

PROTECTION AS STANDARD

Anyone visiting an international defence or security exhibition these days cannot help but be struck by the sheer number of body armour manufacturers that have sprung up and are now busily marketing and selling their wares to a highly receptive market. The reason for this boom in the use of body armour is not difficult to understand. Insurgency wars in Afghanistan and Iraq have meant a massive expansion in the military market for ballistic protection, not just for the many international contingents of troops operating in those countries but also for numerous private military companies and security companies that have sprung up to take on roles formerly the preserve of the military. The threat

from global terrorism and the proliferation of hand guns and high velocity weapons among criminal gangs and street gangs has also forced law enforcement agencies to seek better protection for specialist units, as well as ordinary officers going about their normal duties.



So what's the problem? Is the proliferation in body armour manufacturers and suppliers not just industry stepping in and responding to a market requirement? Does the arrival of new manufacturers not also mean there is more competition, which drives research and development and keeps down prices for the customer?

The answer to both questions is yes, but the problem is that of the standard of protection afforded by some of these new products, particularly those purchased from some developing nations, do not meet recognised standards. In some cases they are simply not fit for purpose – that is, they will not protect the wearer against the ammunition for which they were originally purchased. In short, the

As demand for body armour continues to grow around the world, Tony Kingham calls for an international protection standard to reduce costs and deter the cowboys

wearer could die or suffer wounds. Not because he or she has not been provided with body armour bought in good faith by their employer or by themselves, but because the armour is substandard and they weren't aware of it.

As you walk around international exhibitions or search the numerous web sites selling body armour, you can see how this situation has come about. Frankly, one set of body armour looks very much like another and the manufacturers' claims are also much the same. So what are the international standards? The answer is there are no international testing standards. Standards are regional and are not always consistent. Probably the best known of these test standards – and a

model for many others – are the US National Institute of Justice (NIJ) and the UK Home Office Scientific Development Branch (HOSDB) standards, which are used by a number of other countries and organisations.

But even these two sets of standards do not agree. Both test for resistance to penetration but also to blunt trauma – that is, the impact energy transmitted to the wearer, which can be dangerous or even lethal. Blunt trauma is measured by firing a round at a plate and measuring the indentation made in a backing material, usually oil-based modelling clay. This is called the "backface signature". The materials used for the backface signature are not standard across tests, however, and the allowed indentation varies; the British

HOSDB test allows only 20-25mm and the US NIJ allows up to 44mm. Moisture is also known to affect the performance of some body armour, and the methods of testing this also vary – one using plate immersion and the other spraying.

You can add to the mix the many other national testing standards, primarily meant for local law enforcement and the many military organisations, including those in the United States, that also do their own testing, and the situation becomes even more confusing, unwieldy and expensive. It is this lack of recognised international standard that is the root cause of the problem. If you are a reputable manufacturer with a good product that meets the highest international standards of performance and want to compete in the international market, what testing standard do you go for? ▶

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A lack of international standards for body armour is putting lives at risk

► Testing is expensive and will add to the unit cost. It could be that, to compete in various national markets, a manufacturer is required to undertake testing several times in different countries to meet local standards. This is a particular problem for small to medium-sized manufacturers that do not have an internationally recognised standard in their own country. All of the additional cost of testing have to be met by the manufacturer and are added to the unit cost; with budgets always an issue, price becomes a key factor.

In this confused mix of different standards and testing regimes, you have an environment where products of dubious quality – that may well look the part, are cheaper but aren't necessarily fit for purpose – can catch the uninformed customer unawares. The situation also means this market is also wide open to another major problem: that of bogus and counterfeit products. While these products aren't necessarily of poor quality, any company willing to flout international law and intellectual property (IP) rights cannot be considered a trusted partner when it comes to protecting the lives of our armed forces and law enforcement personnel.

In November 2009 I was on the DSM Dyneema stand at Milipol, Paris, to witness the DSM Dyneema legal team issue three warning letters to other exhibitors about potential IP infringements at that one event. Robert Smulders, Business Manager Life Protection at DSM Dyneema stated at the time: "Exhibitions [like Milipol]

bring a host of international manufacturers and sellers together in one place, and occasionally we identify companies that can give us cause for concern regarding our IP rights. Whenever we identify any such activities, we provide immediate notice to potential infringers and we are absolutely resolute in our intent to pursue and clamp down on infringements." He went on to say "Innovation and intellectual property drive our business and we invest heavily in protecting our IP rights in all markets and business segments in which we are active."

So who are the winners and losers in this? Well the customer is a loser for sure. First and foremost, poor body armour can be fatal! The confused situation also means the customer may be paying too much for quality products, however. How so? Well, small to medium-sized manufacturers are unable to compete when they are asked to carry out new, expensive tests every time they enter a competitive tender situation. This means the road is left open only to the big manufacturers and so reduces the sort of fair competition that keeps prices down. This is particularly true of the US market that has the world's biggest customers but also many of the smaller, more vulnerable customers such as a local sheriff's office or a private security company.

So what is the answer? Well, the first thing to say is that fair competition in the market place is good for the customer, and low cost does not

necessarily mean a product is not good. What is needed is a single international standard test that all reputable manufacturers can adhere to. It should be based on the most stringent of the existing standards and must be carried out only at authorised government or independent laboratories.

Manufacturers would sign up for the scheme and testing of every nth plate should be compulsory. As testing costs for all members of the scheme would be roughly the same, this would create an even playing field, improve standards across the market and ultimately save lives.

Such a scheme could be achieved by the reputable manufacturers getting together in an association and applying the rules to all members, although for some of the previously mentioned reasons some manufacturers may not see this as being in their interest. It would, however, be in the interest of some of the world's bigger customers to promote such a scheme; it would clean the market of some of the worst offenders, promote competition and protect the smaller buyers by providing a clear and transparent international standard. **I**

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