



International Body Armour Survey

Whitepaper 2022

A detailed report on body armour, with the key objective of improving the safety of security professionals.



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Introduction & Objectives

PPSS Group has been on the forefront of body armour research and development for several years.

Our key objective is to improve the chance of you coming home safely at the end of your working day. However, we know that this chance is being reduced significantly if we are not adequately protected. We also know that a lack of protection, or indeed inappropriate protection, can lead to long lasting injuries, trauma and even death.

We trust that through listening and educating, we can help others to reduce exposure to severe injury in the workplace. Through this very comprehensive survey, with the kind help you have offered us, and with the experience and knowledge you have shared, we will be able to better protect frontline professionals, and everyone charged with the security of our infrastructure, events, buildings, and citizens. For that we genuinely thank you.

This convincing and in-depth report on body armour is based on a comprehensive survey completed by **729 security professionals from several countries**. It highlights some very concerning issues around individuals' detailed knowledge of a body armour's performance, certification and limitations.



fig.1

However, this report is to encourage the wearer of a body armour to request the precise specifics from the management, and it equally is to encourage the management to offer sufficient training and provide this information every time when issuing body armour. Both the provision and the knowledge of these details can be deemed of utmost importance and help reduce workplace violence related injuries and save lives.

Participants Data



fig.2

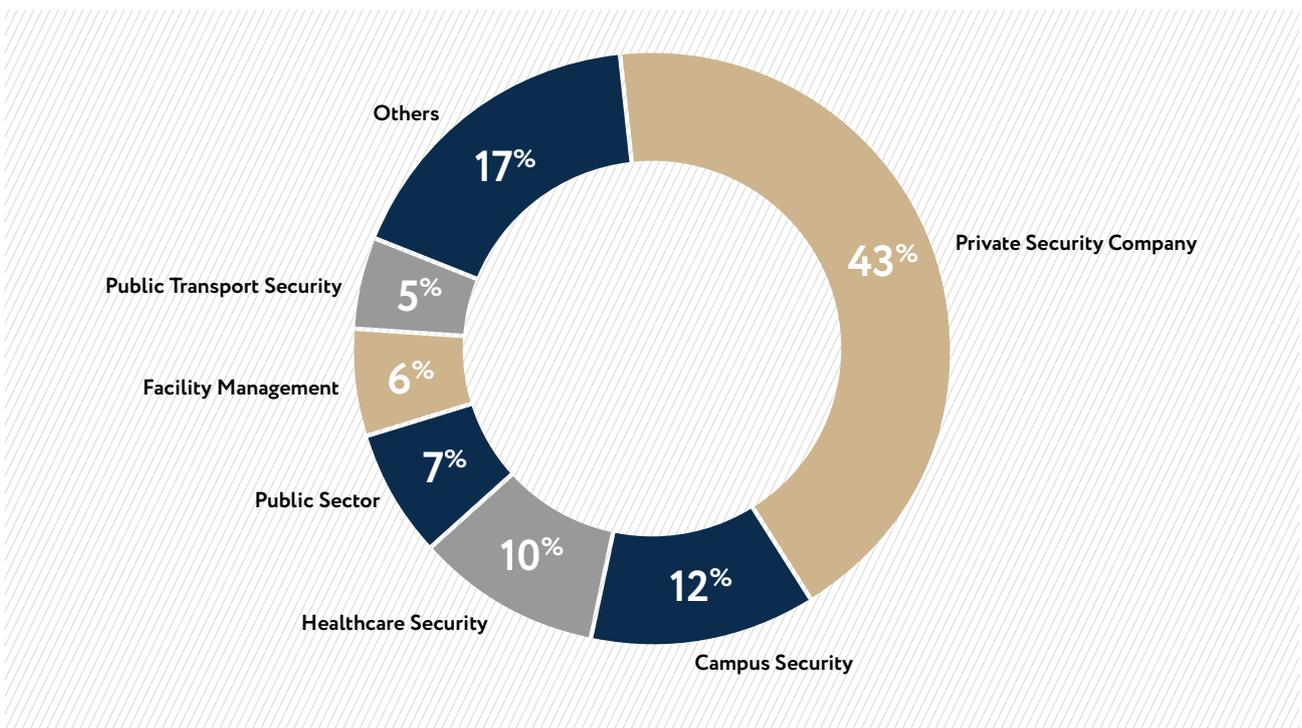


fig.3

Who is Buying the Body Armour?

When asking the question: “Have you been issued with a body armour?” 29% stated their body armour was being provided by the employer, 8% purchased body armour for their staff, 33% had purchased their own body armour, and 28% are currently not wearing body armour. This percentage split is, at least here in the UK, about to change significantly.

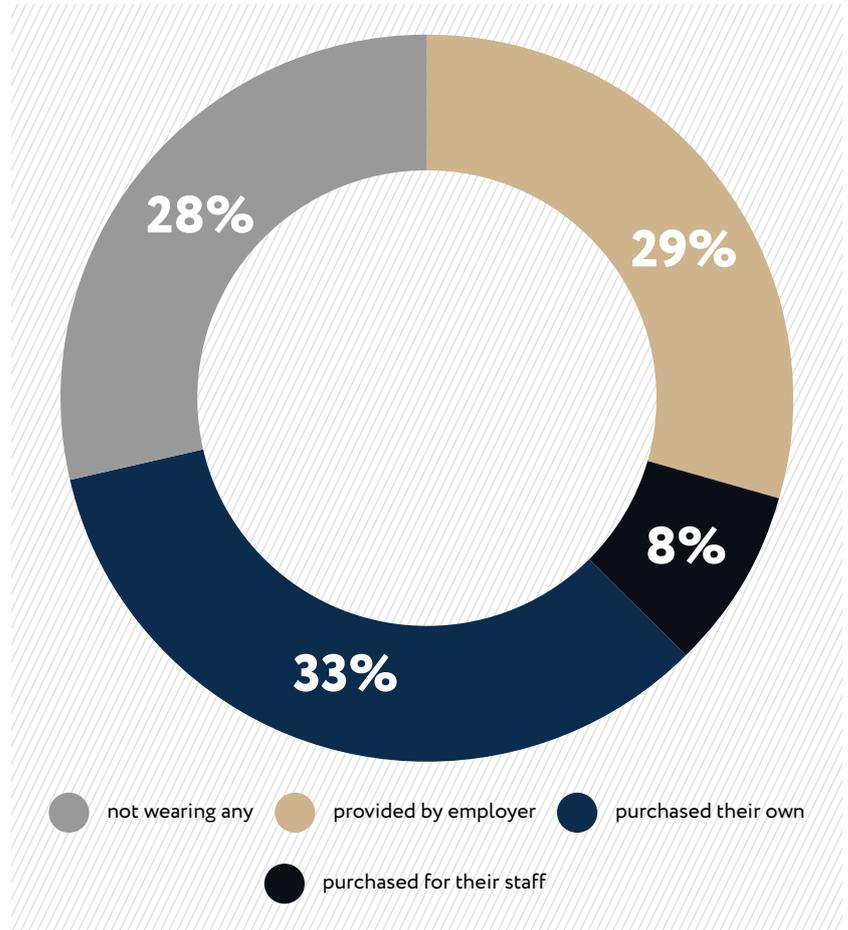


fig.4

Earlier this year, here in the UK, the HSE announced very particular changes, extremely relevant to the security sector. On 06 April 2022 the Personal Protective Equipment at Work (Amendment) Regulations 2022 (PPER 2022) came into force, and since then the employers’ responsibility to supply adequate training and personal protective equipment, (i.e. body armour, when deemed necessary), has been extended to ‘limb workers’, the type of workers registered as self-employed but who also provide a service as part of someone else’s business or contracts.

What impact will this have? Those self-employed security professionals who work on behalf of another security company, but who have historically chosen not to wear body armour (often due to financial limitations) will have to be issued with body armour by the security provider. Meaning the overall percentage of those wearing body armour will go up, the percentage of those purchasing their own body armour will go down, and the percentage of those not wearing body armour at all will go down too.

Individuals Understanding of their Body Armour

Historically used to protect military personnel, today body armour are utilised by thousands of security professionals here in the UK and all over the world, charged with the safety and security of our infrastructure, services, events, and citizens.

Companies around the world have specialised themselves in the manufacturing of body armour, pushing research and development to whole new levels, desperately trying to reduce the weight and thickness, improve manoeuvrability and wearability, and enhance the performance and protection levels.

However, these developments, and changes within standards, associated tests methods and certifications, as well as skilfully phrased sales pitches by self-professed ‘body armour experts’ have led to a lack of clarity.

This whitepaper is based on our 2022 ‘INTERNATIONAL BODY ARMOUR SURVEY’ and it does indeed highlight some concerning issues around individuals’ essential knowledge of a body armour’s performance, protection levels, certification, as well as limitations.

Out of 724 security professionals’ kind enough to take the time and complete the survey, 61% answered the question: “Have you had clear information on the performance of the body armour?” with YES.

39% answered the question with NO, saying the information given to them was not sufficient. It means it was not explained to them what levels of protection their body armour is offering, or indeed not offering.

According to the UK’s Security Industry Authority (SIA) there are approximately 450,000 licensed Door Supervisors, Security Guards and Close Protection Officers working in the UK. We do of course not know how many of those are wearing body armour, however, 39% of even just those who are wearing them would be a very frightening number of professionals who do not know what ‘that thing’ they have been told to wear (potentially the first time in their life) is actually protecting them from.

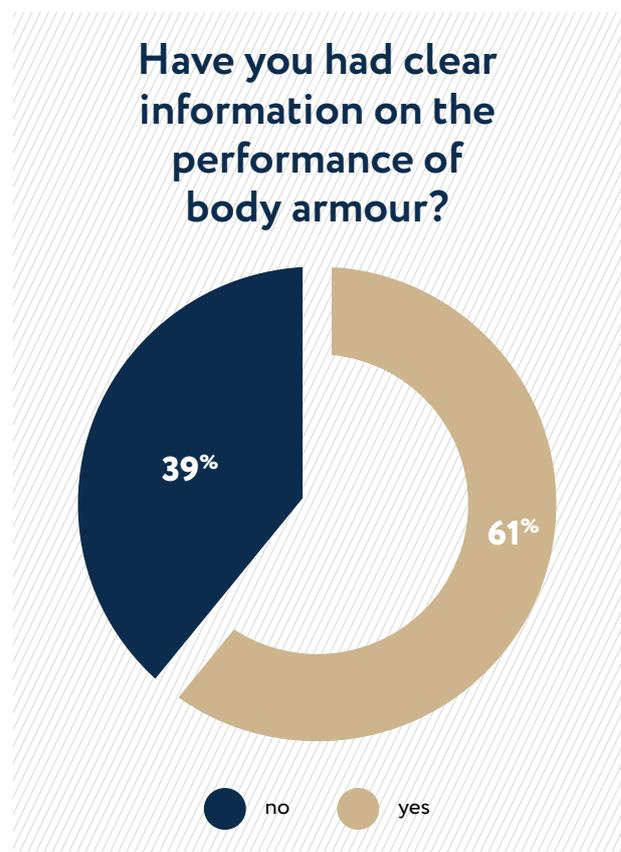


fig.5

There is no doubt about it, sufficient training when issuing body armour and clear information on its performance and limitations, and above all its purpose and the company's motivation behind issuing them is absolutely crucial.

It is absolutely crucial because I believe there are three types of groups of professionals with completely different thoughts on body armour, and equally completely different responses when being issued with such type of PPE.

A lack of a precise understanding would likely put individuals fitting in two of those groups in unnecessary danger or put them harm's way. The problem is we usually find out too late in what group a certain individual belongs to.

Group 1: “The Ones Who Understand”.

These are the individuals, who either due to self-education or self-investigation, existing professional experience, or industry and product knowledge don't allow that body armour to change the way they conduct themselves towards others, and the way they engage when a threat is being identified. These individuals we do have to worry about the least.

Group 2: “The Anxious Ones”.

These are the individuals, who will respond with an increased level of anxiety, concern or even fear. “Why is my employer asking me to wear a body armour?” “What does he know that he is not sharing with me; has something happened?” “Are they planning to change my job responsibilities?” “Has the risk of what I am doing increased, but they don't want to tell me because they are worried, I might not be willing to accept it?” Such level of anxiety, concern or even fear can, despite to mental health problems, also lead to hesitation in a response or delayed action being taken when a threat has been identified.

Group 3: “The Overconfident Ones”.

Our Technical Director calls it “the superman syndrome”. These are the individuals whose behaviour can change dramatically as soon as they put the body armour on. They will go over and above what they should do. Their mind set changes, and their posture and persona changes too. I am sadly aware of too many stories of individuals changing their entire persona, posture, confidence level and attitude. The risk of them unnecessarily engaging with a threat, overreacting to a threat or simply becoming ‘too brave’, based on subconscious belief their body armour will protect them is real.

39% of those completing our survey said they did not receive clear information on the performance, capabilities and limitations of their body armour, and that means we leave it up to those 39% to use their imagination and thought processes to decide how much that body armour is allowed to change their conduct, confidence, attitude and immediate response to a threat.

Body Armour Certifications

45% of participants stated they were not aware of the fact that body armour performance levels are only being certified for a limited period of five years. That means that after five years of the date of manufacturing the certification is invalid. There is plenty of evidence out there proving that exposure to UV light and moisture, poor storing, or handling of the body armour and the use of inferior quality raw materials can lead to rapid performance losses. A body armour older than five years requires replacing. A security provider utilising body armour older than five years would face potential legal consequences in case of an assault resulting in injuries, simply based on the fact the body armour is no longer offering certified protection.



fig.6

However, it is worth noting that some manufacturers utilising the latest high performance raw materials i.e. carbon fibre, are willing to offer 10 years guarantee on the protection levels of their potentially lifesaving kit. Please note, to the contrary belief of many, not all body armour manufacturers are offering this level of 'product life expectancy reassurance', hence it is worth investigating when planning to buy such equipment.

How do you know how old your body armour is? Simply remove the protective panels from its cover. It is a legal requirement for all body armour manufacturers to attach a clearly visible label on the body facing side of a body armour panel, stating both the date of manufacture, and the precise levels of protection the body armour is certified against.

The most common protection levels are as follows:

- NIJ
 - » Ballistic NIJ Level I, II or IIIA
 - » Stab I or II
- CAST/DSTL (previously HOSDB)
 - » Ballistic: HO1 or HO2
 - » Stab: KR1 or KR2
 - » Spike: SP1 or SP2
- VPAM
 - » Blunt Force Trauma W1 - W5
 - » Ballistic: SK1 - SK4
 - » Stab: K1 - K4
 - » Spike: D1 - D4

Certified protection from blunt force has become of greater importance in recent years.

Severe injuries and deaths resulting from blunt force trauma are some of the most common cases encountered by forensic pathologists. For instance, almost all transportation fatalities, including those involving road traffic collisions and pedestrians being hit by vehicles result from blunt force trauma.

Blunt force trauma is also the consequence faced by homeland and private security professionals after being hit by a solid object, such as a fist, foot, knee, elbow, iron bar, extendable baton, baseball bat, crowbar, brick, bottle, can, chair, fire extinguisher, to name but a few, or indeed after being pushed hard against another solid object e.g. door, wall, floor or car or down a flight of stairs etc.

Something that remains widely underreported since shootings and stabbings seem to make more dramatic headlines in the mainstream media.

If I can ask you for a single favour, with nothing else but your own personal safety and security in mind? Check your body armour. Take the protective panels out and confirm when your body armour has been produced and what your body armour is protecting you from. Do not solely rely on another person statement. Your safety and your life may well depend on your precise understanding what your body armour can do and what it cannot do. This must be worth 5 minutes of your time?

Violence Against Security Professionals

High levels of physical abuse towards security professionals have also been revealed in our INTERNATIONAL BODY ARMOUR SURVEY.

During our survey we divided the participants into two groups. Those who wear body armour and those who do not wear such equipment.

Of those who wear body armour 62% of those completing our survey stated that they have been assaulted on duty. 54% stated they have been assaulted 1-5 times in their career. 17% stated they have been assaulted 6-10 times, and more than 31% claimed they have suffered more than 10 physical assaults.

Of those who do NOT wear body armour 78% of those completing our survey stated that they have been assaulted on duty. 53% stated they have been assaulted 1-5 times in their career. 15% stated they have been assaulted 6-10 times, and more than 32% claimed they have suffered more than 10 physical assaults.

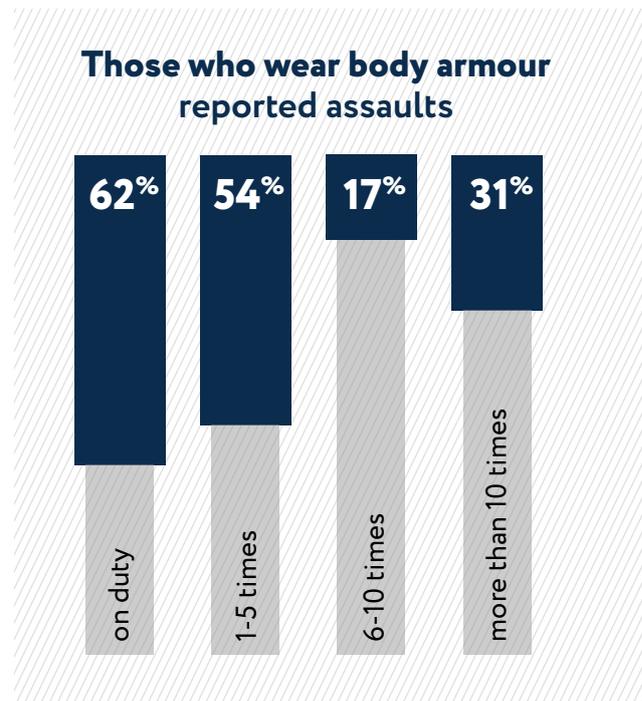


fig.7

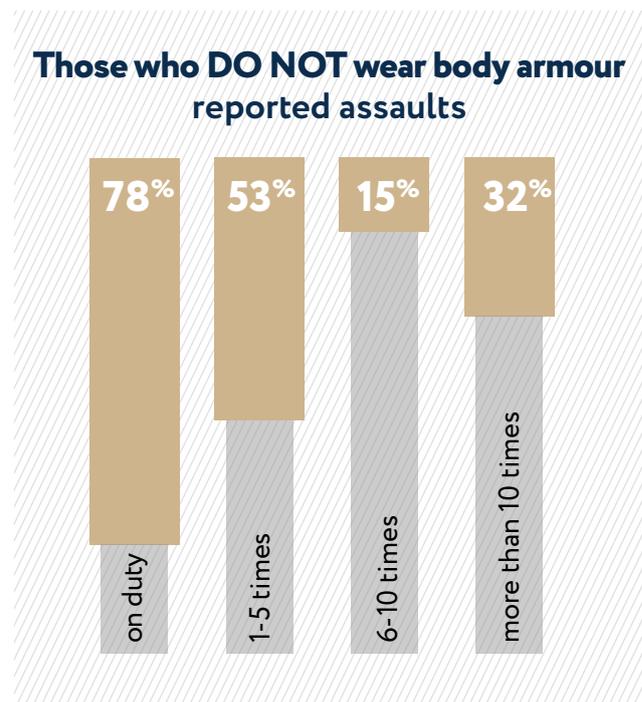


fig.8

This clearly backs up the result of another comprehensive survey of over 1,000 security professionals by British security forum 'Working The Doors' in 2021. 36% claimed they are being attacked at least once a month. 65% of respondents were resigned to the fact that violence within the security industry was inevitable.

These figures are clear evidence that body armour have indeed become an essential piece of equipment for many security professionals here in the UK and in countries around the world, increasing their chances of coming home safely at the end of their working day.

1,378 randomly selected law enforcement officers in the USA took part in another highly respected survey in 2012 conducted by the NIJ (National Institute of Justice), titled: "Survey of Officers on the Use and Care of Body Armour". 90% reported that they wear body armour because they believe it is critical to their personal safety.

Violence against frontline staff is on the increase, and it is not just the security professional suffering, and subsequently feeling the need of adequate and dependable protection.

Impact or Blunt Force Protection

When we asked, “what type of injuries did you sustain?”, the highest number of participants selected “heavy bruising” as answer. Of those who stated during the survey they are wearing body armour, precisely 79% selected this answer. Of those who indicated they are NOT wearing body armour 83% stated the same.



fig.9

Blunt force trauma (i.e., “heavy bruising”) is also the often occurring consequence faced by security professionals after being hit by a solid object, such as a fist, foot, knee, elbow, iron bar, extendable baton, baseball bat, crowbar, brick, bottle, can, chair, fire extinguisher, to name but a few, or indeed after being pushed hard against another solid object e.g. door, wall, floor or car or down a flight of stairs etc.

The severity of such injury is mostly determined by the speed, velocity, size and weight of the object, and can range in severity from a tiny bruise to internal haemorrhages, bone fractures, airway obstructions/rupture, and in the worst-case scenario result in ruptured organs, rapid internal bleeding and ultimately your death.

Although your body armour might be successful in stopping the round fired by a weapon, or the knife thrust at you by a hostile individual, it might not reliably protect you from the impacting energy during other types of assaults, unless it is offering you officially certified protection from this precise risk.

The most respected standard for body armour in relation to blunt force or impact protection is Germany’s VPAM (Vereinigung der Prüfstellen für Angriffshemmende Materialien und Konstruktionen) Standard, titled: [“Testing of Impact Resistance against Throwing and/or Striking Objects”](#), and its rating will be W1 (lowest) – W9 (highest).

Body Armour Selection Process

I personally found it of interest that 74% of those completing our survey stated that they have not been consulted during the body armour selection process. Of course, we understand the complexity of choosing the right body armour very well. Allowing every member of the team to vote on it, contribute ideas and highlight personal preferences, would require a lot of time, and subsequently delay the entire process. One would also hope that the person who has identified the need for body armour (following the completion of a risk assessment), will have a good operational understanding of the most realistic risks and threats, and also a good understanding of performance and protection levels, certifications, quality and comfort of available body armour. Nevertheless, I do feel there is a risk of ‘missing out in potentially invaluable information’ by not asking the 74% of the men/women who are out there directly facing the risks we aim to protect them from.

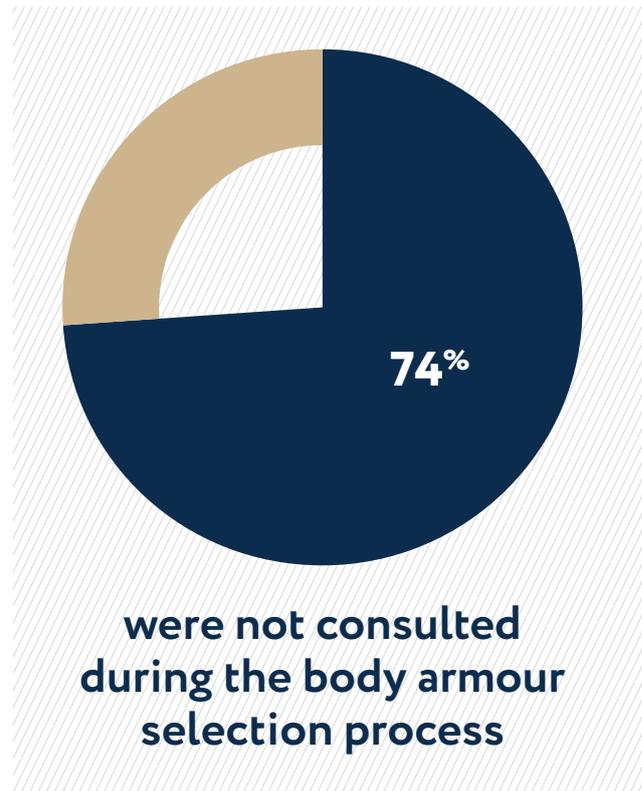


fig.10

52% of those who have taken part in our survey answered the question “would you benefit from further body armour training” with YES. One could conclude that people want to know more about their body armour’s performance, certification, and limitations.

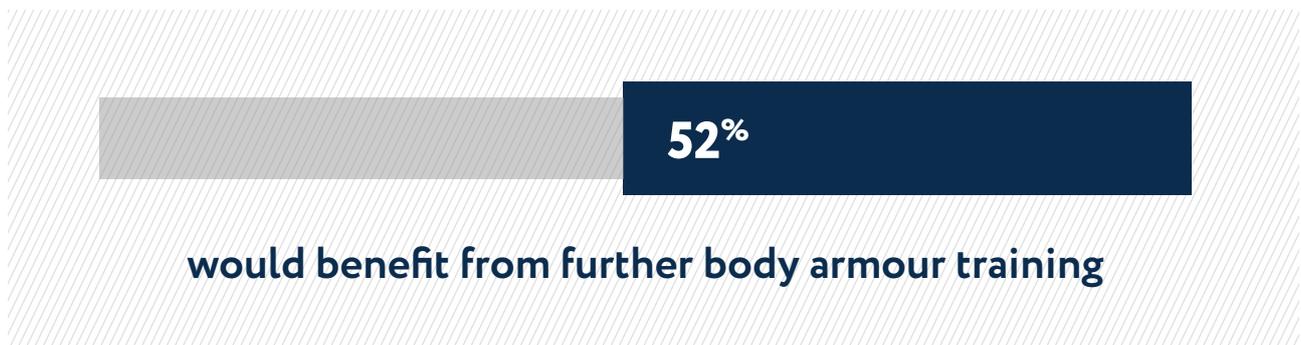


fig.11

What is the Most Important Aspect when Purchasing Body Armour?

One of the final questions we have asked our participants was: "Please rank in order of importance: What is the most important aspect for you when purchasing body armour?"

Overall, our audience voted in the following order of priority as highlighted in this graphic (fig.12):

This does not necessarily echo our own findings and professional experience, as it has always been pointed out to us (the body armour manufacturer), that budgets and available money for PPE in general is tight and hence the price of a body armour is a key factor.

Based on our survey it became clear that 'protection levels' are the number 1 criteria when investigating body armour and when making crucial purchasing decisions. Of course, we very much welcome this. The protection of frontline professionals must be everyone's key objective. However, we would like to give the strong advice to seek confirmation and physical evidence of the protection and performance levels you have been assured of.



fig.12

The governments of some countries will provide you with a website or directory where you can easily seek verification for a body armour manufacturer's protection level claim. Here in the UK, we have the highly informative and helpful [Police Protective Equipment Database](#). Simply search for 'Equipment Type': Body Armour.

Stay safe.
Robert Kaiser, CEO
 PPSS Group