

Specifying the Correct Ballistic Protection for Windows and Doors

1 Determine the threat level

The two most common ballistic standards are put forth by UL and NIJ.

- NIJ 0108/0101 is focused on testing body armor and materials.
- UL 752 is written solely for barrier certification.

For this reason, most ballistic barrier providers focus on applying the UL standard, of which Levels 1 to 8 cover the ammunition types that would most likely be encountered.

UL 752	NIJ Equivalent*	Threat
Level 1	II	9mm handgun
Level 2	II	.357 mag. handgun
Level 3	III-A	.44 mag. handgun
Level 4		.30 rifle
Level 5		7.62mm rifle, single shot
Level 6	II	9mm higher velocity
Level 7		5.56mm rifle
Level 8	III	7.62mm rifle, multi shot

2 Choose the appropriate product type

A variety of options exist: fabric, glass, plastic, metal, or fiberglass. Looking at the application holistically can help determine the best choice.

1. Is rifle fire a concern?
2. Is the surrounding wall already structurally engineered for product weight and ballistic impact?
3. Could this be installed during the school year?
4. Is the window/door on the ground floor?
5. Does the window need to act as emergency egress?
6. Is finger-pinch safety for doors a concern?

	Fabric	Glass	Plastic	Metal	Fiberglass
Handguns	Yes	Yes	Yes	Yes	Yes
Rifle	No	Yes	No	Yes	Yes
Transparent	No	Yes	No	No	No
Wall reinforcement required	No	Yes	Yes	Yes	Yes
Engineering input required	No	Yes	Yes	Yes	Yes
Install quickly	Yes	No	No	No	No
Window egress	Yes	No	Possible	n/a	n/a
Finger-pinch safety	Maintained	Worse	Worse	Worse	Worse

3 Compliant vs. Certified vs. Listed

Ballistic materials will often show three different tiers of product verification, which have three different confidence levels. Ask the supplier how the product is verified.

- **Compliant:** self-tested, analyzed, or evaluated by the manufacturer to meet a standard.
- **Certified:** an independent test facility with proper authority to certify to a given standard is used to verify product performance.
- **Listed:** UL (a certified lab with renowned expertise) conducts the test.
 - Ongoing independent monitoring and auditing of production processes to ensure compliance with the original product certification.
 - The product will receive a specific UL logo and file number and must mark the product with it, such as the BBP UL mark, shown to the right.



4 Achieving full ballistic integrity

- Unless the product and the installation have BOTH been certified, it is extremely rare for an existing window frame or door jamb to support ballistic impact. Structural reinforcement of these elements is normally required for these installations.
- Materials such as polycarbonate or protective films can be laminated to glass; however, the glass itself may stop the threat from passing through, but the entire window may break free.

Simply stated, a window film, pane of bullet-resistant glass or certified ballistic door must be supported by a wall, frame, and jamb that are also engineered to withstand a ballistic event.