SENTRY GUARD

1-866-655-1624

TRI STAR GLASS PRODUCTS

HIGH PERFORMANCE LAMINATED GLASS: ON GUARD EVEN WHEN YOU AREN'T

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TRISTAR GLASS PRODUCTS

PRODUCT OF THE YEAR

Sentry Guard received USGlass Magazine's Product of The Year Award

WHY CHOOSE SENTRY GUARD

Glass provides countless benefits when incorporated into the architecture of a building. When it comes to schools, the natural lighting provided by glass creates an environment conducive to learning. Studies show that students who work in classrooms with significant daylight score between 7 to 18 percent higher than students exposed to little or no daylight. Another benefit of using glass is the opportunity for energy efficiency. Yet when it comes to the issue of security, glass is often perceived as a point of weakness.

Tristar offers Sentry Guard, an alternative to traditional glazing that utilizes SentryGlas® Ionoplast Interlayer to create a stronger, safer environment for your loved ones. Designed to delay violent measures of forced intrusion, Tristar's Sentry Guard provides first responders time to reach the scene. Since 2000, there have been nearly 300 active shootings in the United States. More than 20 percent of these have been in schools, 42 percent in commerce locations, and 10 percent in government locations. With these statistics in mind, it is vital to arm buildings with every possible defense.

SUPERIOR STRENGTH, SUPERIOR RESISTANCE

With over 100 times the rigidity of standard PVB interlayers, Tristar's Sentry Guard offers superior strength for superior resistance to forced entry. If broken, Sentry Guard laminates hold their shape and prevent entry until the unit can be replaced, even if they have been shot. Add that to Sentry Guard's 5x increase in tear resistance and you have the ideal affordable solution to windows that have traditionally provided little resistance to forced intrusion.

PERFORMANCE VALUES

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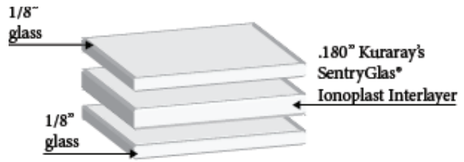
Tristar has conducted extensive testing to prove the strength, durability, and resistance offered by Sentry Guard. The results below are of common objects used to simulate a forced intrusion. The tests were conducted in sequence, building upon themselves in accordance with standard forced entry testing protocol. Testing was conducted with 1/2" edge bite, dry glazed in a curtain-wall style framing system.



Standard monolithic Sentry Guard Construction
OA thickness: 7/16" • Weight: 4.16lbs/sqft

Lite 1	1/8" (3mm)
Interlayer 1	.180"(4.56mm)
Lite 2	1/8" (3mm)
OA Thickness	7/16" (11.1mm)
Measured OA Thickness	.4275" (10.85mm)
Weight (lb/sqft)	4.16
Objects Used	**Pass/Fail**
Bricks (x20)	Pass 1:30min
2" x 4" and Claw Hammer	Pass 2:00min
Metal Bat /3lb SledgeHammer	Pass 3:00min

A "pass" indicates that Sentry Guard withstood the force, without allowing a 4" object to pass through the glass or frame in the indicated time.

Product Construction	VLT (%)	Visible Ext. Ref (%)	U Value (Btu/hr*ft^2*F)		(SHGC)
			Winter Night	Summer Day	
7/16" Sentry Guard	88	8	0.91	0.83	0.77
9/16" Bronze Sentry Guard	37	5	0.89	0.82	0.49
9/16" Gray Sentry Guard	27	5	0.89	0.82	0.47
Clear + Sentry Guard	79	15	0.46	0.49	0.7
Vitro (PPG)					
Solarban 60 (2) Clear + Sentry Guard	70	11	0.31	0.31	0.39
Solarban 70XL (2) Clear + Sentry Guard	62	12	0.3	0.31	0.28
Solarban 90 (2) Clear + Sentry Guard	50	13	0.3	0.31	0.24
Sentry Guard + Solarban 60 (3) Clear	69	12	0.31	0.31	0.44
Sentry Guard + Solarban 70XL (3) Clear	61	13	0.3	0.31	0.36
Guardian					
SN68 (2) Clear + Sentry Guard	67	11	0.31	0.31	0.38
SNX62/27 (2) Clear + Sentry Guard	61	22	0.3	0.31	0.27
SNX51/23 (2) Clear + Sentry Guard	50	18	0.3	0.31	0.24
Sentry Guard + SN68 (3) Clear	66	12	0.31	0.31	0.44
Sentry Guard + SNX62/27 (3) Clear	60	12	0.3	0.31	0.37

*IGU Configurations 1 1/16" OA using 3/8" A.S. and 7/16" Sentry Guard

ENHANCED PROTECTION WITHOUT SACRIFICING ENERGY EFFICIENCY

Leadership in Energy and Environmental Design (LEED®) programs sponsored by the U.S. Green Building Council and the Department of Energy are pushing government agencies as well as private concerns to incorporate energy efficiency side-by-side with security performance. Tristar's Sentry Guard can be insulated with our Low-E coated glass for enhanced energy efficiency and solar control.

INSTALLATION

All Sentry Guard glass must be installed in accordance with proper glazing techniques as outlined in the Glass Association of North America (GANA) Glazing Manual and Sealant Manual, most current edition.

Sentry Guard laminate should be wet glazed to the interior of the framing system. Interior stops should be fixed. If removable they should be fastened.

Glazing systems must integrate a weep system allowing moisture and water, which may enter the glazing channel, to escape.

Typical minimum requirements for commercial glazing applications: Glass Bite > 1/2" • Face Clearance/F.C. > 3/16" • Edge Clearance/E.C. > 1/4"

To maintain a continual face clearance, continuous silicone compatible gaskets of a 70 + or – 5 Shore A durometer hardness should be used for both the interior and exterior.

Edge blocking and/or anti-walk blocking **must** be used on all dry glazed systems to limit lateral movement of the glass caused by horizontal expansion or contraction, building sway, and creep deflection. Lack of edge blocking can permit glass-to-framing contact on one edge and deglazing on the opposite edge. This is only applicable to dry glazed systems.

Silicone compatible setting blocks of 80-90 Shore A durometer hardness are to be placed at the quarter points. Where it is impractical to set the blocks at the quarter points, the blocks can be placed at the eight points and no closer than 6" to the corner. For glass widths of 24" or more, the setting blocks should be a minimum of 4" long and **wide enough to fully support all lites of glass** of the unit. As a guide setting blocks should be .1" in length per square foot of glass area and a minimum of ¼" in height and/or thickness.

The strength of Sentry Guard lies in SentryGlas® Ionoplast Interlayer. Testing has shown Sentry Guard to achieve the same level of intrusion resistance when using 3mm, 5mm, and 6mm glass thicknesses. Not all glass types and coatings are available in all thicknesses. Production limitations may require an increase in glass thickness.

Fire rated applications must use stainless steel spacer in conjunction with Schott 3/16" Pyran Platinum or 3/16" Pyran Platinum-F (for areas requiring safety glazing).

A wide variety of sealants are used by the glazing industry and it is therefore critical to understand the chemical and mechanical compatibility of these sealants with the interlayer. Laminates prepared with SentryGlas® demonstrate excellent compatibility with different types of sealants used in glazing applications. While Kuraray's SentryGlas® Ionoplast Interlayer shows no signs of delamination during sealant compatibility testing, it is Tristar's recommendation that everything possible should be done to eliminate the possibility of the silicone coming into contact with the interlayer.

Common Compatible Sealants (additional information available upon request):
C.R. Laurence: 33SC, RTV408AL, 999-A, 1199
Dow Corning: 756, 756-SM, 757, 790, 791, 791-T, 795, 895, 983, 993, 994, 995, 999-A, 1199, 3362, 3356 HD
GE Advanced Materials: Silglaze II SCS2802, SilPruf NB SCS9000, Ultraglaze SSG4000, UltraGlaze SSG 4400
Kommerling: GD 116, GD 677, GD 920, GD 823 N, GD 826 N, Kodiglaze S, Kodiglaze P
Sika: Icosit KC-340/7, SikaGlaze GG-735, Sikasil IG-16, 25, 25 HM Plus, SG-18, 20,500, 500 CN, 550, WS-305 CN, 355, 605 S, 680 SC, WT-480, 485
Tremco: Spectrem 1, 2, Trempglaze s100, Vulkem 116

Tristar's standard laminated glass warranty applies to all Sentry Guard laminates.

CONTACT TRISTAR TODAY
FOR A FREE QUOTE!
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