

Security glazing can be broadly defined as products and systems designed to protect people and property. Security glazing in the case of criminal actions should be considered as just one component in the overall security system. Factors affecting which level of security glazing to choose include police response time, protection of people and goods and the availability of other forms of security such as alarms and electronic surveillance.

BASIC ATTACK RESISTANCE

These products are suited for commercial shopfronts, retail and residential applications providing extra resistance to penetration. The following range of products provide graduated levels of 'better' attack resistance as read down the list:

- > 7.52/9.52/11.52/13.52mm Laminated glass with an extra thick 1.52mm PVB interlayer;
- > 11.52/13.52mm Toughened PVB Laminated;
- > 10.28/12.28/14.28mm Toughened SGP Laminated.

SECURITY GLAZING SYSTEMS

These systems provide greater resistance than basic attack products. The systems have been developed to withstand physical attack with common hand tools, axes and sledges. These systems utilise a multilaminated glass which can include polycarbonate sheets. They are evaluated by how many minutes it takes to break through the glass. Typically these products can achieve 10,20 and 30 minute resistance ratings.

BULLET RESISTANT GLAZING SYSTEMS

These systems consist of a complete frame and glass bullet resistant unit. A multi-laminated glass which can include polycarbonate and polymer sheets with PVB interlayers is laminated together to various thicknesses according to the level of protection required as per the seven classification levels in AS2343 Bullet resistant panels and elements (refer Table 1A). In common applications thicknesses vary from 19–65mm.

BOMB AND BLAST RESISTANT GLASS

Bomb blast generates energy in all directions, not just at the intended target. In many cases, people and buildings that are not targeted suffer injury and damage respectively. In fact with a small device, even buildings several hundred metres away from the targeted building suffer glass breakage.

To resist the blast effect of a bomb, the complete window assembly must withstand two specific assaults. First the blast wave, which expands in all directions from the bomb as it detonates and secondly the fragments from the bomb case or container, which may include nails, bolts, screws and other pieces of metal.

TABLE 1A: BULLET RESISTANCE (AS2343 1997)

Classification	Calibre	Ammunition	Measured velocity within 2.5 metres of target (metres per second)	Minimum range (metres)	Number of strikes
G0	9mm Parrabellum	Mk22 7.4 gram bullet	405 +/- 15	3	3
G1	357 Magnum	10.2 gram semi jacket soft point	450 +/- 15	3	3
G2	0.44 Magnum	15.6 gram semi jacket soft point	480 +/- 15	3	3
R1	5.56mm	M193 5.56mm 3.6 gram FMJ	980 +/- 15	10	3
R2	7.62mm	NATO 9.3 gram FMJ	850 +/- 15	10	3
S0	12 Gauge (Full choke)	70mm case 32 gram SG shot	400 +/- 20	3	2
S1	12 Gauge (Full choke)	70mm case 28.5 gram solid slug	450 +/- 20	0	2

Note 1 – Shot centres 100mm apart, forming a square or equilateral triangle, centred on the target panel.

Note 2 – Special class shall be specified by the manufacturer and allows for oblique shots or elements that are not 420mm square etc.

G = resistant to hand gun attack. | **R** = resistant to rifle attack. | **S** = resistant to shotgun attack.