



Our Story



Da Di Glass: Breaking Barriers, Shaping Security

In the ever-evolving landscape of security and innovation, DSG has emerged as a trailblazer, redefining safety and protection across the Asia Pacific region. With an unwavering commitment to excellence and a passion for pioneering breakthroughs, the company has etched its name as a reliable manufacturer in ballistic resistant transparent armor solutions.

Our Journey Begins

Born from a visionary aspiration to engineer a safer world by fusing advanced technology and uncompromising craftsmanship, DSG has developed cutting-edge glass solutions that surpass industry standards. From our humble beginnings since 1994, we have emerged as a trusted name, delivering unmatched excellence in the field of transparent armour solutions and architectural safety glass.

Vertically Integrated Production

1

2

3

4

5

CUTTING

TEMPERING

LAMINATION

AUTOCLAVE

**FINISHED
PRODUCT**

FORMING

- Cutting
- CNC for precise and odd shapes
- Waterjet

HEAT TREATMENT

- Strengthening of glass through heat strengthened or fully tempering process

BONDING

- Laying up of different materials and partially curing of interlayers to bond the materials in place

CURING

- Using a heat and high pressure while utilizing vacuum to fully cure a laminated product

COMPLETION

- Quality checking for defects
- Packing and Crating



Our Solutions

ANTI-BANDIT GLASS

Tested to EN356 from
P4A to P8B

BLAST RESISTANT GLASS

Tested to EN13541 standards
from ER1 to ER4

BULLET RESISTANT WINDOWS & DOORS

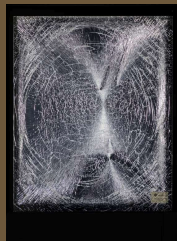
Tested to EN1522 FB4.
FB5, FB6 is in progress

ARCHITECTURAL SAFETY GLASS

Tempered and laminated
glass tested to EN12600
and SS341

FORCED ENTRY WINDOWS & DOORS

Tested EN1627 RC3



DSG BallisticShield™



Uncompromising Strength: Our ballistic resistant glass are constructed using advanced materials that offer exceptional resistance to ballistic threats. With multiple layers of specially formulated glass and composite materials, they provide robust defense against high caliber projectiles.

Lightweight and Thin: Specialized type of ballistic resistant glass that offers protection against bullets and projectiles while minimizing the overall weight and thickness of the glass.

Clarity and Transparency: Our glass are designed to maintain optimal clarity without compromising on security. Experience the perfect balance between transparency and protection, enabling you to monitor surroundings without hindrance.

Ballistics Standards



DSG produces transparent armour in-house in our facility based in Singapore that meets the specifications for CEN EN 1063, STANAG 4569 (AEP-55), NIJ 0108.01 and UL752.











R&D: Continuous research and testing new materials to create thinner and lighter solutions and yet provides robust and exceptional performance against high caliber rounds.

Custom Ballistic Requirements: Designing transparent armour according to vehicle performance requirements, be it weight, performance and integrity in high and low temperature environments and against multi-hit threats

Tested and certified to international standards



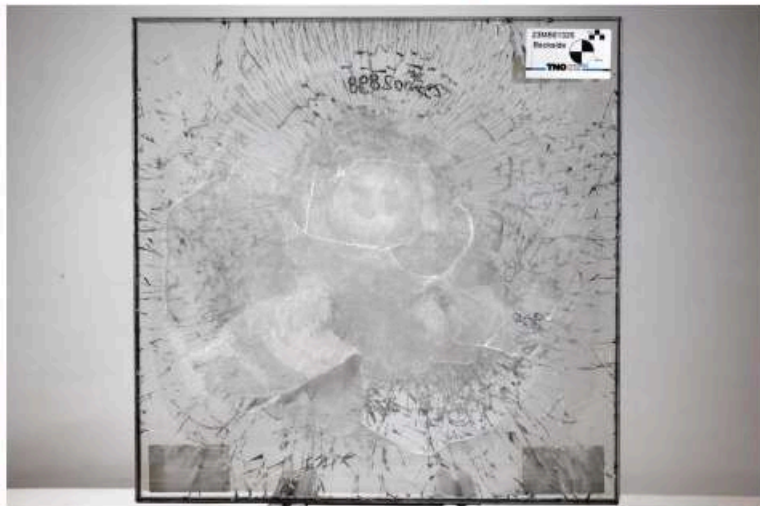
Ballistics Standards

Standard	Classification	No. of Shots	Protection	Projectile	Area Density	Thickness	Spalling Protection
UL752	Level 3	3		44 Magnum lead semi-wadcutter gas checked	53.3 kg/m ²	26mm	Yes
UL752	Level 7	5		5.56 mm rifle full metal copper jacket with lead core	68.9 kg/m ²	35mm	Yes
UL752	Level 8	5		7.62 mm rifle lead core full metal copper jacket, military ball	124.4 kg/m ²	59mm	Yes
NIJ 0108.01	Type III	5		7.62 mm 308 Winchester FMJ	97.8 kg/m ²	46mm	Yes
NIJ 0108.01	Type IV	1		30-06 Armor Piercing	160 kg/m ²	75mm	Yes
EN1063	BR4	3		.44 Rem.Mag., FJ(2)/FN/SC	37 kg/m ²	24mm	Yes
EN1063	BR5	3		5.56 x 45, type FJ/PN/SCP1	74.6 kg/m ²	38mm	Yes
EN1063	BR6	3		7.62 x 51, type FJ/PB/SC	85 kg/m ²	43mm	Yes
STANAG 4569	Level 1	3		7.62 x 51 NATO Ball (Ball M80)5.56 x 45 NATO SS109 5.56 x 45 M193	81 kg/m ²	42mm	Yes
STANAG 4569	Level 2	3		7.62mm x39 API BZ	120 kg/m ²	59mm	Yes

DSG BallisticShield™



Strike Face, sample 23SA01605 after test 23MB01320



Back Face, sample 23SA01605 after test 23MB01320

NATO STANAG 4569 / AEP55

Level 1 - 7.62mm x 51 NATO Ball, 5.56mm x 45 NATO SS109, 5.56mm x 45 M193

- STANAG 4569 Level 1 establishes the lowest level of ballistic protection defined by the standard. It provides protection against low-level threats that military vehicles and personnel carriers might encounter in modern combat scenarios.
- Glass comes with anti-spalling protection that protects its occupants from glass shards and shrapnel in the event of an attack.

Technical data:

- Thickness: 42mm
- Areal Density: 81kg/m²
- 3 shot pattern

DaDiGlass BallisticShield™



Strike Face, sample 23SA01634 after test 23MB01323



Back Face, sample 23SA01634 after test 23MB01323

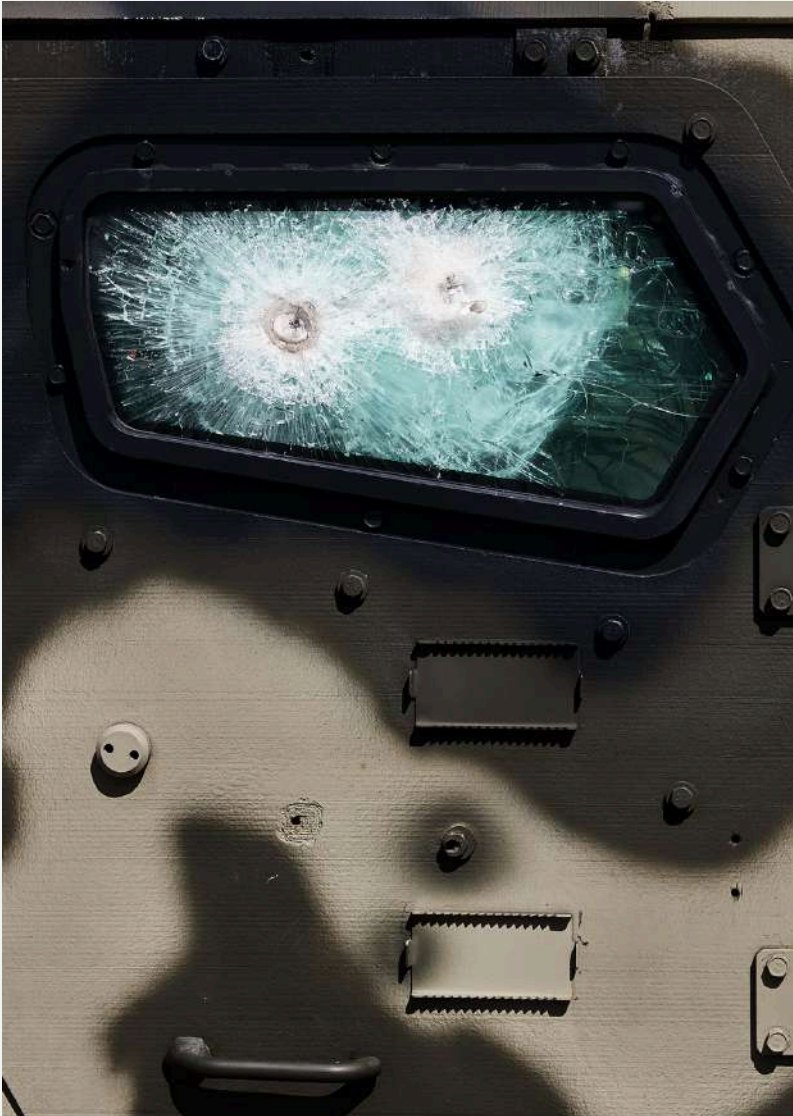
NATO STANAG 4569 / AEP55 Level 2 - 7.62mm x39 API BZ

- Level 2 provides protection up to caliber 7.62 x 39mm with armor-piercing incendiary composition API ("Armor Piercing Incendiary").
- Glass comes with anti-spalling protection that protects its occupants from glass shards and shrapnel in the event of an attack.

Technical data:

- Thickness: 59mm
- Areal Density: 120kg/m²
- 3 shot pattern

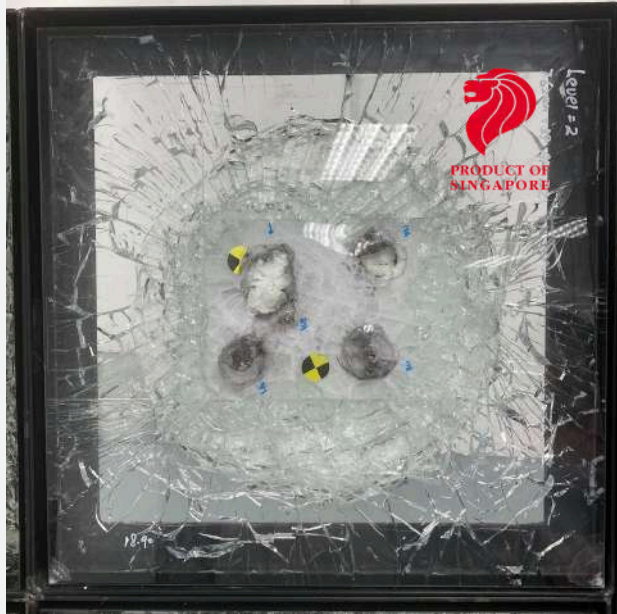
DSG BallisticShield™ New Lightweight Model



Unmatched Strength-to-Weight Ratio: By harnessing the power of cutting-edge composite materials, we have created glass that is significantly lighter than traditional alternatives. This breakthrough allows for seamless integration into various applications where weight reduction is critical, such as armored vehicles, aircraft, or portable security installations.

Enhanced Ballistic Performance: Our advanced composite materials deliver exceptional impact resistance, far surpassing the capabilities of conventional options. Through meticulous engineering, we have developed glass that can withstand the force of high-velocity projectiles, ensuring the highest level of security for personnel and assets.

DSG BallisticShield™ Lightweight



NATO STANAG 4569 / AEP55

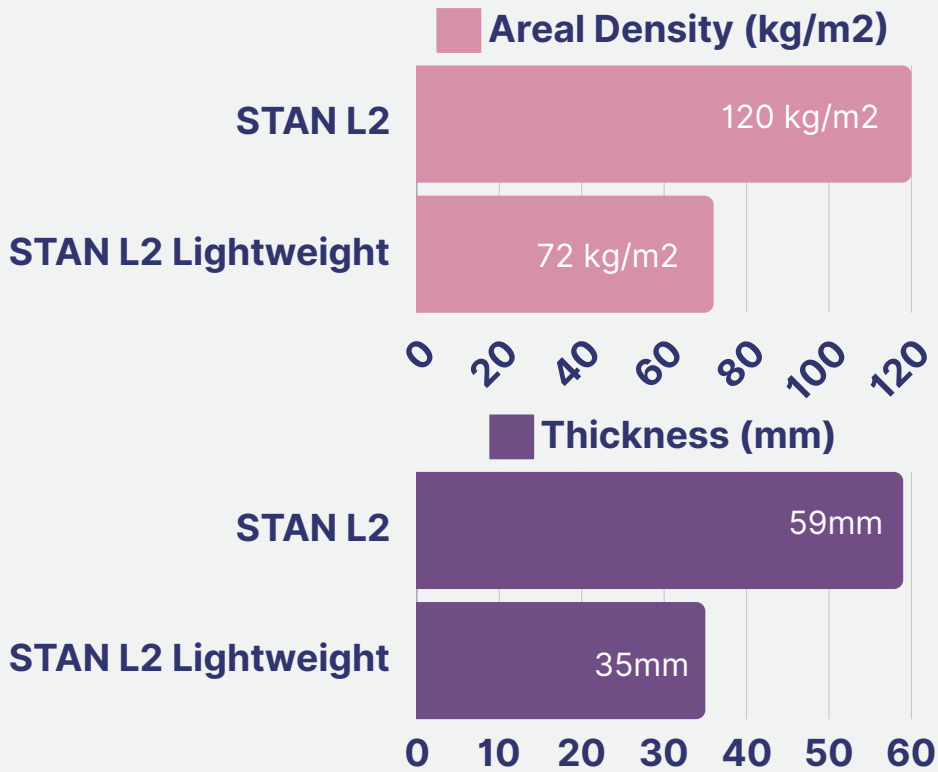
Level 2 - 7.62mm x39 API BZ

- Level 2 provides protection up to caliber 7.62 x 39mm with armor-piercing incendiary composition API ("Armor Piercing Incendiary").
- Glass comes with anti-spalling protection that protects its occupants from glass shards and shrapnel in the event of an attack.

Technical data:

- Thickness: 35mm
- Areal Density: 72kg/m²
- 3 shot Pattern

DSG BallisticShield™ Lightweight Comparison



NATO STANAG 4569 / AEP55
Level 2 - 7.62mm x39 API BZ

Achieving a new generation of thinness and lightness

- **40%** Weight Reduction
- **40%** Thickness Reduction

DSG BallisticShield™ Lightweight



NATO STANAG 4569 / AEP55 Level 3A - 7.62mm x54R B32 API

- Level 3A provides protection up to caliber 7.62 x 54R with armor-piercing incendiary composition API ("Armor Piercing Incendiary").
- Glass comes with anti-spalling protection that protects its occupants from glass shards and shrapnel in the event of an attack.

Technical data:

- Thickness: 43mm
- Areal Density: 90kg/m²
- 3 shot pattern

DSG™ Edge Guard



Permanently bonded to the edges of our transparent armour solutions

Protects against delamination: Mitigates moisture and chemicals from penetrating the edge of the laminate.

Longer Lasting Products: Improved resistance to chemicals and solvent that can penetrate and damage the laminates

Barrier against knocks: Protects the edge from chips during handling and installation

DSG™ BallisticShield Windows & Doors



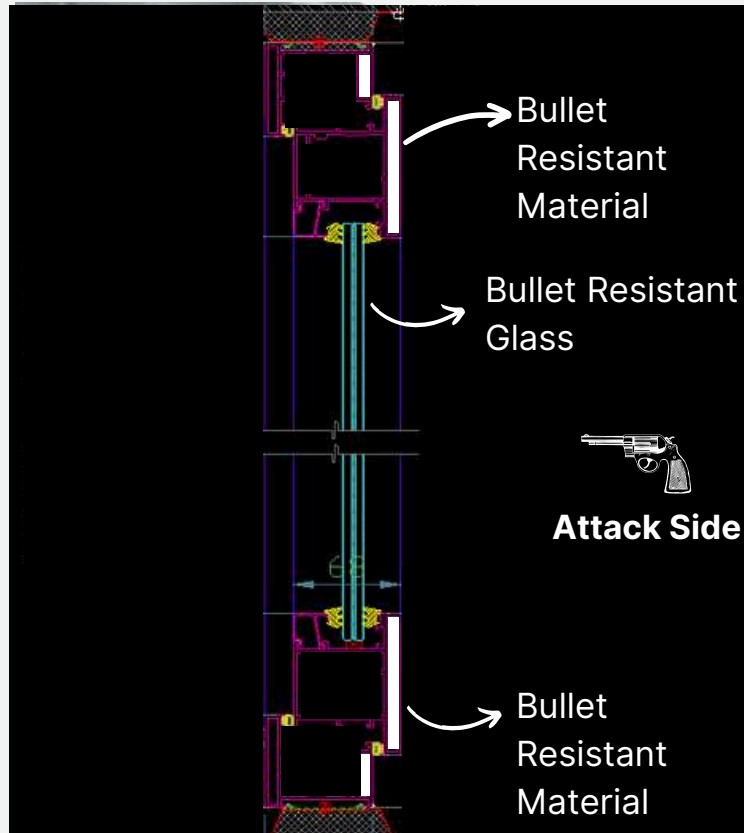
Built lightweight and slim: blending and fitting into the architectural designs of homes and offices, while withstanding high levels of threats from bullet attacks and intruders

Engineered for easy installation: ensuring a hassle-free process from start to finish

Tested to ballistic resistant test standard EN1522: Protection ranges from .44 magnum to 7.62mm caliber

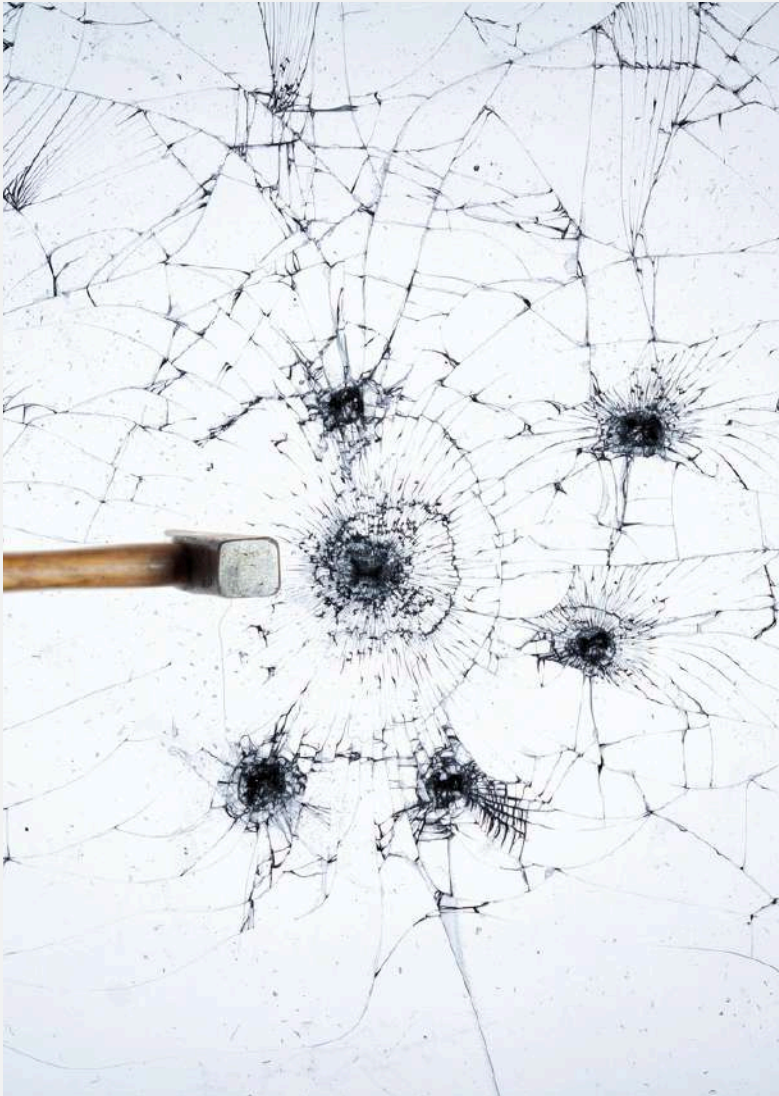
Tested to EN1627 against forced entry

DSG™ BallisticShield Windows & Doors



- The frames are specially designed to cover the weak spots of normal architectural frames, providing the same bullet proof protection as the glass.
- Special bullet resistant materials are incorporated into our slim aluminium profiles, providing bullet resistant without any penetration through the frames
- Only when the glass and frames comply to the same protection level, it will be considered a complete system
- Additional features can be added for heat and sound insulation

DSG™ Anti-Bandit



There are two categories for Anti-Bandit Glass. The first which is classified by a drop ball test (P4A & P5A), which is a simulation of objects thrown at a glass window.

The second classification would be a hammer and axe test (P6B, P7B & P8B), which simulates an actual burglar attempt to break into a glass window or shopfront.

EN356 Ball Drop, Hammer & Axe classification

- P4A Level – 3 Ball Drops
- P5A Level - 9 Ball Drops
- P6B Level – 30 to 50 hits
- P7B Level – 51 to 70 hits
- P8B Level – More than 70 hits

DSG™ Forced Entry Windows & Doors



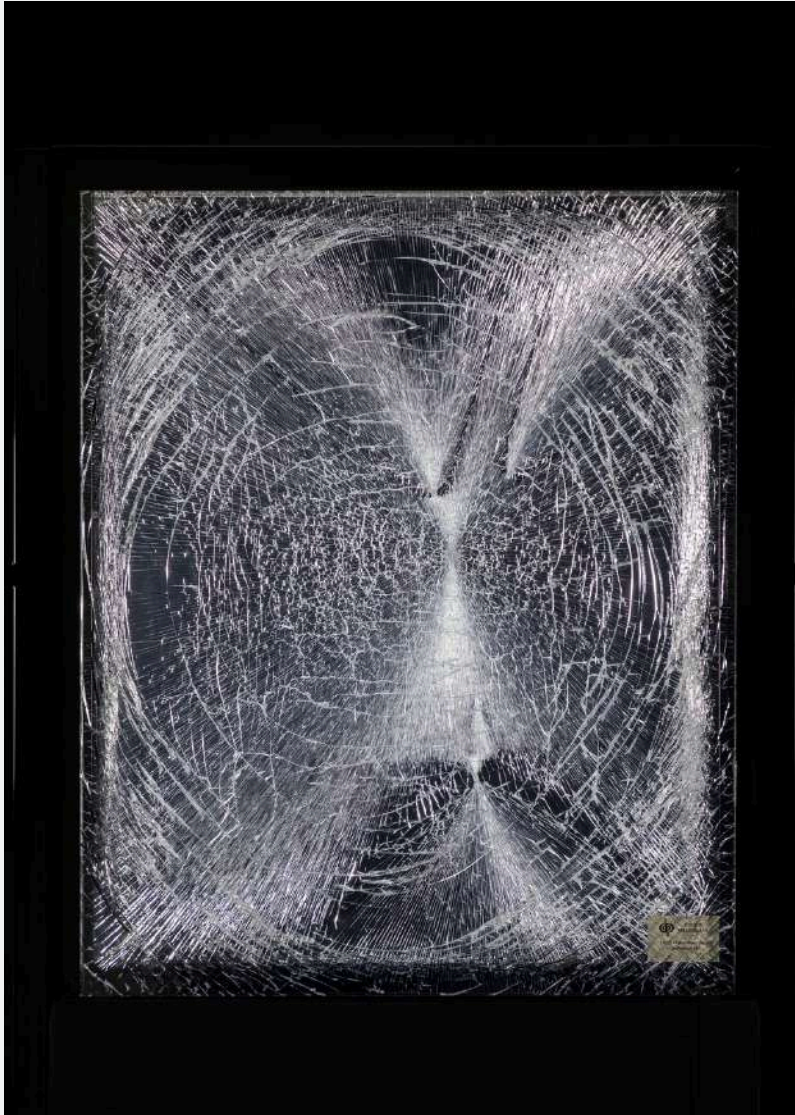
DSG Anti Bandit™ Doors and Windows are a proprietary slim design produced in-house by us. It blends seamlessly as part of your secured area providing protection against forced entry attacks using tools such as crowbars, hammers and drills.

Intruder Resistant Glass and Frames: When the glass and frames comply to the same protection level, it will be considered a complete system

Engineered for easy installation: ensuring a hassle-free process from start to finish

Tested to EN1627 Classification RC3 against forced entry

DSG BlastShield™



DSG BlastShield™ is a blast resistant glass that uses laminating technology that helps to mitigate the threat from explosives through our unique glass and interlayers. It is tested to the European Standards EN13541.

With an anti-spalling feature, occupants are protected against shrapnel and glass shards in the event of a threat. It can be designed to meet specific blast threats from accidental, industrial or deliberate explosions.

Advantages: Thinner and Lighter design, with high optical clarity. Glass can be combined with solar control, thermal insulation or acoustic insulation in a single product.

DSG BlastShield™



EN13541 - Glass in building - Security glazing - Testing and classification of resistance against explosion pressure

Classification	Area Density	Thickness	Peak Pressure	Spalling Protection
ER1	20 kg/m ²	11mm	max. overpressure $50 \leq Pr < 100$ kPa	Yes
ER2	32 kg/m ²	21mm	max. overpressure $100 \leq Pr < 150$ kPa	Yes
ER3	41 kg/m ²	27mm	max. overpressure $150 \leq Pr < 200$ kPa	Yes
ER4	52 kg/m ²	34mm	max. overpressure $200 \leq Pr < 250$ kPa	Yes

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