



# Bullet Resistant Glass Levels

## EN 1063 / CEN 1063 - security glazing standard

LB - Lead Bullet • FJ - Full Metal Jacket • FN - Flat Nose • RN - Round Nose • CB - Cone Bullet • PB - Pointed Bullet • SC - Soft Core (lead) • SCP - Soft Core (lead) & Steel Penetrator • HC - Hard core, steel hardness

Class	Weapon	Caliper	Type	Weight (g)	Range (m)	Velocity (m/s)	Kimmelux Glass
<b>B1</b>		.22LR	 LB/RN	2.6 (+/-0.1)	10.0 (+/-0.5)	360 (+/-0.1)	BR1 NS 12mm/20kg/m2 BR1 S 15mm/32kg/m2
<b>B2</b>		9x19mm	 FJ/RN/SC	8.0 (+/-0.1)	5.0 (+/-0.5)	400 (+/-0.1)	BR2 NS 17mm/32kg/m2 BR2 S 21mm/45kg/m2
<b>B3</b>		.357 Magnum	 FJ/CB/SC	10.2 (+/-0.1)	5.0 (+/-0.5)	430 (+/-0.1)	BR3 NS 19mm/37kg/m2 BR3 S 23mm/52kg/m2
<b>B4</b>		.44 Magnum	 FJ/FN/SC	15.6 (+/-0.1)	5.0 (+/-0.5)	440 (+/-0.1)	BR4 NS 25mm/50kg/m2 BR4 S 34mm/77kg/m2
<b>B5</b>		5.56x45 NATO	 FJ/PB/SCP	4.0 (+/-0.1)	10.0 (+/-0.5)	950 (+/-0.1)	BR5 NS 39mm/84kg/m2 BR5 S 42mm/97kg/m2
<b>B6</b>		7.62x51 NATO	 FJ/PB/SC	9.5 (+/-0.1)	10.0 (+/-0.5)	830 (+/-0.1)	BR6 NS 46mm/97kg/m2 BR6 S 49mm/110kg/m2
<b>B7</b>		7.62x51 NATO	 FJ/PB/HC	9.8 (+/-0.1)	10.0 (+/-0.5)	820 (+/-0.1)	BR7 NS 92mm/194kg/m2 BR7 S 66mm/154kg/m2 (only 1 shot)
<b>SG1</b>		12/70	 SC	31 (+/-0.1)	10.0 (+/-0.5)	420 (+/-0.1)	SG 1 NS (shotgun) 30mm/61kg/m2

## NATO AEP-55 STANAG 4569 - Protection Levels for Occupants of Logistic and Light Armored Vehicles

Level	Kinetic Energy	Grenade and Mine Blast Threat	Kimmelux Glass
<b>1</b>	7.62 x 51 NATO Ball (Ball M80) at 30 meters with velocity 833 m/s.	Hand grenades, unexploded artillery fragmenting submunitions, and other small anti personnel explosive devices detonated under the vehicle.	<b>Fragment protected:</b> 46mm/97kg/m2 <b>Fragmented type:</b> 50mm/118kg/m2
<b>2</b>	7.62 x 39 API BZ at 30 meters with 695 m/s	<b>6 kg (explosive mass) Blast AT Mine:</b> 2a – Mine Explosion pressure activated under any wheel or track location. 2b – Mine Explosion under center.	<b>Fragment protected:</b> 71mm/159kg/m2 <b>Fragmented type:</b> 76mm/197kg/m2
<b>3</b>	7.62 x 51 AP (WC core) at 30 meters with 930 m/s	<b>8 kg (explosive mass) Blast AT Mine:</b> 3a – Mine Explosion pressure activated under any wheel or track location. 3b – Mine Explosion under center.	<b>Fragment protected:</b> 92mm/194kg/m2