335 for more information, and let us help you choose the right product for your project.

Your single source service for security glazing.

Lamination Process:
Above: Automated equipment for precise cutting of interlayers **Below:** Clean-room application for multi-layered products

Autoclave:
Below: Laminating system utilizing heat, vacuum, and pressure for material bonding

Custom Architectural:

Product:
One-Way Vision
Laminated/Insulated units.

Project: Wright Patterson
Air Force Base, OH USA

Glazier: JMD Architectural
Products Inc.

Photo: Courtesy of Imaging Sciences

Zoo Glazing:
Product: Heavy Tempered Laminated Glass
Project: Denver Zoo — Lion Exhibit
Glazier: J.R. Butler

Decorative Laminated Security Glass:
Product: Heavy laminated glass using Dupont SentryGlas® Plus, low-iron glass, and decorative mirror stripes.
Project: Veterans' Glass City Skyway, Toledo, OH, USA
Glazier: American Glass and Metal, Plymouth, MI, USA
Bridge Contractor: FIGG Bridge Engineers for the Ohio Department of Transportation

Detention Glazing:
Product: Glass-Clad Polycarbonate
Project: Prison Control Room
Photo: Courtesy of Rosser International, Inc., Atlanta, GA, USA

Detention/Containment

Detention Glazing Products

Global Security Glazing offers a wide range of products to provide protection from forced entry and ballistic threats for correctional facilities, courthouses, and government security buildings. Secur-Tem + Poly® products combine the abrasion resistance of glass with the impact resistance of polycarbonate. Lexgard® laminated polycarbonates are designed for extensive physical attack combined with ballistic performance. Lexgard® laminated polycarbonates can be manufactured as Air-Gap(AG) units combining low-maintenance laminated glass with the impact resistance of laminated polycarbonate. Other options include insulated glass, fire-rated products, tinted glass, one-way vision, and many aesthetic choices. All of our products are fully tested and are covered by our Single Responsibility® Program. The charts below provide a quick reference for product choices.

Please note: that all measurements are converted from imperial and have been rounded.

Prison Security Entrance:
Photo: Courtesy of Rosser International, Inc., Atlanta, USA

Control Room:
Project: Johnson County Jail
Architect: RQAW Architects

Secur-Tem + Poly® – *Glass-Clad Polycarbonates*

Product	Code	Thickness Tolerances	Weight kg/m²	Protection Level
11mm Secur-Tem+Poly	2119	10.82-12.9mm	22.36	HP White Level I-TP-0500.02
14mm Secur-Tem+Poly	2117	13.15-15.74mm	25.49	HP White Level I-TP-0500.02 / ASTM 1915 Grade 4
17mm Secur-Tem+Poly	2116	16.71-20.09mm	30.27	HP White Level II-TP-0500.02 / ASTM 1915 Grade 3
19mm Secur-Tem+Poly	SP019	16.43-19.76mm	29.78	HP White Level III-TP-0500.02 / ASTM 1915 Grade 2 / WMFL Level III
21mm Secur-Tem+Poly	2115	17.37-20.92mm	30.76	HP White Level II-TP-0500.02 / WMFL Level III
24mm Secur-Tem+Poly	2114	19.71-23.77mm	34.18	HP White Level III-TP-0500.02 / ASTM 1915 Grade 2 / WMFL Level II
25mm Secur-Tem+Poly	SP028	22.35-26.92mm	37.59	HP White Level IV-TP-0500.02 / ASTM 1915 Grade 1 / WMFL Level II
32mm Secur-Tem+Poly	SP035	28.54-33.70mm	54.68	ASTM 1915 Grade 1 / WMFL Level I

Lexgard® – *Laminated Polycarbonates*

Product	Thickness	Weight kg/m²	Protection Level
Lexgard MPC 375	10mm (2 ply)	11.18	ASTM F1233 Class III/ ASTM 1915 Grade 3 HP White Level II- TP-0500.02 / WMFL Level III
Lexgard MPC 500	12mm (3 ply)	14.7	ASTM F1233 Class III / ASTM 1915 Grade 2 HP White Level II-TP-0500.02 / WMFL Level II
Lexgard RC 750	19mm (3 ply)	23.24	ASTM F1233 Class IV / ASTM 1915 Grade 1 HP White Level III-TP-0500.02
Lexgard MP 1000	25mm (4 ply)	31.3	ASTM F1233 Class V HP White Level IV-TP-0500.02
Lexgard SP 1250	31mm (4 ply)	38.91	ASTM F1233 Class V / ASTM 1915 Grade 1 HP White Level V-TP-0500.02 / WMFL Level I
Lexan MR10 (AR2)	12mm (Monolithic)	15.23	ASTM F1233 Class II / ASTM 1915 Grade 4 HP White Level I-TP-0500.02

Bullet Resistant

Armor-Gard™
Bullet Resistant Glazing

Global Security Glazing provides Armor-Gard™ bullet resistant products for protection against a wide range of ballistic threat levels. All Glass products combine multiple layers of glass and polyvinyl butyral (PVB) with "no spall" protection and UL Listings for various levels of protection. Secur-Tem + Poly® products combine the durability and abrasion resistance of glass on the "attack" side and the impact resistance of polycarbonate to the "witness" side, providing thinner and lighter products with "no spall" protection. Lexgard® products combine polycarbonate with polyurethane interlayers to achieve various levels of ballistic threat and extensive attack resistance. Exposed polycarbonate surfaces are abrasion resistant for maintenance. Lexgard® products can be manufactured as Air-Gap (AG) units combining low-maintenance laminated glass with the impact resistance of laminated polycarbonate for UL Listed "no spall" protection. Our Single Responsibility® Program covers all of our products. The charts below provide a quick reference for product choices.

Bullet Resistant Glass:
Test Shot:
UL Level 1 - 3 shots with 9mm Full Metal Copper Jacket with Lead Core

Result:
No penetration or spall to witness side

Security Structure:
Product: Bullet Resistant Glazing

Project:
German Embassy

Glazier:
Sunlite Glazing

Bullet Resistant Glass (All Glass) – *Multiple Layers of Glass and PVB*

Product	Code	Thickness	Weight kg/m²	Protection Level
UL Level 1	BR-113	31mm	78.36	9mm Full Metal Copper Jacket with Lead Core
UL Level 2	BR-155	47mm	109.9	.357 Magnum Jacketed Lead Soft Point
UL Level 3	BR-233	53mm	128.8	.44 Magnum Lead Semi-Wadcutter Gas Checked
UL Level 4	BR-212	54mm	131.9	.30 Caliber Rifle Lead Core Soft Point (.30-06 Caliber)

Secur-Tem + Poly® – *Glass-Clad Polycarbonates*

Product	Code	Thickness	Weight kg/m²	Protection Level
UL Level 1	SP175	19mm	38.28	9mm Full Metal Copper Jacket with Lead Core
UL Level 2	SP293	24mm	54.24	.357 Magnum Jacketed Lead Soft Point
UL Level 3	SP311	28mm	62.54	.44 Magnum Lead Semi-Wadcutter Gas Checked
UL Level 4	SP412	31mm	70.8	.30 Caliber Rifle Lead Core Soft Point (.30-06 Caliber)
UL Level 5	SP513	33mm	78.56	7.62mm Rifle Lead Core Full Metal Copper Jacket, Military Ball (.308 Caliber) One (1) Shot
UL Level 8	SP820	50mm	109.1	7.62mm Rifle Lead Core Full Metal Copper Jacket, Military Ball (.308 Caliber) Five (5) Shots
NIJ Level IIA	SP175	19mm	38.28	.357 Magnum Jacketed Soft Point / 9mm Full Metal Jacket
NIJ Level III	SPN316	39mm	84.17	7.62mm (308 Winchester) Full Metal jacket
NIJ Level IIIA	SP412	31mm	70.8	.44 Magnum Lead Semi-Wadcutter Gas Checked / 9mm Full Metal Jacket
NIJ Level IV	SPN420	50mm	123.5	.30-06 Armor Piercing

Lexgard® – *Laminated Polycarbonates*

Product	Code	Thickness	Weight kg/m²	Protection Level
UL Level 1	MP 750	19mm	23.24	9mm Full Metal Copper Jacket with Lead Core
UL Level 2	HP 875	22mm	26.8	.357 Magnum Jacketed Lead Soft Point
UL Level 2	MP 1000	25mm	31.3	.357 Magnum Jacketed Lead Soft Point
UL Level 3	SP 1250	31mm	38.91	.44 Magnum Lead Semi-Wadcutter Gas Checked

Bullet Resistant (Continued)

Bullet Resistant Air-Gap (AG) Units – *Laminated Glass Combined with Lexgard® Laminated Polycarbonate in a Double-Glazed Unit*

Product	Code	Thickness	Weight kg/m²	Protection Level
UL Level 1	IC-1	25mm	35.79	9mm Full Metal Jacket with Lead Core
UL Level 1	IC-111.5	22mm	27.59	9mm Full Metal Jacket with Lead Core
UL Level 2	IC-221.5	28mm	43.89	.357 Magnum Jacketed Lead Soft Point
UL Level 3	IC-322	31mm	47.07	.44 Magnum Lead Semi-Wadcutter Gas Checked
UL Level 4	IC-433	44mm	72.46	.30 Caliber Rifle Lead Core Soft Point (.30-06 Caliber)
UL Level 8	IC-862	56mm	113.4	7.62 Rifle Lead Core Full Metal Copper Jacket, Military Ball (.308 Caliber)

Fire Resistant

Inferno-Lite®
Fire Resistant Glazing

Inferno-Lite® Fire Resistant Glazing combines fire resistance protection, tested and listed by Underwriters Laboratories (UL), with a wide range of laminated security products for both forced-entry and ballistic protection.

FRP 4510 is tested for Window Assemblies (ANSI/UL 9) and Door Assemblies (UL 10B) with a maximum exposed width or length of 42". FRP 200, 300, and 400 are tested for Fire-Rated Labeled Doors. FRP 200 and 300 are wireless clear glazing. Wire-glass products are intended for interior glazing only, as exterior glazing may result in breakage due to thermal stress.

Proper installation methods and fire-rated frames are mandated by UL for all Inferno-Lite® products. Speak holes and pass-through holes are not offered. For general glazing installation guidelines, refer to the Glass Association of North America (GANA) Glazing Manual 2004 or latest edition.

Inferno-Lite® Fire Resistant Glazing

Product Code	Nominal Thickness	Fire Resistant	Containment Rating (1)	Maximum Size (2)	Wire Glass (3)	UL Rating (4)
FRP 200	22mm	45 min	n/a	0.064 m²	No	UL 9 / UL 10B
FRP 300	25mm	90 min	n/a	0.064 m²	No	UL 9 / UL 10B
FRP 400	22mm	90 min	n/a	0.064 m²	Yes	UL 9 / UL 10B
FRP 4510	22mm	45 min	ASTM F-1915 Grade 4	0.836 m²	Yes	UL 9 / UL 10B
FRP 4520	26mm	45 min	ASTM F-1915 Grade 3	0.836 m²	Yes	UL 9 / UL 10B
FRP 4540	25mm	45 min	ASTM F-1915 Grade 2	0.836 m²	Yes	UL 9 / UL 10B
ICGCP 916WW	22mm	45 min	HP White Level I	0.745 m²	Yes	UL 9 / UL 10B
ICGCP 1216WW	25mm	45 min	ASTM F-1915 Grade 2	0.745 m²	Yes	UL 9
ICGCP 2416WW	33mm	45 min	ASTM F-1915 Grade 1	0.745 m²	Yes	UL 9
ICGCP 1216WW90	25mm	90 min	ASTM F-1915 Grade 2	0.212 m²	Yes	UL 9 / UL 10C
ICGCP 2416WW90	33mm	90 min	ASTM F-1915 Grade 1	0.212 m²	Yes	UL 9 / UL 10C

(1) Containment rate may also include WMFL, NIJ, and ballistic performance.
(2) Maximum length and width usage will vary. Please consult data sheet for more information.
(3) Wire glass may be misco or baroque. Glass and wire alignment cannot be guaranteed.
(4) Visit www.ul.com for specific UL label/rating information.
(5) Required installation caulks include Metacaulk 990 and/or Blazeseal.

Transportation

Transportation Glazing

Global Security Glazing is a diversified glass manufacturer specializing in laminated safety and security glass for the transportation industry for over 20 years. Our transportation laminates have been installed in railroad vehicles, armored cars, buses, trucks, military vehicles, and transportation shelters to meet industry requirements for safety, bullet resistance, and blast resistance. Flat and curved laminated glazing is available.

Attack & Burglar Resistant

Attack & Burglar Resistant Glass Laminates

Global Security Glazing offers a range of laminated glass products designed for prolonged physical attack and burglary resistance. Secur-Tem® and Secur-Lite X® are high performance institutional glazing products utilizing chemical- or heat-strengthened glass and PVB for prolonged physical attack resistance. Secur-Lite® annealed-glass laminates are designed to prevent "smash and grab" burglaries at retail establishments and meet UL 972 test standards. These products do not provide bullet resistance. Our Single Responsibility® Program covers all of our products. The charts below provide a quick reference for product choices.

Secur-Tem® Laminates

Product	Code	Thickness	Weight kg/m²	Daylight Transmittance	Shadding Coefficient	U-Value
Secur-Tem 3	SM3	14mm	29	.86	.81	5.05
Secur-Tem 4	SM4	19mm	39.5	.85	.77	4.71
Secur-Tem 5	SM5	25mm	49.95	.83	.74	4.37
Super Secur-Tem 5	SSM5	27mm	53.27	.83	.74	4.14

Secur-Lite X® Laminates

Product	Code	Thickness	Weight kg/m²	Daylight Transmittance	Shadding Coefficient	U-Value
Secur-Lite 3X	SL716-3X	12mm	27.34	.87	.83	5.22
Secur-Lite 4X	SL916-4X	17mm	37.01	.86	.79	4.99
Secur-Lite 5X	SL1316-5X	22mm	46.72	.84	.75	4.71

Secur-Lite® – UL 972 Burglary Resistant

Product	Code	Thickness	Weight kg/m²	Daylight Transmittance	Shadding Coefficient	U-Value
5/16" Secur-Lite UL	SL516U	8mm	18.02	.88	.88	5.56
7/16" Secur-Lite UL	SL716U	11mm	25.97	.87	.84	5.39
9/16" Secur-Lite UL	SL916U	14mm	34.42	.86	.81	5.28

Installation Instructions

The following instructions represent general and accepted industry practices for product installation. It is not the intention of Global Security Glazing to exclude or prohibit other installation techniques that are appropriate to specific building designs.

Global Security Glazing's product must be installed in accordance with proper glazing techniques as set forth in the Glass Association of North America (GANA) Glazing Manual and Sealant Manual 1990 (or most current edition). Clearance recommendations shown must be followed to protect all products from excessive pressure or glass-to-metal contact, which can cause breakage. Install setting blocks not less than four inches long and slightly wider than the glazing at quarter points. Incorporate a weep system into exterior glazing systems. The installation of glass should be considered a finishing procedure. During glazing, product surfaces should be protected from paint, plaster, chemical splash, or welding spatters. Polycarbonate surfaces exposed to direct sunlight must have masking removed and recovered with plastic film and duct taped to the frames. Failure to do so may cause staining or shadows later.
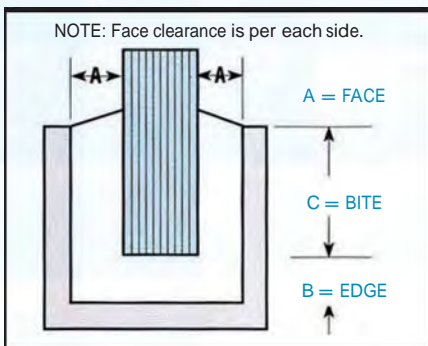
Some PVC, EPDM, neoprene gasket, sealant, and setting blocks are not compatible with Global Security Glazing products and can cause cloudiness and delamination. Please refer to Global Security Glazing Cleaning Instructions document for cleaning solutions compatible with glass and polycarbonate. Assume materials are not compatible unless they have been approved by Global Security Glazing. The following materials have been found to be compatible:

Compatible Sealants, Gaskets, Tapes

Silicone: Dow 795, Dow 999, GE Silpruf, GE 1200
Gasket: Tremco Silicone (70D), Tremco EPDM (60,70D)
Tape: Tremco 440
Butyl Tape: KPTI 303, Isocryl 5600

Face, Edge, and Bite Clearance

Product	Thickness	Face	Edge	Bite
Laminated Glass	6mm 12-25mm	3mm 6mm	6mm 10mm	15mm 15mm
Bullet Resistant (All Glass, Secur-Tem+Poly®, & Lexgard®)	19-54mm	3mm	10mm	25mm
Inferno-Lite®	20-28mm	3mm	6mm	19-25mm
Secur-Lite®	8-15mm	3mm	10mm	19-25mm
Secur-Tem®/ Secur-Lite X®	11-24mm	3mm	6mm	25mm
Detention/Containment (SecurTem+Poly® & Lexgard®)	11-62mm	3mm	6mm	25mm

NOTE: Face clearance is per each side.

A = FACE
C = BITE
B = EDGE

Cleaning Instructions for Glass and Polycarbonate

Glass and polycarbonate must be handled and cleaned properly during the installation process. Glass and polycarbonate products can be permanently damaged if improperly handled or cleaned. Global Security Glazing recommends strict compliance with the following procedures.

Uniformly apply a mild solution of soap and water or a non-abrasive commercial window-washing solution to the surface using applicator methods. Remove all liquid from the surface with a soft flannel or cotton cloth immediately following the application of the cleaning solutions. Care should be taken to ensure that no metal, sand, or foreign particles become trapped between the cloth and the substrate. These particles, if allowed to contact the glass or polycarbonate surface, will mar and damage the glazing. All cleaning solutions should be dried from the window gaskets and sealants to avoid the potential for deterioration as a result of the cleaning process. Do not apply cleaners in direct sunlight or at elevated temperatures. Do not use razor blades or squeegees to clean hard- to-remove substances. Do not use abrasive or highly alkaline cleaners. Benzene, gasoline, acetone, MEK, and carbon tetra- chloride should never be used on polycarbonate surfaces. Assume materials are not compatible unless they have been approved by Global Security Glazing. Cleaning agents found to be compatible with glass and polycarbonates are as follows:

Compatible Cleaners and Detergents

Formula 409   Joy
Windex with Ammonia D   Palmolive
VM & P Naphtha Grade   Isopropyl Alcohol