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Glass Sealing

What's the best type of glass for jewellers' windows? It all depends, says Neil McFarlane, MD of TH March.

It depends on the shop front design and lay-out, number of windows, possible planning restrictions and type and value of goods displayed.

This general advice is a guideline, primarily aimed at reducing 'smash and grab' risk, both during and outside of business hours. However, you should talk to your insurance broker or insurer for more specific advice relating to your circumstances.

Smash and Grab

Out of hours, depending on planning restrictions, windows can be protected by shutters and grilles, but during opening hours all that's protecting target stock is a pane of glass. Strength of security glazing is mainly provided by the type and thickness of the inter layer.

The traditional security anti-bandit glass, to the old standard BS5544, is made up of a 1.5mm layer of a plastic substance called polyvinyl butyrate (PvB) between two panes of glass. This glass should be 'toughened'. For many years this, in various forms, was the best that could be provided. It comes in various thicknesses – 7.5mm, 9.5mm and 11.5mm as standard – plus various multiple laminates building ever-thicker glass with the lowest bullet-resistant standard at 36mm. However, bullet-resistant standards in this material are far too heavy for most display windows and frames.

Note: 7.5mm security glass is far stronger than 10.8mm or 8.8mm, the common laminated safety glass thicknesses, having a standard of BS6206 and having only half the thickness of plastic inter layer. They're designed to stop injury by shards of glass, not to prevent attack.

We've often seen laminated safety glass installed after a window attack, not because it's the most suitable or correct replacement, but because it's the only type of glass the glazing company had in stock. Naturally, there's quite a price difference between laminated safety glass and laminated security glass.

If you're unfortunate enough to suffer a window attack, ensure the replacement glass is suitable for your premises, before authorising the replacement. **Failure to follow this could have serious consequences on your insurance cover**, if an inferior glass is installed. If the damage occurs outside of hours and you're unable to check with your broker or insurer, have the damaged section boarded up, until you're able to check.

The table below shows the different types of glass available, their resistance to physical attack and the relevant standard.

Safety glass should **not** be installed within jewellers' display windows.

An improvement in security can be obtained with polycarbonate glass laminate (PolyC).

Historically, the minimum quality of glass which should be installed within display windows is to European Standard EN356:P4A with a minimum thickness of 11.5mm – the standard 'anti-bandit glass'. However, attack techniques and tools have moved on and it's highly recommended that glass to the P6B standard is now installed. Using polycarbonate glass will provide substantially improved protection for the thickness of glass used.

Remember, polycarbonate glass is only as good as its framing. It needs proper installation in the correct type of high-quality frames to be at its most effective.

Shutters and Grilles

Used for protection of doors and windows externally. Externally, they can prevent a physical attack on the window, but must be securely locked into place. Internally, they're less vulnerable to physical attack. In both situations, it's important to ensure the correct alarm protection is used, depending on the type of the outer glass.

For internal use, sliding 'Bostwick' gates often provide stronger protection than drop grilles or shutters.

Look for shutters and grilles which have been passed and certified to LPS1175 grade 2 and above, especially where shutters can be worked upon in rear yards or other areas unobserved by passers-by.

In addition to display windows, other windows on the ground floor and windows on higher floors which overlook a flat or shallow pitched roof, fire escape or similar, are also likely to require further protection of shutters, grilles or bars.

Old British Standard	European Standard EN 356	Thickness mm	Interlayer	Interlayer Thickness mm	No. of blows with a fire axe resisted*
"Safety Glass" BS5606		6.4 8.8 10.8	PvB PvB PvB	0.76 0.76 0.76	0 0 ?
"Security Glass" BS5544	P4A	7.5 9.5 11.5	PvB PvB PvB	1.50 1.50 1.50	1 2? 3?
	P6B	18/23 14	PvB PolyC		30-50
	P7B	28 16	PvB PolyC		51-70
	P8B	36 18	PvB PolyC		Over 70

*Before a hand-sized hole is created.