

	Product			
	Test	SafetyShield 700	SafetyShield 800	SafetyShield 1500
Impact - Safety Glazing	ANSI Z97.1 Unlimited	Pass	Pass	Pass
	CPSC Part 1201.4 Cat I	Pass	Pass	Pass
	CPSC Part 1201.4 Cat II	Pass	Pass	Pass
	EN 12600 1A	Pass	Pass	
Anti-Intrusion	Security glazing DIN 52290 - A1			Pass
	Security glazing EN 356 - P2A			Pass
	Burglary Resisting Glazing UL 972			Pass
	Burglary Resisting Glazing ULC S332			Pass
Wind-borne Debris	Large Missile Impact ASTM E-1886/ E-1996 Missile Level B - 4 1/2 lb 2x4		Pass	
	Large Missile Impact ASTM E-1886/ E-1996 Missile Level D - 9 lb 2x4			Pass
	Pressure Cycling ASTM E-1886/ E-1996 ± 50 psf			Pass
	Pressure Cycling ASTM E-1886/ E-1996 ± 100 psf		Pass	
	Air Leakage ASTM E-283 1.6 PSF (25mph)			Pass
	Structural Performance ASTM E-330		Pass	Pass
	Water Penetration ASTM E-547			Pass
	Weathering ASTM G-26"	Pass	Pass	
Bomb Blast	EN 13123-2, EN 13124-2 EXR1		Pass ⑤	
	ISO 16933 EXV19(E) (Low Hazard)			Pass ⑥
	ISO 16933 EXV25(C) (Minimal Hazard)		Pass ⑤	
	ISO 16933 EXV33(B) (No Hazard)		Pass ③ ⑤	
	ISO 16933 EXV45(B) (No Hazard)		Pass ③	
	ISO 16933 EXV45(E) (Low Hazard)		Pass ①	
	ISO 16933 SB3(B) (No Hazard)		Pass ⑤	
	ISO 16933 SB4(B) (No Hazard)			Pass ⑥
	ISO 16933 SB5(E) (Low Hazard)			Pass ⑥
	GSA (4psi, 28psi-msec) 2	Pass ⑤ 37psi, 30psi-msec	Pass ④ ⑤	
	GSA (4psi, 28psi-msec) 3A	Pass ⑤	Pass ② ③	Pass ⑤ 12.78 PSI, 78.79PSI-msec
	GSA (4psi, 28psi-msec) 3B	Pass ① ④	Pass ①	Pass ⑤ 9.0 PSI, 72.8PSI-msec

Key: ① Daylight ② 4 Side Gullwing® ③ Wet Glaze ④ 2 Side FrameGard® ⑤ 4 Side FrameGard® ⑥ 4 side FrameGard® Interior, 700 Wet Glaze Exterior



% Visible Light



% Total Solar Energy





Film	Trans.	Reflected External	Reflected Internal	Glare Reduction	Trans.	Reflected External	Absorbed	Shading Coefficient (SC)	Solar Heat Gain Coefficient (SHGC)	U Factor	UV Rejection	Emissivity	Light to Solar Gain	Total Solar Energy Rejected (TSER)	IR Rejection*	Infrared Energy Rejection (IRER)
SafetyShield® 700	88%	9%	9%	1%	75%	7%	18%	0.93	0.81	1.05	≥ 99%	0.91	1.09	20%	32%	23%
SafetyShield® 800	87%	9%	10%	2%	74%	8%	18%	0.92	0.80	1.05	≥ 99%	0.90	1.09	20%	34%	24%
SafetyShield® 1500	85%	10%	10%	4%	71%	8%	21%	0.89	0.78	1.04	≥ 99%	0.90	1.10	22%	41%	27%
SafetyShield® 800 RS 40	44%	28%	27%	51%	31%	24%	45%	0.51	0.44	0.95	≥ 99%	0.70	0.99	56%	83%	62%
SafetyShield® 800 RS 20	17%	56%	58%	81%	12%	45%	43%	0.27	0.23	0.88	≥ 99%	0.58	0.74	77%	95%	78%
SafetyShield® 800 DG 45	43%	14%	17%	51%	34%	14%	52%	0.57	0.49	0.95	≥ 99%	0.71	0.88	51%	76%	55%
SafetyShield® 800 DG 35	36%	15%	22%	60%	28%	15%	57%	0.51	0.45	0.96	≥ 99%	0.73	0.80	55%	82%	59%
SafetyShield® 800 Optivision® 15	14%	49%	20%	85%	14%	41%	46%	0.31	0.27	0.94	≥ 99%	0.69	0.52	73%	91%	69%
SafetyShield® 800 Optivision® 25	26%	29%	15%	71%	25%	26%	49%	0.45	0.39	0.96	≥ 99%	0.72	0.65	61%	82%	55%
SafetyShield® 800 Nova 70	65%	26%	27%	27%	43%	30%	27%	0.58	0.51	0.94	≥ 99%	0.68	1.28	49%	81%	56%

Read in accordance with National Fenestration Rating Council (NFRC) standards and calculated on single pane 6mm (1/4") clear glass.

*IR Rejection is tested in the IR range of 780 to 2500 nanometers.

Reported values are typical properties and should not be used as a specification. Since only the user is aware of the specific conditions in which the product is to be used, it is the user's responsibility to determine whether the product is suitable for that intended use. If the specific conditions of use are critically dependent on any of the properties of the product, or if you need further information, contact Madico, Inc. or your local Madico film dealer.



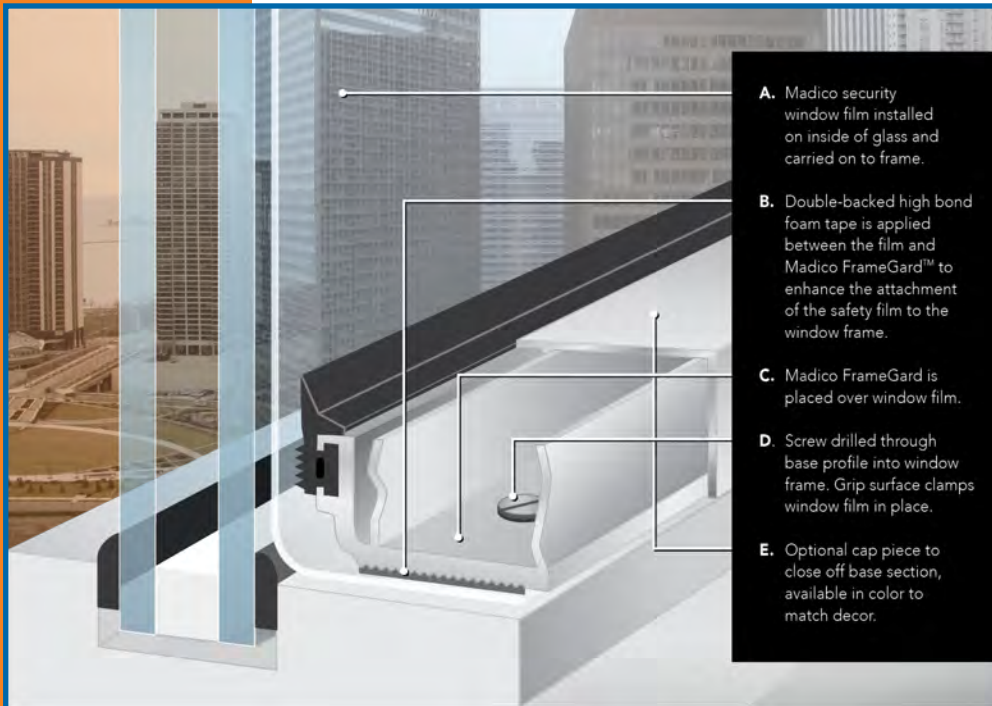
Physical Properties	Film Thickness	Structural Component	Structure	Adhesive Type	Longitudinal Tensile Strength	Traverse Tensile Strength	Break Strength	Longitudinal Elongation at Break	Traverse Elongation at Break	Yield Strength	Elongation at Yield	Peel Strength
SafetyShield® 700	0.008"	0.007"	Single Ply	 Acrylic Pressure Sensitive	 28,000 PSI Avg. MD/TD	 36,000 PSI Avg. MD/TD	210 lbs. Per Inch (Width)	150%	100%	14,000 PSI Avg. MD/TD	120%	 5 to 6 lbs. Per Inch Width
SafetyShield® 800	0.0095"	0.008"	Multi-Ply Laminate				240 lbs. Per Inch (Width)					
SafetyShield® 1500	0.017"	0.015"	Multi-Ply Laminate				450 lbs. Per Inch (Width)					
SafetyShield® 800 RS 40	0.010"	0.0085"	Multi-Ply Laminate				240 lbs. Per Inch (Width)					
SafetyShield® 800 RS 20	0.010"	0.0085"	Multi-Ply Laminate				240 lbs. Per Inch (Width)					
SafetyShield® 800 DG 45	0.010"	0.0085"	Multi-Ply Laminate				240 lbs. Per Inch (Width)					
SafetyShield® 800 DG 35	0.010"	0.0085"	Multi-Ply Laminate				240 lbs. Per Inch (Width)					
SafetyShield® 800 Optivision® 15	0.011"	0.0095"	Multi-Ply Laminate				240 lbs. Per Inch (Width)					
SafetyShield® 800 Optivision® 25	0.011"	0.0095"	Multi-Ply Laminate				240 lbs. Per Inch (Width)					
SafetyShield® 800 Nova 70	0.0105"	0.009"	Multi-Ply Laminate				240 lbs. Per Inch (Width)					

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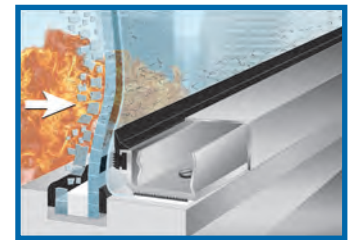
The FrameGard Anchoring System has been specifically engineered to keep treated glass within the frame when an incident has occurred. It is a mechanical attachment system that clamps the filmed glass to the window frame. This system improves and extends the principle of edge battening by incorporating a specific movement zone (patent applies) which allows the film to move under applied load without putting excessive force onto the fixings and frame. The benefit of FrameGard is that it allows engineers and installers to precisely determine torque settings for each individual installation, creating a truly custom solution.



- A. Madico security window film installed on inside of glass and carried on to frame.
- B. Double-backed high bond foam tape is applied between the film and Madico FrameGard™ to enhance the attachment of the safety film to the window frame.
- C. Madico FrameGard is placed over window film.
- D. Screw drilled through base profile into window frame. Grip surface clamps window film in place.
- E. Optional cap piece to close off base section, available in color to match decor.



Blast impact shatters external glass and drives it against the inner pane.



Madico FrameGard movement zone absorbs energy by allowing window film to stretch. Radiused edge prevents cutting of film. Gripped surface clamps film in place.

Certified Performance:

Blast Mitigation

Attachment System	GSA Performance Condition
4 Side FrameGard.	2
2 Side FrameGard.	2
Day Light (No Attachment).	3B

Note: 4 side FrameGard was subjected to GSA category C blast loads, 4psi -30psi/ms minimum on 1/4" annealed glass. By ABS/EQE International and Grendon Design Agency.

SafetyShield 800 with 4 side FrameGard received a GSA Category 2 when subjected to 9.19 PSI and 64.53 PSI/ms, and a Category 3B when subjected to 12.78 PSI and 78.79 PSI/ms blast loads. These loads far surpass the GSA criteria of 4 PSI and 28 PSI/ms.

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All information reported to the best of our knowledge. Independent test results available upon request.

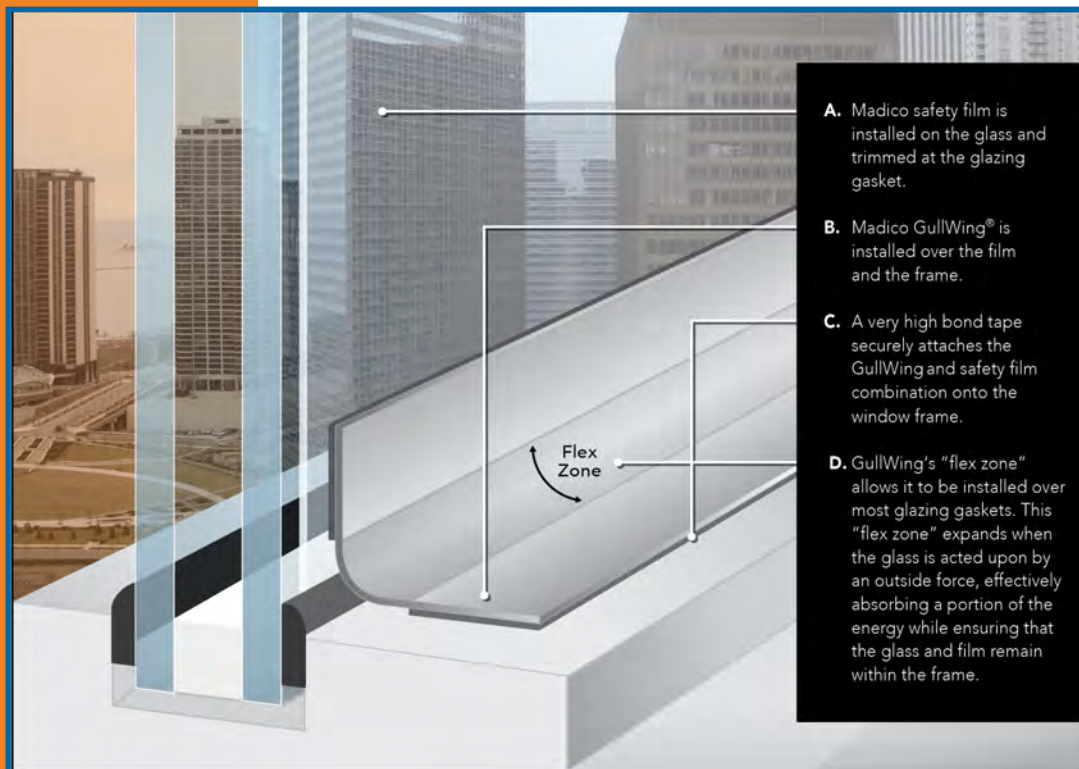
For decades, Madico Window Films has been at the forefront of glass and window safety. Our systems are the most strenuously tested and designed in the industry and meet or surpass more government and international safety requirements than the competition.

We offer several patented and proprietary anchoring systems that work in conjunction with the application of our SafetyShield window films. A variety of systems are offered to ensure we meet the required level of security specified and to best fit the glazing system. Our network of certified Premier Partners will work closely with you to determine your unique risk level and to select the system that best fits your needs. To learn more, visit www.safetyshield.com.

In the event of glass breakage, the GullWing Anchoring System, when combined with Madico SafetyShield window film, absorbs and disburse the energy that the filmed glass is subjected to and transfers the reduced load over the entire glazed opening. By absorbing and distributing the load, the system retains the filmed glass in the opening and thus reduces the probability of glass fragments and debris from entering the room.

GullWing utilizes a flexible membrane that is adhered to both the filmed glass as well as the window frame which prevents the filmed glass from leaving the opening at all.

The GullWing Anchoring System is offered in three different profile sizes in order to accommodate various window frame configurations. GullWing comes standard in black and can be ordered in other colors upon request (minimum order required).



Certified Performance:

SafetyShield 800 with 4-side GullWing Anchoring System achieves a GSA level 2 performance condition and a UK PSDB Break Safe rating when tested to open range blast loads of 5.73 PSI (39kPa) and 47.33 PSI/ms (322 kPa-ms)

GullWing System Profile Sizes:

Small:

Overall width: 1" (26 mm)
Wing width: 0.47" (12 mm)

Medium:

Overall width: 1½" (39 mm)
Wing width:
0.47" (12 mm) and 0.59" (15 mm)

Large:

Overall width: 2¼" (57 mm)
Wing width: 0.63" (16 mm)

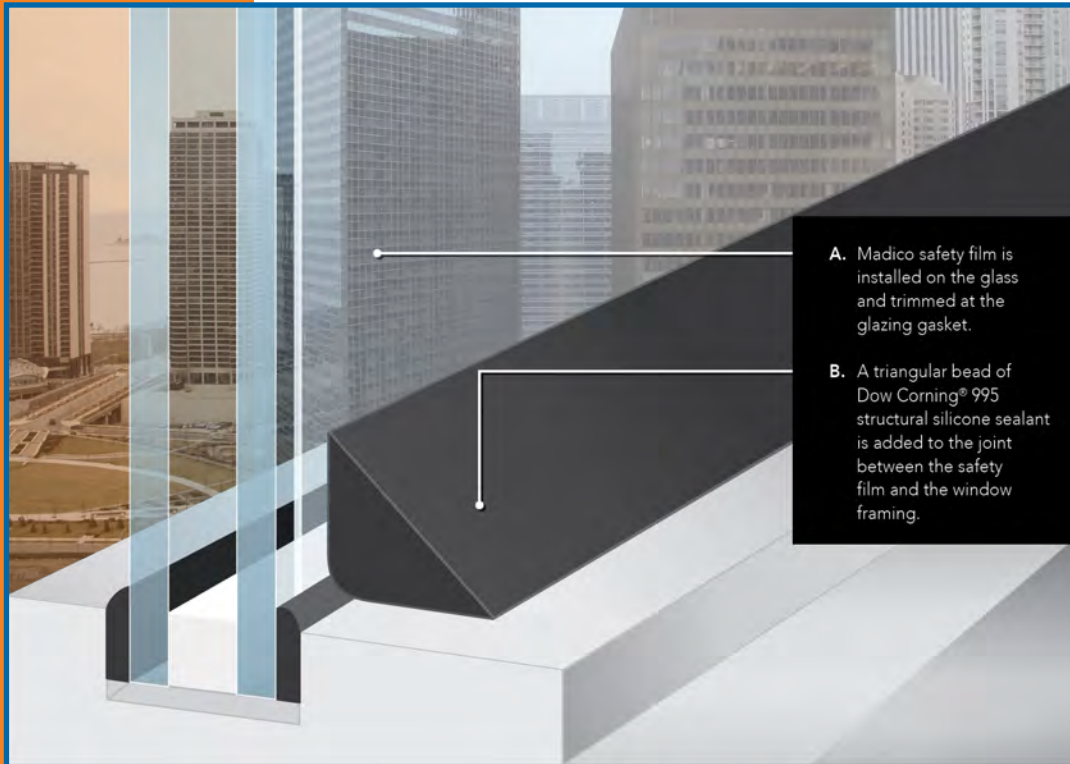
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In the event of glass breakage, the Wet Glaze Anchoring System, when combined with Madico SafetyShield window film, is designed to absorb and disburse the energy that the filmed glass is subjected to and transfer the reduced load over the entire glazed opening. By absorbing and distributing the load, the system is designed to retain the filmed glass in the opening and thus reduce the probability of glass fragments and debris from entering the room. The Wet Glaze System is economically viable in retrofit applications.



Certified Performance:

SafetyShield 800 with 4-sided Wet Glaze Anchoring System achieves a GSA level 3A performance condition when tested to open range blast loads of 9.0 PSI (62kPa) and 46.0 PSI-ms (317 kPa-ms) on monolithic, annealed glass. A GSA performance condition 2 is achieved when tested to open range blast loads of 7.74 PSI (53kPa), 42.1 PSI-ms (288kPa-ms) on annealed insulated glass units.

Many high performance applications designed to withstand an applied force are built around a sealant bite of $\frac{3}{8}$ inch for wind load applications and $\frac{1}{2}$ inch for blast mitigation. These specifications have proven to perform well in a wide variety of tests. It is critical to performance that the product is installed exactly as tested by Madico. A triangular sealant joint connecting the film to the supporting framing members is required to achieve the full effect of the Wet Glaze system. Concave joints and/or film that does not reach to the edge of the daylight opening will compromise the effectiveness of this attachment method. We recommend the use of Dow Corning® 995 Silicone Structural Adhesive as our testing is based on the use of this high-performing sealant.

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