



School Guard Glass' products are manufactured by:
LTI Smart Glass, Inc.
 14 Federico Drive / Pittsfield, MA 01201 /



PRODUCT NAME: SG5™ IGU (PATENT PENDING)

PRODUCT DESCRIPTION: SG5™ IGU is a hermetically sealed make up consisting of SG5™ on the interior lite and tempered or laminated glass on the exterior lite. SG5™ IGU combines the forced entry attributes of SG5™ while also complying with strict energy codes. Our IGU make up can be combined with almost any glass coating for an aesthetically pleasing and energy efficient window or entrance.

CONSTRUCTION: SG5™ on interior lite, tempered or laminated glass on exterior lite.

MAXIMUM DIMENSIONS: 48" x 96" (Up to 50 sq. ft.)

NOMINAL THICKNESS: 1 1/8" - 1 1/2"

WEIGHT (SQ/FT): 7.9 lbs.

WARRANTY: 10 year warranty against delamination and 10 year warranty against seal failure. Please refer to the warranty information sheet.

COMPLIANCE:

- ASTM 1048 – Standard Specification-Heat Strengthened & Fully Tempered Flat Glass
- ASTM C1036 - Standard Specification-Flat Glass
- ASTM C1172 - Standard Specification for Laminated Architectural Flat Glass
- ANSI Z97.1 Safety Materials Used in Buildings
- CPSC 16 CFR 1201

RATINGS: 5-aa1 rated for 12 minutes.
 BR Level 2 low spall in certain configurations.
 ASTM F1233 Class 1.4
 UL 972

PERFORMANCE CRITERIA/VALUES: Values vary.
 Please refer to the performance criteria sheets.

Product	Ballistic Impact 5 shots with a .762 round	Concentrated Assault		Forced Entry (sequentially tested)			Total Time to Failure
		Brick	Steel Toed Boots	Tools ¹ 2 min. test	3lb. Hammer & Bat 3 1/2 min. test	Sledge hammer 6 min. test	
1/4" Tempered	Fail - 1 shot	Fail	Fail	Fail	Fail	Fail	0 seconds
1/4" Tempered w/12 mil. Blast Film	Pass ²	Fail - 4 impacts	Pass	Fail - 8 seconds	Fail - 2 impacts/2 seconds	N/A	4 seconds
5/16" Annealed Laminated Glass w/ 0.060 SGP® Interlayer by DuPont ®	Pass ²	Fail - 20 impacts	Fail	Fail	Fail	N/A	16 seconds
5/16" Annealed Laminated Glass w/ 0.090 PVB Interlayer	Pass ²	Pass	Pass	Fail - 40 seconds	Fail	N/A	40 seconds
3/8" Glass Clad Polycarbonate	Pass ²	Pass	Pass	Fail - 1 min. 12 sec.	Fail	N/A	1 min. 12 sec.
SG5™ IGU	Pass ²	Pass	Pass	Pass	Pass	Pass-6 mins.	12 mins. 10 sec.

Test failure occurs when a 4" object can pass through the glass or frame material.

¹ See testing methods for tools list. ²Bullets penetrate but glass stays in place.

Independent Testing Completed by H.P. White Laboratory, Inc. 3114 Scarboro Road, Street, MD 21154-1822



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SG5™ IGU
Performance Criteria and Values

VALUE	1" Clear IGU	1 1/8" IGU ES28 w/Argon
Summer U-Value	.49	.20
Winter U-Value	.46	.23
Solar Heat Gain Coefficient	.67	.27
Relative Heat Gain	160	65
Visible Light Transmission	.76	.59
Shading Coefficient	.77	.31
Visible Light Reflectance-Outside	.15	.13
Visible Light Reflectance-Inside	.14	.14
Total Solar Transmittance	.52	.22
Total Solar Reflectance-Outside	.11	.41
Ultraviolet Transmittance	0.00	0.00

Values represent a range of SG5™ products dependent on exterior lite and IGU make up.

Details for specific products can be provided upon request.