

## PROTECTIONS LEVELS

It is vital when choosing body armor to make sure that it adheres to the proper protection levels. While there are many different standards for ballistics protection levels, the two most commonly recognized standards for body armor come from the US National Institute of Justice (NIJ) and the UK Centre for Applied Science and Technology (CAST, formerly HOSDB). These are widely held to be the world leaders in standardizing body armor. Testing methods are often shared between the two, so armor that meets the standards of one will meet the requirements of the equivalent.

These standards outline exactly what threats each level of body armor will protect against, as well as the strength of the attack it will stop. This means that a bullet proof vest at Level II for example will not protect against a Level IIIa threat. But what do these levels mean?

### Ballistic Levels

Bullet resistant vests are designed to ‘trap’ and slow bullets down as they attempt to pass through the vest. Bullet resistant Vests come in two different types; hard and soft. The ‘soft’ armors are designed to protect against most handgun and small arms ammunition, whereas ‘hard’ armors are designed to stop high caliber and armor piercing rounds. The NIJ classifies all armors in the following levels:

NIJ LEVEL	IIA	II	IIIA	III	IV
<b>AREAL DENSITY</b>	<b>3.5 kg/m</b>	<b>4.2 kg/m</b>	<b>5.9 kg/m</b>	<b>25.9 kg/m</b>	<b>32.5 kg/m</b>
<b>THICKNESS</b>	<b>4mm</b>	<b>5mm</b>	<b>6mm</b>	<b>15mm</b>	<b>20mm</b>
.9mm	X	X	X	X	X
.44 Magnum			X	X	X
5.56mm				X	X
7.62mm				X	X
.30 Armour Piercing (M2 AP)					X

### Edged Blade Levels

While the NIJ is considered the world standard for ballistics testing, stab resistant vests are standardised by the CAST. Many assume that if a piece of body armor can stop a bullet, it can stop a knife. This is not the case however, and stab proof vests are different in make up to bullet proof vests. It is possible to find multi-threat vests that can protect against both, but these still need to be graded according to the protection they offer against both bullets and edged/spiked weapons. The threat levels for stab resistant vests are standardised by the CAST as follows:

	KR1		KR2	
	Knife Resistant Level 1		Knife Resistant Level 2	
Energy Level	E1	E2	E1	E2
Energy (joules)	24	36	33	50
Velocity	5 m/sec	6.2 m/sec	5.9 m/sec	7.3 m/sec
Total Missile Mass	1.9 kg	1.9 kg	1.9 kg	1.9 kg
Maximum Penetration	7mm	20mm	7mm	20mm