ABOUT THE PRODUCT

The **BUR-Series** bullet resistant doors and windows are designed to protect personnel and property from direct arm fire. It offers doors, frames, windows, pass through trays, and transfer boxes. BUR-Series bullet resistant doors and windows can be manufactured for multiple performance requirements including acoustical, blast resistance, thermal protection, radio frequency shielding or any combination thereof. Most doors resemble standard hollow metal door assemblies when installed.

Typical applications for this series are banks, police stations, military buildings, barracks, post offices, courtrooms, detention centers and jails.

In addition to pre-engineered door models, custom designed doors are available for any application. All doors can be supplied in swinging or sliding models. They are available as fully clad with stainless steel sheets (1.0 mm) to suit architectural requirements.

TESTING & SPECIFICATIONS OF COMPLIANCE - Bullet Resistant

BUR-Series flush doors are designed and manufactured to meet the international requirements. They are fabricated from high performance hard steel **UL Listed** materials certified by the mill to meet **UL 752 standards** for safety and **ANSI/UL 1980.**

- With each lot supplied, a **manufacturer certificate of compliance** with UL 752 will be issued combined with the Mill Test Certificate and the Ballistic Steel summary sheet covering the required bullet resistant class (level) required.
- **Fire Rating:** Fire labeling available in single and double swing models as listed and labeled by **Intertek-Warnock Hersey** according to UL 10C, UL 10B, UBC 7-2-1997, NFPA 252-1995, ASTM E152-81a, CAN4-1980, and BS 476 Part 20.

Immigration Detention Center - Hong Kong

MOJ Prison - Detention Windows - Thailand

BALLISTIC STANDARDS

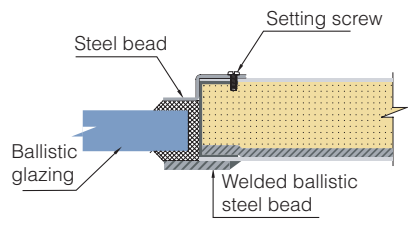
Most of the international ballistic testing standards were developed based upon the range of common calibers available through out the military and commercial sectors. Such standards define the **bullet types** and **projectile velocity ranges** which ballistic resistant products must defeat.

According to UL 752 standards for safety and NIJ (National Institute of Justice) regulations, bullet resistant classes covering bullet types are as such:

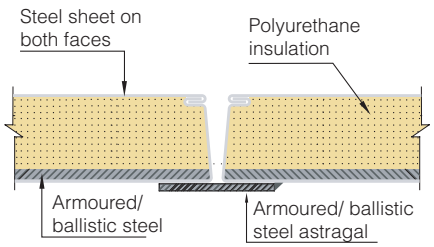
Class l	Standard to protect against medium power small arms (Super 38mm Automatic).
Class ll	Standard to protect against high power small arms (0.357 Magnum Revolver).
Class lll	Standard to protect against super power small arms (0.44 Magnum Revolver).
Class lV	Standard to protect against high power rifle attacks (30-06 Rifle) where anticipated threat levels are extremely high.

As for projected velocity ranges, UL 752 ballistic specification divides Arms Caliber into eight levels:

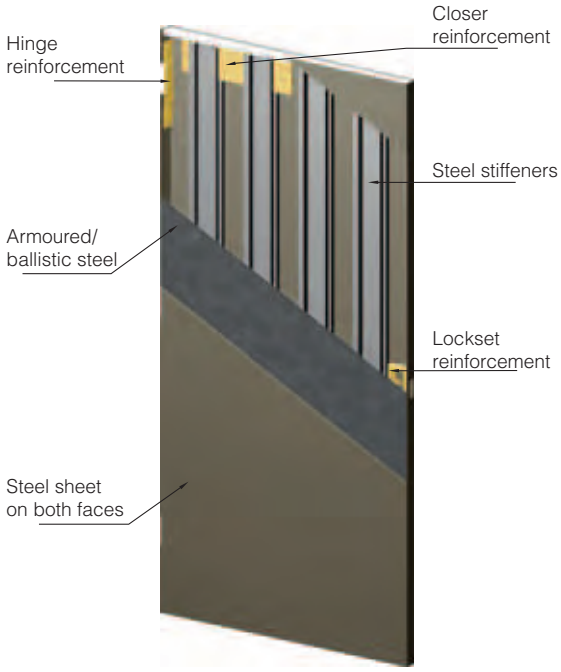
UL Level	UL752 Weapons Criteria	Velocity Range in ft/s
1	9 mm Parabellum (Luger) Pistol	1175 – 1293 ft/s
2	.357 Magnum Pistol	1250 – 1375 ft/s
3	.44 Magnum Pistol	1350 – 1485 ft/s
4	30.06 Springfield Rifle	2540 – 2794 ft/s
5	7.62x51 mm NATO (.308 Winchester)	2750 – 3025 ft/s
6	9 mm Parabellum (SMG loading)	1400 – 1540 ft/s
7	5.56x45 mm U.S. Army Rifle (.223 Rem)	3080 – 3388 ft/s
8	7.62x51 mm NATO (.308 Winchester)	2750 – 3025 ft/s



Vision panel detail



Double door detail



Door detail

BUR-Series (bullet resistant door)

DOOR FEATURES

CORE:

Available in two options:

Steel Stiffened Core (used mainly in case of vision panels cut outs):

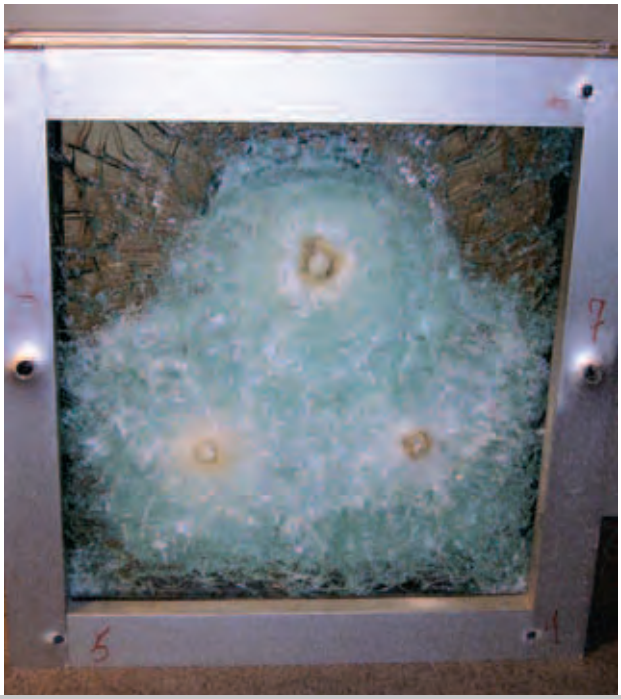
- Spaces between stiffeners are insulated with fiberglass to the full height of the door.
- Standard infill thickness 50 mm of nominal density 24 Kg/m^3.
- Thermal Conductance (50 mm): U = 0.123 Btu/hr.ft^2.ºF. (ASTM C177).
- Thermal Resistance: R-Factor = 8.11 hr.ft^2. ºF/Btu. (ASTM C518-63T).
- Combustibility: None / IMO Resolution-ASTM E 136-82, BS 476 Pt 4, ISO R1182.

Polyurethane Injected Core:

- Foam-in-place polyurethane thermal insulation core, of nominal density 47 Kg/m^3 (DIN 53420) to fill the whole leaf thickness.
- Thermal Conductance (at 43 mm): U = 0.078 Btu/hr.ft^2.ºF. (ASTM C177).
- Thermal Resistance: R-Factor = 12.80 hr.ft^2. ºF/Btu (ASTM C518-63T).
- Polyurethane is a thermo-setting material, which when subjected to heat, merely slowly chars without melting or producing flaming droplets (BRUFMA/ID/2/2001).

OPTIONS:

- Alkide or polyurethane RAL color paint finish (factory applied).
- Supplied with custom made hinges, drop bolt, and exit device.
- Available in stainless steel leaf & frame finish.
- Sliding assemblies are available manual or power operated.
- Can be manufactured for multiple performance requirements including acoustical, bullet resistance, thermal protection, radio frequency shielding or any combination thereof.
- **BUR-Series** doors are offered with standard frame designs and can engineer special frame profiles to complement wall construction and architectural style.



BULLET RESISTANT GLASS (BRG)

BRG is available for various requirements, door vision panels when specified and bullet resistant windows. Typical applications are VIP offices, banks, courthouses, currency exchange booths, embassies, military buildings and jewelry shops.

Bullet resistant glass is designed to withstand one or several rounds of bullets depending on the thickness of the glass and the weapon being fired at it. BRG is basically made by layering a polycarbonate material (a lightweight, high-performance plastic material that is tough, durable and heat-resistant) between pieces of ordinary glass in a process of **lamination.** The ability of bullet-resistant glass to stop a bullet is determined by the thickness of the glass.

There are several methods and tests to determine the rating of a ballistic-resistant product. One of those methods is the Underwriters Laboratory **(UL) 752** test method. The UL-rated levels 1, 2 and 3 can resist a bullet fired from .9 mm, .357 magnum and .44 magnum weapons. The higher UL levels from 4 to 8 are typically applied to government and military applications. See page 63 for a detailed list.

WSL B-BALLISTIC GLASS

To compliment the BUR-Series of bullet resistant doors, we can offer a complete range of bullet resistant glass, tested for all classes of weapons to the following international standards.

- CEN 1063 BR1 to BR7
- BS5051 G1 to R2ap
- STANAG 4569 Level 1 to 3
- DIN 52290 Levels 1 to 5
- UL752-1991
- UNE 108-131086 levels 1 to 5

WSL B-Glass is produced using the latest combination of glass and polycarbonate technology, in order to reduce the weight associated with all glass constructions.
In addition, we can also build the WSL B-Glass into sealed units to accommodate any type of solar control or low E Emission glass.
WSL B-Glass is produced in thickness from 17mm to 103mm dependent on the threat level required. It is available in the following two main categories, to suit the level of protection required.

- Low-Spall On impact, minimum amount of small glass fragmentations to the safe side.
- No-Spall On impact, total prevention of small glass fragmentations to the safe side.

Specifications and recommendations are available on an individual inquiry basis.

MOJ Prison - Thailand