

# YOUR SINGLE SOURCE SERVICE FOR SECURITY GLAZING

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GLOBAL SECURITY GLAZING



**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 160,000-square-foot 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**
- **Tempered/Laminated Glass for structural glass wall systems**
- **Insulated/Laminated Glass for blast mitigation**
- **Celaré Architectural Glazing – Decorative Laminated Glass**

At Global Security Glazing, 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 at (800) 633-2513 for more information, and let us help you choose the right product for your project.

**YOUR SINGLE SOURCE SERVICE FOR SECURITY GLAZING.**



Laminating system utilizing heat, vacuum, and pressure for material bonding



Automated equipment for precise cutting of interlayers



Clean-room application for multi-layered products



## ZOO GLAZING

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



## DETENTION GLAZING

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



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

## DECORATIVE LAMINATED SECURITY GLASS



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.



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.

SECUR-TEM + POLY® GLASS-CLAD POLYCARBONATES

PRODUCT	CODE	THICKNESS TOLERANCE	WEIGHT LBS./SF	PROTECTION LEVEL
7/16” Secur-Tem+Poly	2119	.426”/.508”	4.58	HP White Level I-TP-0500.02
9/16” Secur-Tem+Poly	2117	.518”/.620”	5.22	HP White Level I-TP-0500.02 / ASTM 1915 Grade 4
11/16” Secur-Tem+Poly	2116	.658”/.791”	6.20	HP White Level II-TP-0500.02 / ASTM 1915 Grade 3
3/4” Secur-Tem+Poly	SP019	.647”/.778”	6.10	HP White Level III-TP-0500.02 / ASTM 1915 Grade 2 / WMFL Level III
13/16” Secur-Tem+Poly	2115	.684”/.824”	6.30	HP White Level II-TP-0500.02 / WMFL Level III
15/16” Secur-Tem+Poly	2114	.776”/.936”	7.00	HP White Level III-TP-0500.02 / ASTM 1915 Grade 2 / WMFL Level II
1” Secur-Tem+Poly	SP028	.880”/1.06”	7.70	HP White Level IV-TP-0500.02 / ASTM 1915 Grade 1 / WMFL Level II
1 1/4” Secur-Tem+Poly	SP035	1.124”/1.327”	11.20	ASTM 1915 Grade 1 / WMFL Level I

LEXGARD® LAMINATED POLYCARBONATES

PRODUCT	THICKNESS	WEIGHT	PROTECTION LEVEL
Lexgard MPC 375	3/8” (2 ply)	2.29	ASTM F1233 Class III/ ASTM 1915 Grade 3 HP White Level II- TP-0500.02 / WMFL Level III
Lexgard MPC 500	1/2” (3 ply)	3.01	ASTM F1233 Class III / ASTM 1915 Grade 2 HP White Level II-TP-0500.02 / WMFL Level II
Lexgard RC 750	3/4” (3 ply)	4.76	ASTM F1233 Class IV / ASTM 1915 Grade 1 HP White Level III-TP-0500.02
Lexgard MP 1000	1” (4 ply)	6.41	ASTM F1233 Class V HP White Level IV-TP-0500.02
Lexgard SP 1250	1 1/4” (4 ply)	7.97	ASTM F1233 Class V / ASTM 1915 Grade 1 HP White Level V-TP-0500.02 / WMFL Level I
Lexan MR10 (AR2)	1/2” (Monolithic)	3.12	ASTM F1233 Class II / ASTM 1915 Grade 4 HP White Level I-TP-0500.02

BULLET RESISTANT GLASS (ALL GLASS) MULTIPLE LAYERS OF GLASS AND PVB

PRODUCT	CODE	THICKNESS	WEIGHT LBS./SF	PROTECTION LEVEL
UL Level 1	BR-113	1 1/4”	16.05	9mm Full Metal Copper Jacket with Lead Core
UL Level 2	BR-155	1 7/8”	22.51	.357 Magnum Jacketed Lead Soft Point
UL Level 3	BR-233	2 3/32”	26.38	.44 Magnum Lead Semi-Wadcutter Gas Checked
UL Level 4	BR-212	2 1/8”	27.02	.30 Caliber Rifle Lead Core Soft Point (.30-06 Caliber)

SECUR-TEM + POLY® GLASS-CLAD POLYCARBONATES

PRODUCT	CODE	THICKNESS	WEIGHT LBS./SF	PROTECTION LEVEL
UL Level 1	SP175	3/4”	7.84	9mm Full Metal Copper Jacket with Lead Core
UL Level 2	SP293	15/16”	11.11	.357 Magnum Jacketed Lead Soft Point
UL Level 3	SP311	1 1/8”	12.81	.44 Magnum Lead Semi-Wadcutter Gas Checked
UL Level 4	SP412	1 1/4"	14.50	.30 Caliber Rifle Lead Core Soft Point (.30-06 Caliber)
UL Level 5	SP513	1 5/16”	16.09	7.62mm Rifle Lead Core Full Metal Copper Jacket, Military Ball (.308 Caliber) One (1) Shot
UL Level 8	DBP08	2-3/8	26.29	7.62mm Rifle Lead Core Full Metal Copper Jacket, Military Ball (.308 Caliber) Five (5) Shots
NIJ Level IIA	SP175	3/4”	7.84	.357 Magnum Jacketed Soft Point / 9mm Full Metal Jacket
NIJ Level III	SPN316	1 9/16”	17.24	7.62mm (308 Winchester) Full Metal jacket
NIJ Level IIIA	SP412	1 1/4"	14.50	.44 Magnum Lead Semi-Wadcutter Gas Checked / 9mm Full Metal Jacket
NIJ Level IV	SPN420	2”	25.30	.30-06 Armor Piercing

LEXGARD® LAMINATED POLYCARBONATES

PRODUCT	CODE	THICKNESS	WEIGHT LBS./SF	PROTECTION LEVEL
UL Level 1	MP 750	3/4”	4.76	9mm Full Metal Copper Jacket with Lead Core
UL Level 2	HP 875	7/8”	5.49	.357 Magnum Jacketed Lead Soft Point
UL Level 2	MP 1000	1”	6.41	.357 Magnum Jacketed Lead Soft Point
UL Level 3	SP 1250	1 1/4”	7.97	.44 Magnum Lead Semi-Wadcutter Gas Checked



BULLET RESISTANT AIR-GAP (AG) UNITS LAMINATED GLASS COMBINED

PRODUCT	CODE	THICKNESS	WEIGHT LBS./SF	PROTECTION LEVEL
UL Level 1	IC-1	1”	7.33	9mm Full Metal Jacket with Lead Core
UL Level 1	IC-111.5	7/8”	5.65	9mm Full Metal Jacket with Lead Core
UL Level 2	IC-221.5	1 1/8”	8.99	.357 Magnum Jacketed Lead Soft Point
UL Level 3	IC-322	1 1/4”	9.64	.44 Magnum Lead Semi-Wadcutter Gas Checked
UL Level 4	IC-433	1 3/4”	14.84	.30 Caliber Rifle Lead Core Soft Point (.30-06 Caliber)
UL Level 8	IC-830	3 ”	27.21	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.



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 heatstrengthened 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 LBS./SF	DAYLIGHT TRANSMITTANCE	SHADDING COEFFICIENT	
Secur-Tem 3	SM3	9/16”	5.94	.86	.81	.89
Secur-Tem 4	SM4	3/4”	8.09	.85	.77	.83
Secur-Tem 5	SM5	1”	10.23	.83	.74	.77
Super Secur-Tem 5	SSM5	1 1/16”	10.91	.83	.74	.73

SECUR-LITE X® LAMINATES

PRODUCT	CODE	THICKNESS	WEIGHT LBS./SF	DAYLIGHT TRANSMITTANCE	SHADDING COEFFICIENT	
Secur-Lite 3X	SL716-3X	1/2”	5.60	.87	.83	.92
Secur-Lite 4X	SL916-4X	11/16”	7.58	.86	.79	.88
Secur-Lite 5X	SL1316-5X	7/8”	9.57	.84	.75	.83

SECUR-LITE® UL 972 BURGLARY RESISTANT

PRODUCT	CODE	THICKNESS	WEIGHT LBS./SF	DAYLIGHT TRANSMITTANCE	SHADDING COEFFICIENT	
5/16” Secur-Lite UL	SL516U	5/16”	3.69	.88	.88	.98
7/16” Secur-Lite UL	SL716U	7/16”	5.32	.87	.84	.95
9/16” Secur-Lite UL	SL916U	9/16”	7.05	.86	.81	.93

LEXGARD® LAMINATED POLYCARBONATES

PRODUCT CODE	NOMINAL THICKNESS	FIRE RESISTANT	CONTAINMENT RATING <sup>1</sup>	MAXIMUM SIZE <sup>2</sup>	WIRE GLASS <sup>3</sup>	UL RATING <sup>4</sup>
FRP 200	7/8”	45 min	n/a	100 sq. in.	No	UL 9 / UL 10B
FRP 300	1”	90 min	n/a	100 sq. in.	No	UL 9 / UL 10B
FRP 400	7/8”	90 min	n/a	100 sq. in.	Yes	UL 9 / UL 10B
FRP 4510	7/8”	45 min	ASTM F-1915 Grade 4	1296 sq. in.	Yes	UL 9 / UL 10B
FRP 4520	1 1/32”	45 min	ASTM F-1915 Grade 3	1296 sq. in.	Yes	UL 9 / UL 10B
FRP 4540	1”	45 min	ASTM F-1915 Grade 2	1296 sq. in.	Yes	UL 9 / UL 10B
ICGCP 916WW	7/8”	45 min	HP White Level I	1156 sq. in.	Yes	UL 9 / UL 10B
ICGCP 1216WW	1”	45 min	ASTM F-1915 Grade 2	1156 sq. in.	Yes	UL 9
ICGCP 2416WW	1 5/16”	45 min	ASTM F-1915 Grade 1	1156 sq. in.	Yes	UL 9
ICGCP 1216WW90	1”	90 min	ASTM F-1915 Grade 2	330 sq. in.	Yes	UL 9 / UL 10C
ICGCP 2416WW90	1 5/16"	90 min	ASTM F-1915 Grade 1	330 sq. in.	Yes	UL 9 / UL 10C

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

## 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.

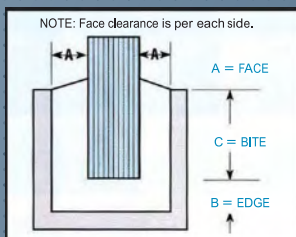
Some PVC, EPDM, neoprene gasket, sealant, and setting blocks are not compatible with Global Security Glazing products and can cause cloudiness and delamination. Please refer to Global Security Glazing Cleaning Instructions document for cleaning solutions compatible with glass and polycarbonate. Assume 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 CODE	THICKNESS	FACE	EDGE	BITE
Laminated Glass	1/4" 1/2" to 1"	1/8" 1/4"	1/4" 3/8"	5/8" 5/8"
Bullet Resistant (All Glass, Secur-Tem+Poly <sup>®</sup> , & Lexgard <sup>®</sup> )	3/4" to 2 1/8"	1/8"	3/8"	1"
Inferno-Lite <sup>®</sup>	13/16" to 1 1/8"	1/8"	1/4"	3/4" to 1"
Secur-Lite <sup>®</sup>	5/16" to 9/16"	1/8"	3/8"	3/4" to 1"
Secur-Tem <sup>®</sup> / Secur-Lite X <sup>®</sup>	7/16" to 15/16"	1/8"	1/4"	1"
Detention/Containment (SecurTem+Poly <sup>®</sup> & Lexgard <sup>®</sup> )	7/16" to 2 1/2"	1/8"	1/4"	1"



## 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 nonabrasive 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 tetrachloride 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 AmmoniaD
- Palmolive
- VM & P Naphtha Grade
- Isopropyl Alcohol



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