

Testing for Bullet Resistant Materials

Why Impact Security tests to Underwriter Laboratory 752 Standards

UL (Underwriters Laboratories) and NIJ (National Institute of Justice) are two independent organizations that conduct testing and certification for bullet-resistant materials. UL testing primarily focuses on testing bullet-resistant glass and other transparent materials, while NIJ testing focuses on testing soft and hard armor, such as body armor vests, plates, and helmets.

The main differences between UL and NIJ testing are the types of materials tested and the standards used to evaluate their effectiveness against bullets. UL testing is conducted using standards such as UL 752, which defines the level of protection provided by bullet-resistant materials against different types of firearms. NIJ testing is conducted using standards such as NIJ 0101.06, which defines the minimum performance requirements and test methods for soft and hard armor.

In terms of the testing process, both organizations use similar testing methods such as firing bullets at the material being tested and evaluating its ability to stop or slow down the bullets. However, the specific testing protocols and equipment used may differ between UL and NIJ. Overall, UL and NIJ testing serve as important standards for ensuring the effectiveness and reliability of bullet-resistant materials used in a range of industries, including law enforcement, military, and security.

Impact Security's primary objective is to provide the most effective protection for both life safety and forced entry prevention for glass window and door openings.



Underwriter Laboratories (UL 752) is the preferred method of testing products for ballistic protection and is considered the "Gold Standard" of bullet resistant materials for barriers and physical protection. It is the oldest and most regularly updated and refined standard and recognized across the glass and glazing industry as the preeminent standard to meet.

To claim that a specific product or component meets a specific UL rating, there are strict requirements the manufacturer must follow. Manufacturers are required to provide sample specimens and submit them to an impartial nationally recognized testing laboratory (NRTL). Once received, the independent NRTL performs each test meeting the published UL criteria and provides written reports on their findings.

Each independent NRTL lab is required to and must meet a set of standards set by the U.S. Occupational Safety and Health Administration (OSHA), who in turn maintains the authoritative list of approved testing labs. If the tested material passes UL Standards, it then carries a trusted UL-rating.





UL 752 Standard for Ballistic Resistance

Available with BULLET SHIELD	GUN	THREAT LEVEL	WEAPON TYPE	CALIBER & WEIGHT	AMMUNITION	NO. OF SHOTS	MIN/MAX FPS
		1	Handgun	9mm 124 grain	FMCJ LC	3	1175/1293
		2	Handgun	.357 Magnum 158 Grain	JLSP	3	1250/1375
		3	Handgun	.44 Magnum 240 Grain	LSW GC	3	1350/1485
		4	.30-06 Rifle	.30 Caliber 180 Grain	LCSP	1	2540/2794
		5	AR 10	.308 150 Grain	LC FMCJ Military Ball	1	2750/3025
		6	9mm Uzi	9mm 124 grain	JLSP	5	1400/1540
		7	AR-15	.223 55 Grain	JLSP	5	3080/3383

*Test range for all weapons is 4.6m

Note: BulletShield also meets HP White TP 0500.03, Level A-3 rounds of .38 Special

The UL 752 Standard

All of Impact Security's BulletShield offerings have been independently tested and have successfully passed UL 752 Levels 1-7. Current testing reports are available at www.DefenseLite.com. There are other testing methods available in the market, however meeting a minimum standard and having a certified rating are two very different topics.

Testing to NIJ's (National Institute of Justice) 0108.01 standard is just exactly as stated, "meeting the standard". This can be accomplished by self-testing, analyzing, or evaluating by the manufacturer. NIJ Certification is very different. To be NIJ certified the actual NIJ must test the material. If it passes, it is then added to their list of Certified Materials. This certification by the NIJ is only available on body armor materials used in military and law enforcement.

For individuals looking to understand the effectiveness of bullet-resistant or bulletproof glass and glazing, UL testing may be more relevant as it focuses specifically on the performance of transparent materials such as glass and polycarbonate. UL 752 is the standard that is commonly used to test and certify bullet-resistant glass and high performance plastic products.

The glass or polycarbonate is rated based on the number of rounds it can withstand and the type of ammunition used. The rating system starts from level 1 (minimum protection) to level 10 (maximum protection), with each level representing a higher level of protection.

In addition to UL 752, there are other standards and testing methods used to evaluate the effectiveness of bullet-resistant glass and polycarbonates, such as EN 1063, STANAG 4569, and ASTM F1233. These standards may be used by different industries or organizations depending on their specific needs.

It is important to note that while bullet-resistant glazing can provide protection against bullets, it may not be able to stop all types of ammunition or withstand repeated attacks. Therefore, individuals looking to use bullet-resistant glass should ensure that they select products that have been tested and certified to meet the relevant standards and that are appropriate for their specific needs. Once the correct product is selected for the desired performance levels, ensuring the proper installation is the next key to a successful project.

For reference:

[Home | National Institute of Justice \(ojp.gov\)](http://www.ojp.gov)

[Underwriters Laboratory UL752 Ballistic Standards | Close Focus Research - Ballistic Testing Services](#)



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