



300 Series™ Enhanced Security

Beautiful, strong, functional. Glass is an integral part of modern building design. But glass is also the weak-link of any building and vulnerable to attack in a turbulent world. To meet modern threats, ACE has developed the strongest and most tested window security laminates in the world.

300 Series™

Bomb Resistance



ACE 300 Series laminates provide the best resistance in the industry against burglaries and forced-entry attacks.

The use of Improvised Explosive Devices (IEDs) has become a primary weapon of terrorists in their efforts to generate fear, publicity and political instability.

Governments of most major developed nations are encouraging building owners and operators to consider their vulnerability and the measures needed to protect against these attacks. The use of anti-shatter films is considered a leading technology for the protection of glass and glazing systems.

ACE 300 Series laminates outperform significantly the recommended performance benchmarks established for these anti-shatter films and provide superior protection against terrorist bomb threats, from small, improvised explosive devices to large vehicle bombs.

ACE laminates provide significant advantages over other technologies such as blast curtains when it comes to cost, technical feasibility and ease of implementation. Moreover, ACE laminates can be installed on heritage and historical buildings without altering their aesthetics and structure.

Applied to ordinary building glass found in the entranceway or atrium of any commercial building in North America, ACE 300 Series security laminates can help any organization undertake a rapid and effective security retrofit.

Applications

- High-end bomb blast and explosive resistance under the GSA bomb blast standard
- High level of fragmentation retention
- Windows can be retrofitted in-situ enabling rapid response to an evolving threat
- Exceeds the UL-S332 forced entry resistance standard

Details

- Apply to new or existing glass
- High level of bomb blast protection provided on standard commercial grade ¼ inch glass
- Tested to ASTM E84 fire burn standard for protection against gasoline bombs (Molotov Cocktail)
- Thin, optically clear, discrete



300 Series™ Bullet Resistance

Around the world, threat levels are changing and evolving almost daily. This presents significant challenges to building operators and security professionals.

Making the task even more difficult is the fact that most of our buildings – schools, courthouses, police stations, civic spaces – were built decades ago when security threats were not as pronounced.

In response, ACE has produced its ballistic line of security laminates. ACE's ballistic laminates can be applied to almost any glass starting with standard ¼ inch (6mm) commercial grade glass or North American OEM vehicle glass. Protection levels can be customized up to and including UL 752 Level 8 (7.62 x 51 NATO, FMJ).

Glass treated with ACE's ballistic laminates are up to one half to one fifth the weight and thickness of conventional ballistic glass. The advantage in weight and thickness presents building and vehicle fleet operators with significant down-stream cost savings.

ACE 300 Series security laminates are recommended for financial institutions, embassies, government and military buildings, broadcasters, major corporations, store front businesses, houses, apartments, vehicles, schools, hospitals and other institutions.

Applications

- Tested to the UL-752 and NIJ 0108.01 ballistic standards
- Customized protection up to and including UL-752 Level 8 (7.62 x 51 NATO, FMJ)
- Protection of up to UL Level 2 on standard North American automotive side glass
- As little as 1/5th the thickness and weight of conventional ballistic glass
- High level of fragmentation retention in event of an attack by IEDs

Details

- Apply to new or existing glass
- Does not require new construction or enhancements to floor, wall and framing assemblies
- Quick project turn-around times compared to conventional ballistic glass systems
- Ballistic applications are restricted to government, law enforcement, military, corporate, fleet and executive protection clients only.
Call for details.

We welcome your call

ACE welcomes inquiries from clients around the world. Our engineers have advised on secure facilities ranging from police stations to Embassies. All calls will remain confidential.

If you are an architect, security consultant or a building operator and wish to discuss a project with us, we invite you to contact us early in your project so we can advise on feasibility and budget costs.

Though not mandatory, the following would be helpful in informing our call:

- Pictures, drawings or plans of the glazing you wish to protect
- Approximate square footage of the glazing to be protected
- A description of the window type and glass thickness (most North American buildings have double-pane windows comprised of ¼ inch glass)
- Expected threats you seek to resist

Putting ACE in your project specifications

ACE laminates work in conjunction with glass to form an overall glass-laminate assembly resistant to gunfire. The quality and thickness of the base glass is an important component in this assembly.

Contact our engineering team to discuss your unique requirements or visit us online at <https://usace.com/faqs> where we answer commonly asked questions.



See windows protected with ACE security laminates tested to a variety of threats at youtube.com/ACETVnews.

Specifications

Laminate	SF5 - clear	SF7 - clear	SL9 - clear	SL14 - clear	ASLX
Classification	100 Series	100 Series	200 Series	300 Series	300 Series
Color	Transparent	Transparent	Transparent	Transparent	Transparent
Number of laminate layers	1	1	2	3	Extruded
Laminate thickness with adhesive inches	0.005	0.005	0.009	0.014	Custom engineered to threat level
Laminate thickness with adhesive microns	127	178	229	356	Custom engineered to threat level
Tensile strength lbs/inch	28000	28000	28000	28000	Custom engineered to threat level
Breakstrength lbs/inch	110	190	221	350	Custom engineered to threat level
UV radiation rejection %	98	98	99	98	98

DISCLAIMER: Installed according to factory specifications, ACE™ security laminates have been shown to reduce injuries from glass breakage. No window security film or laminate should be considered break-proof, bullet-proof or bomb-proof. At no time does ACE promote or lead readers to believe break-proofing, burglar-proofing, bullet-proofing or bomb-proofing can be achieved solely with the use of ACE products.

Advanced Coatings Engineering LLC is authorized to use the Trademark ACE™ to designate security laminates manufactured under license by Advanced Coatings Enterprises Inc.

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