



**PHOENIX**  
**FENESTRATION & GLASS**



SABS 1263-3

BulletBlok Profile  
**2023**



2022

## Phoenix Fenestration & Glass was established in 2019.

Phoenix Fenestration & Glass (Pty) Ltd (hereinafter referred to as PF&G) was established at the end of June 2019. Justin and Dale Turck, who together combined have twenty two years experience in the business, head operations as Directors from 6 Estee Ackerman Street, Jet Park, Boksburg.

PF&G is in the business of manufacturing high performing transparent materials, which are extensively used in military, security, mining, commercial, and residential sectors. If we acknowledge that glass technology continues to evolve at an unprecedented rate, it is definitely one of the most sophisticated building materials at the forefront of providing enhanced safety, security, energy efficiency, sound reduction,

insulation and aesthetic solutions to clients. We interact with engineers and professional teams at the conception stage of projects and we are renowned for our ability to provide our clients with tangible results. Our relationship with role players and industry experts (locally and on the continent) are robust and longstanding and we are under constant pressure to present them with new products and opportunities.



Our ability to achieve lightweight high-performing transparent anti-intrusion and ballistic products is based on longstanding relationships forged with both our customers and suppliers, coupled to a deep understanding of the importance of research and development in order to stay abreast of the latest developments in the armaments industry. Our ability to

combine resins, acrylic, polycarbonate and glass configurations using PVB, EVA, SGP, and TPU Optical films has ensured an ability to produce lightweight products that boast up to 250 times the impact strength of glass of identical thickness, saves lives and increases the comfort levels of the clients that we serve on a consistent basis.

PF&G has the capability to rapidly develop products to suit a client's unique specifications. Anti-Intrusion products are designed to withstand a dedicated attack for a specific period of time, because the success or failure of any attempt to forcefully enter a structure is dependent on the tools used to gain entry - blunt/sharp impacting, thermal stressing, chemically deteriorating and ballistic penetrating - and the response time of reaction units/police.

Providing ballistic, anti-intrusion & blast protection of sites and staff that are of National Strategic importance against sabotage and attack is an imperative at PF&G.

An increase in armed attacks and hijackings, necessitates bolstering homes and townhouse complexes with guardhouses capable of resisting such attacks. Phoenix BulletBlok meets and exceeds these criteria consistently.

# Phoenix BulletBlok Standard BRG

Phoenix BulletBloks' line of bullet-resistant glass has been designed and engineered using the latest technology, drawing on experience gleaned from many years in the industry.

This range makes use of all-glass assemblies, which are heavier, and thicker, but offer cost-saving benefits. This range uses the same bonding process as the more technically-advanced Composite BRG, but without the use of the sophisticated interlayers to provide superior protection.

## Advantages:

- Least expensive type of bullet resistant glass
- Suitable for indoor and outdoor use
- Durable and scratch resistant
- 99% UV resistant
- Fewer size restrictions

## Disadvantages

- Because it is glass, the shards tend to sheer PVB which can ultimately compromise the integrity of the product and does not provide adequate protection against a dedicated attack
- Weight and thickness may require special structural considerations and/or restrictions

## Applications

- Armoured vehicles (Military/Cash in Transit)
- Embassies
- Consulates
- Banks
- Kiosks
- High crime areas
- Guardhouses & panic rooms



Threat Level	Calibre of firearm	Ammunition	Velocity m/s	Test Range	No. of Strikes	All Glass Make-up	Weight m <sup>2</sup>
Class GA	9mm Parabellum	Standard 9mm 7.4g full metal jacketed bullet	360 ±20	3m ±0.1	3	28mm BulletBlok	69kg
Class GB	.357 Magnum	10.2g semi-jacketed soft point flat nose	400 ±20	3m ±0.1	3	38mm BulletBlok	95kg
Class GC	.44 Magnum	15.6g lead semi-wad cutter bullet/semi-jacketed soft point flat nose	450 ±20	3m ±0.1	3	53mm BulletBlok	130kg

Threat Level	Calibre of firearm	Ammunition	Velocity m/s	Test Range	No. of Strikes	All Glass Make-up	Weight m <sup>2</sup>
Class RA	5.56 x 45	M193 5.56mm x 45mm 3.6g full metal jacketed bullet	960 ±20	10m ±0.1	3	53mm BulletBlok	130kg
Class RB	7.62 x 39	7.62mm x 39mm 7.7g full metal jacketed bullet	710 ±20	10m ±0.1	3	53mm BulletBlok	130kg
Class RC	7.62 x 51	NATO standard 7.62mm x 51mm 9.7g full metal jacketed	860 ±20	10m ±0.1	3	65mm BulletBlok	162kg

# Phoenix BulletBlok Composite BRG/Transparent Armour



This range makes use of polycarbonates, acrylic, glass and additional advanced polymers, which highlight the lightweight features as well as improved performance, boasting up to 250 times the impact strength of glass of identical thickness, as well as weighing significantly less than conventional glass assemblies.

## Advantages:

- Weighs significantly less than All-Glass constructions
- Substantially thinner
- Advanced ability to 'capture' incoming projectile
- Offers superior protection against physical attack

## Disadvantages:

- Scratches easier than glass (which is overcome, if cleaning instructions are adhered to)
- Costs more than ordinary glass construction

## Applications:

- Armoured vehicles (Military/Cash in Transit)
- Embassies
- Consulates
- Banks
- Kiosks
- High crime areas
- Forced entry and natural disaster

Threat Level	Calibre of firearm	Ammunition	Velocity m/s	Test Range	No. of Strikes	Glass Composition	Weight m <sup>2</sup>
Level 1	5.56 x 45mm (M193)	5.56mm x 45mm M193 3.63g full metal jacketed bullet	937m/s ±20	30m	3	29mm	61kg
	5.56 x 45mm (SS109)	5.56mm x 45mm SS109 4.02g full metal jacketed bullet with steel penetrator	900m/s ±20	30m	3	29mm	61kg
	7.62 x 51mm NATO Ball (M80)	NATO standard 7.62mm x 51mm 9.7g full metal jacketed bullet	833m/s ±20	30m	3	40mm	86kg
Level 2	7.62 x 39mm API BZ	7.62mm x 39mm API BZ 7.77g full metal jacketed bullet with steel core and incendiary pellet in nose	695m/s ±20	30m	3	61mm	143kg
Level 3	Dragunov 7.62 x 54R API B32	7.62mm x 54R 10.4g full metal jacketed bullet with steel core and incendiary composition in nose	854m/s ±20	30m	3	85mm	200kg

