

security & ballistic glass

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ESG security & ballistic glass

esg secure™

Security is now a key consideration in the building environment, both in new build and established properties. ESG have developed a range of security glass composite panels that meet the increased threats of both domestic terrorism, and the sophistication, persistence and armoury of the serious 'professional' criminal in attacks against property. ESG's secure and ballistic products offer high levels of protection. Using lightweight materials, the range has been developed following extensive research by the in-house team and certified by Europe's leading testing facilities.

ESG's range includes the acclaimed ESG Secure™ EN356 security glass, including the higher level security glass P8B designed to withstand vandalism and opportunist crime and ESG Secure™ LPS 1270 security glass, designed to provide protection against intruder attack and ballistic-resistant ESG Ballistic EN1063.

The Secure range comprises of security glass products which offer resistance against aggressive and sustained attempts to enter a property by force. By testing to the latest standard, ESG provides a glass range which, when used in LPS 1175 compliant products, will provide a total intruder resistant solution. This applies even if the door or frame manufacturer had originally tested their product with a different glass supplier – without the need for a new whole system test.

These products come with additional peace of mind, as they are made to BS quality standards in ESG's own manufacturing facility; before being tested and certified by the Loss Prevention Certification Board and British Standards Institution.

esg secure™ en356



Approved to the latest BS EN356 standards for resistance against manual attack, ESG Secure™ EN356 is a highly secure glass, created to provide high protection against deliberate and opportunist attack.

Designed to protect both people and property against harm from vandals, ESG Secure™ EN356 will also resist intrusion by professional burglars and thieves. By combining laminated panels, bonded together with one or more specialist interlayers, ESG can create the exact specification of glass required, in accordance with the level of security required, for most domestic and commercial applications.

Applications

Security screens and counters • vision panels
security doors • display counters • art galleries
domestic premises • jewellers

esg secure™ lps1270



LPS 1270 was developed to increase the then current level of security offered by glass tested to European Standard BSEN 356:2000. This enables glazing systems to offer the independently proven higher levels of security which are also compatible with LPS 1175, LPCB's leading standard used for medium and high level physical security products and systems.

Applications

Banks • jewellers • secure units • detention centres
government buildings • high risk environment partitioning
betting shops • domestic premises • viewing panels

Benefits: Indistinguishable from monolithic glass of the same thickness

Breaks safely, with fragments remaining bonded to the interlayer, reducing risk of injury to those nearby

Excellent resistance to penetration by accidental or forced means

Improved noise reduction

Provides increased protection from damaging UV light

invaluable protection thinner and lighter with maximum safety

esg ballistic™

bullet resistant solutions

With a rise in domestic terrorism and gun related crime in the UK, the demand for specifically developed ballistic-resistant glazing products has increased. ESG Ballistic bullet resistant glass provides high level resistance against the firing of specified weapons and ammunition. Created from layers of laminated glass and specialist interlayers, ESG Ballistic is manufactured under ESG's meticulous quality-controlled methods.

This bullet resistant glazing is specially designed to absorb both the impact and the energy of a projectile, and to contain the projectile within the glass panel. This affords invaluable protection to those on the other side of the glass, preventing life-threatening injuries. ESG's combined expertise and experience has enabled us to reduce construction thicknesses, making the ESG Ballistic range thinner and lighter than many standard products on offer in the marketplace, with superior light transmission as an added bonus.

applications

ESG Ballistic glass has a vast array of potential applications, including military installations, government buildings and other secure institutions. They include personnel protection screens in banks, building societies, airports, post offices, betting shops, petrol filling stations and cash desks.

additional features



Additional features, such as sound attenuation or decorative effects, can be incorporated.

ESG can also add an ESG Switchable™ LCD interlayer, which allows the panel to change from opaque white to optically clear, at the touch of a button. Although this is commonly regarded as an aesthetic property, it also offers increased security by masking vulnerable potential target areas, such as bank counters or high value retail outlets, from potential thieves.

ESG can create bespoke panels to answer the need of almost any application. Please speak to an ESG customer service adviser, who will introduce you to our technical design team, to discuss your requirements.

ESG were the first manufacturer to achieve approval for their ESG Secure™ Laminated Security Glazing to the LPCB Loss Prevention Standard LPS 1270: Issue 1.

no spall / spall allowed



ESG Ballistic glass is available in both no spall and spall allowed versions. No spall is the option in which all fragments, both from the projectile and the glazing construction are fully contained. This is achieved with the use of a hard coated polycarbonate layer to the non-attack face of the construction.

The spall allowed version ensures that all the projectile fragments are fully contained within the glass construct but allows some glass fragments from the non-attack face to fall. No Spall is widely regarded as the safer option as it contains all fragments.

ESG's entire Ballistic Bullet Resistant Glass range is independently tested and certified by Europe's leading accredited testing facilities, making ESG a leading provider in the field of security glazing products.

for more ideas on applications please visit www.esg.glass

secure™ specification overview

esg secure™ en356

Product	Thickness (mm)	Weight (kg/m²)	EN356 Security Rating	LPS 1270 Security Rating	EN 1063 Ballistic Rating	Multi Directional	Max Size (mm)	Max Size (m²)
P1A	6.8	16	P1A	N/A	N/A	Yes	3210 x 2250	8.1m²
P2A	6.8	16	P2A	N/A	N/A	Yes	3210 x 2250	8.1m²
P3A	9.2	21	P3A	N/A	N/A	Yes	1200 x 3000	3.6m²
P4A	9.5	21	P4A	N/A	N/A	Yes	1200 x 3000	3.6m²
P5A	10.3	21	P5A	N/A	N/A	Yes	1200 x 3000	3.6m²
P7BF *	10.3	22	P7B	N/A	N/A	Yes	1250 x 2050	2.56m²
P7BF *	11.3	23	P7B	001-	N/A	Yes	1200 x 3000	3.6m²
P7BT *	11.5	23	P7B	N/A	N/A	Yes	1250 x 2050	2.56m²
P7BT *	16.5	33	P7B	001-	N/A	Yes	1500 x 3000	4.5m²
P8BF	16.3	34	P8B	001-	N/A	Yes	1500 x 3000	4.5m²
P8BT	17.5	35	P8B	001-	N/A	Yes	1500 x 3000	4.5m²
P8BT	18.5	36	P8B	001-	BR1	Yes	1500 x 3500	4.5m²
P8BT	22.5	37	P8B	001-	BR1	Yes	2030 x 4500	9.14m²

* Covers P6B

esg secure™ lps1270

Product	Thickness (mm)	Weight (kg/m²)	EN356 Security Rating	LPS 1270 Security Rating	EN 1063 Ballistic Rating	Multi Directional	Max Size (mm)	Max Size (m²)
001/16T	16.5	37	P7B	001	BR1	Yes	1500 x 3000	4.5m²
012/20T	20.5	38	>P8B	012	BR2	Yes	1500 x 3000	4.5m²
013/22T	22.5	41	>P8B	013	BR2	Yes	1500 x 3000	4.5m²
113/26T	26	46	>P8B	113	BR2	Yes	1500 x 3000	4.5m²
224/42T	42	72	>P8B	224	BR4	Yes	1500 x 3000	4.5m²
234/45T	45	71	>P8B	234	N/A	Yes	1500 x 3000	4.5m²
235/60T	60	100	>P8B	235	BR5	No	1500 x 3000	4.5m²



product description

The ESG Secure™ range comprises multilayer panels, incorporating glass, polycarbonate, and other specialist interlayers. Some products in the range combine high mechanical stability with tempered safety characteristics. The products are designed to have full edge cover when installed.

installation

Panels within the ESG Secure™ range must be ordered to the exact size required, as they cannot be altered after manufacture. All products are suitable for both internal and external applications.

Class Threat Level	Type of Weapon	Calibre	Ammunition	Image	No Spall *	Spall * Allowed
BR1	Rifle	0.22 LR	L/RN		19 / 38	23 / 54
BR2	Hand Gun	9mm Luger	FJ / RN / SC		19 / 38	23 / 54
BR3	Hand Gun	0.357 Magnum	FJ / CB / SC		19 / 38	27 / 64
BR4	Hand Gun	0.44 Rem Magnum	FJ / FN / SC		23 / 47 26 / 55	32 / 75
BR5	Rifle	5.56 x 45	FJ / PB / SCP1		34 / 72 38 / 73	36 / 85

Class Threat Level	Type of Weapon	Calibre	Ammunition	Image	No Spall *	Spall * Allowed
BR6	Rifle	7.62 x 51	FJ / PB / SC		42 / 92	52 / 122
BR7	Rifle	7.62 x 51	FJ / PB / HC1		68 / 157	77 / 183
SG1	Shot Gun	12 / 70	Solid Slug 3		25 / 52	35 / 78
SG2	Shot Gun	12 / 70	Solid Slug 3		34 / 72	47 / 112
* mm / Kg/m²		1) Full Steel Jacket (painted)		2) Full Copper Alloy Jacket 3) Brenneke		

Ammunition legend
L Lead

CB Coned Bullet
FJ Full Metal Jacket Bullet

FN Flat Nose
HC1 Steel Hard Core

PB Pointed Bullet
RN Round Nose

SC Soft Core (lead)
SCP1 Soft Core (lead) and steel penetrator (type SS109)

quality standards

ESG Ballistic has been tested by a UKAS Accredited Test Laboratory to the British and European Standard BS EN 1063:2000 – Security Glazing – Testing and classification of resistance against bullet attack. Testing has been conducted to this standard as the most stringent, ensuring the highest possible level of protection for the end user.

glazing & product care

Due to the nature of the materials used, extreme caution must be exercised when using sealants; and in the handling, storing, maintenance and cleaning of glass panels, especially those containing polycarbonate layers. Please refer to our website for full glazing and product care technical information. www.esg.glass



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