



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

**PRODUCT NAME:** SCHOOLGUARD SGG4™/SGG5™ (PATENT PENDING)

**PRODUCT ID:** SGG4™/SGG5™

**PRODUCT DESCRIPTION:** SCHOOLGUARD SGG4™ and SGG5™ are laminated glass products consisting of outer layers of glass with a custom security strengthened substrate core. Each are specifically designed to slow down intruders but are not bullet resistant to certain ballistic threats. When shot, neither will shatter like ordinary tempered glass and each is far stronger than laminated glass or glass reinforced with security film. Both SGG4™ and SGG5™ remain in their frames blocking the intruder from entry.

**CONSTRUCTION:** Proprietary

**MAXIMUM STANDARD DIMENSIONS:** 60" X 96"

**NOMINAL THICKNESS:** Designed to replace standard 1/4" tempered glass and 5/16" laminated glass using existing frames, or glazed into 1" or 1 1/4" frames.

**WEIGHT (SQ/FT):** SGG4™ 4.11 lbs. / SGG5™ 4.60 lbs.

**THERMAL & OPTICAL PROPERTIES\*:** SHADING COEFFICIENT: .84  
 U-VALUE: .88  
 VISABLE LIGHT: 83%

\*Calculated using Window v6.3.72.0 Glazing System

SGG4™/SGG5™ are also available in insulating units with tints, low-e glass and argon gas. Please see separate data sheet for performance.

**WARRANTY:** 10 Years against delamination / 10 years for insulated units. Please refer to the warranty information sheet.

**COMPLIANCE:**

- ASTM C1036 - Standard Specification-Flat Glass
- ASTM C1172 - Standard Specification for Laminated Architectural Flat Glass
- ANSI Z97.1 Safety Materials Used in Buildings

Product	Ballistic Testing	Concentrated Assault		Forced Entry (sequentially tested)			Total Time to Failure
		Brick	Steel Toed Boots	Tools <sup>1</sup> 2 min. test	3lb. Hammer & Bat 3½ 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 <sup>2</sup>	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 <sup>2</sup>	Fail - 20 impacts	Fail	Fail	Fail	N/A	16 seconds
5/16" Annealed Laminated Glass w/ 0.090 PVB Interlayer	Pass <sup>2</sup>	Pass	Pass	Fail - 40 seconds	Fail	N/A	40 seconds
3/8" Glass Clad Polycarbonate	Pass <sup>2</sup>	Pass	Pass	Fail - 1 min. 12 sec.	Fail	N/A	1 min. 12 sec.
SGG4™	Pass <sup>2</sup>	Pass	Pass	Pass	Pass	N/A	6 mins. 10 sec.
SGG5™	Pass <sup>2</sup>	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.

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