

SAFETY AND SECURITY FILMS FORCED-ENTRY TEST COMPARISONS



THE LEADING MANUFACTURER AND
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WINDOW FILM

Testing

- + In the U.S. the most recognized test method for forced entry is UL 972. UL declared this certification only applies to factory-manufactured products and cannot be claimed by testing of retrofit products such as safety and security films.
- + There is, however, a recognized standard in Europe for forced entry protection, EN-356 . Eastman's 13mil product has successfully passed EN-356 testing on 5/32" (4.2mm) annealed glass.
- + To help you evaluate EN-356 test reports, look for the following important points (these should be clearly stated on each report):
 - Glass type used: ¼" (6mm) or thinner, non-laminated, non-tempered, single-pane glass
 - Most Safety and Security films are interior applied products, test reports should indicate impact on the non-film, exterior (intruder) side.
 - Reports should show film installation only on the non-impact, interior side.
 - Glass has both a tin side and a non-tin side, due to the glass manufacturing process. As such, and since glass can be installed with either side facing the building interior, one series of tests must be done with Safety and Security film applied to the tin side and a separate series of tests with film applied to the non-tin side.
 - Three samples must be tested on the tin side and the non-tin side, for a total of six samples.
 - Each sample is impacted three times for a total of 18 impacts. All impacts must be successful to pass.
 - Be sure to note the drop height used during testing as there are several drop heights/classifications.
- + LLumar 13mil Safety and Security Film has successfully passed EN-356 with the following:
 - Glass type: monolithic (non-laminated), non-tempered, 4.2mm (5/32") glass

- Impact on the non-filmed, exterior (intruder) side
- Testing of samples on both tin and non-tin side, 18 successful impacts
- Level P2A, drop height of 3000mm (9.8 feet)

In reviewing forced entry test reports, again it is critical to pay close attention to all of the above details to properly compare different Safety and Security film products

Manufacturer	Film Thickness (mils)	Glass Type SP=Single Pane DP=Dual Pane A=Annealed T=Tempered	Glass Thickness (mm)	Impact Side	Drop Height, Class	Eastman Advantage
Eastman Performance Films, LLC	13	SP, A	4.2	Glass	3000 mm P2A	
Competitor A	14	DP, T	6, each pane	Glass	3000 mm P2A	Equal drop height and class, but tested on much stronger tempered glass and dual pane glass
Competitor B	6	SP, A	6	Film	1500 mm P1A	Impact on film side Lower drop height and class
Competitor B	6	SP, A	6	Film as both sides filmed	3000 mm P2A	Film on both sides Impact on film side
Competitor B	14	SP, A	6	Film	6000 mm P3A	Impact on film side
Competitor B	14	SP, A	6	Film as both sides filmed	9000 mm P4A	Film on both sides Impact on film side
Competitor B	8	SP, A	6	Glass	1500 mm P1A	Lower drop height and class
Competitor C	12	SP, A	4	Not Specified	3000 mm P2A	Impact side not specified

*All information from test reports provided by each manufacturer, April 2018 school project submittals.

NOTE: The International Window Film Association indicates: "In some cases, we have seen demonstrations or claims that the use of film imparted some bullet resistant value when, in fact, the glazing itself without film had almost those same bullet resistant qualities. Extreme caution should be taken, however, to make sure that any claims about [ballistic] performance due to the addition of a film layer clearly state the specifics of the glazing itself as supplied by the glazing manufacturer, the specifics of the film itself as supplied by the film manufacturer, and all relevant specifics of the ballistics used and the conditions of the test."

www.iwfa.com/professional/ProfessionalResources/BulletResistance.aspx

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