

Safety glazing standards

- ANSI Z97.1 and CP SC 16 CFR 1201 Cat I and II
- General Services Administration (GSA-TS01-2003) and United Facilities Criteria (UFC 4-010-01)
- ASTM Large Missile Level C and Small Missile Level A (ASTM E 1886/1996)
- Factory Mutual FM Approvals 4350 Small Missile
- EN356, Level P2A
- EN ISO 1518
- EN 12600

Testing performance summary



Safety Films

CPSC 16 CFR 1201.4 Cat. I †
 CPSC 16 CFR 1201.4 Cat. II †
 ANSI Z97.1 †
 Air Infiltration ASTM E283 and TAS 202
 Water Infiltration Test ASTM E-331 and TAS 202
 Uniform Static Load Test ASTM E 1330 and TAS 202
 Cyclic Load Test TAS 203
 TAS-201 Small Missile
 ASTM E1886/1996 Large Missile Level "C"
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 FM Approvals 4350 Small Missile
 GSA Level 1 (4 psi, 28 psi-ft-msec)
 GSA Level 2 (4psi, 28 psi-ft-msec)
 GSA Level 3b (4 psi, 28 psi-ft-msec)
 GSA Level 3b (6 psi, 42 psi-ft-msec)
 GSA Level 3b (10 psi, 50 psi-ft-msec)
 GSA Level 3b (12.8 psi, 68 psi-ft-msec)

Film-to-Glass Specification	Safety			Windborne Debris							Blast Mitigation					
	CPSC I	CPSC II	ANSI	ASTM E283	ASTM E331	ASTM E1330	TAS 203	TAS-201	ASTM E1886	ASTM E1886	FM	GSA L1	GSA L2	GSA L3b	GSA L3b	GSA L3b
1/8" Annealed LLumar 4 mil	●	●	●													
3/16" Tempered LLumar 6 mil	N/A	N/A	N/A	1	1	1	1	1		1						
1/8" Annealed LLumar 7 mil	●	●	●													
1/4" Annealed LLumar 7 mil	●	●	●											●		
3/16" Tempered LLumar 8 mil	N/A	N/A	N/A	1	1	1	1	1		1						
1/4" Annealed LLumar 8 mil	●	●	●	1	1	1	1		1	1				1 2 3	1	2
1/4" Tempered LLumar 8 mil	N/A	N/A	N/A								1	1	3	1 2		
Dual Pane* (1/4" Annealed) LLumar 8 mil	●	●	●	1	1	1	1	1	1	1			1 3			
Dual Pane* (1/4" Tempered) LLumar 8 mil	N/A	N/A	N/A	1	1	1	1	1	1	1		1 3				
1/4" Tempered LLumar 11 mil	N/A	N/A	N/A	1	1	1	1	1		1						
1/4" Annealed LLumar 15 mil	○	○	○													
Dual Pane* (1/4" Annealed) LLumar 15 mil	○	○	○											1	1	1

- * On IGU: Only pane with film is protected.
- † CPSC and ANSI Testing on IGU: Only interior pane of unit is protected with film.
- N/A Not applicable; tempered glass alone passes safety glazing standards.
- Passed
- Expected to pass
- 1 With Wet Glaze Attachment System
- 2 With Gullwing or LLumar Elite Attachment System
- 3 With FrameLok Attachment System

NOTICE ABOUT STANDARDS MENTIONED ABOVE: The testing referenced on this document was conducted on complete window systems. A window system is comprised of components such as: Film, glass, attachment system, frame type (material and shape), anchoring etc. Results and claims are valid only when the safety film is installed as tested. A licensed professional engineer must sign off and approve the testing on systems that differ from tested samples. Other testing documentation relating other performance properties or testing standards (i.e., fire, VOC, tensile strength, puncture resistance, abrasion resistance, solar performance, etc.) available upon request. Testing results relating to EN standards are available upon request.

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