



WHAT YOU WISH YOU DIDN'T KNOW ABOUT VEHICLE ARMOR

CURVED BALLISTIC OEM GLASS ENTERS THE SCENE

What you might call the 'modern armored car industry' really started in the mid-70's with the introduction of curved ballistic OEM replacement glass. This made armored vehicles look like a standard vehicle as opposed to flat glass windshields found in money carriers (like a Brink's truck) that were an instant 'tip-off'. Protection could be accomplished without letting everyone know about it, and orders started coming from corporate America. Most of these vehicles were for use by executives and their families in overseas markets like Bogotá, Tel Aviv, Mexico City and Cairo, where the threat of kidnapping and random violence was high.

9-11 ATTACKS HEIGHTEN SECURITY AWARENESS

And then came 9/11. There has been no single event that has so profoundly changed the armoring industry than the 9-11 attack. Security Directors of large companies no longer had to beg for protection budgets for people and facilities. Emergency meetings began in boardrooms across America and corporate leaders discovered how ill-prepared their companies were: years of allocating security budgets to other departments had finally come home to "roost". Executives now paid close attention to reports of kidnappings, gang violence and worldwide threats of terror, and immediately tasked their security folks to "get up to speed" on these issues.

SECURITY DIRECTORS FACE A NEW DILEMMA

This was good news/bad news for most Security Directors: the good news was that their preaching had finally been recognized as warranted. The bad news was that even though they advocated armor, they were ill prepared to implement an armoring program. Most security directors have very little knowledge of ballistics. Armoring is a complex task involving physics, kinesiology, ballistic science and materials all related to the mission of the vehicle. For example, let's say you have a facility in the Middle East that is a potential threat zone and your executives' vehicles are not protected. Here's just a few of the items you need to consider to implement an armoring program:

- What vehicle will meet 'business use' standards, blend in locally (Units in Operation count, as UIO) and can handle the weight and payload required once armored without violating OEM safety standards?
- What level of armor is needed?
- What builder can certify their armoring and provide a reliable warranty while not violating the OEM warranty?



- How do you implement a RFQ. What specifically should be detailed?
- What about duties and use taxes locally ?
- What about servicing the vehicle in-market?

ARMORING RESOURCES LIMITED

Unfortunately, there is no armoring textbook to guide these security directors so most turned to the internet. Again, unfortunately, there is no vetting process for armorers and there are no government safety or inspection standards that they have to comply with to sell their products. What usually happens in periods of unusual demand? Hypsters, hucksters and all manner of imitators attempt to take advantage of this new demand: think "cabbage patch" kids toys during the Christmas season. The problem is compounded by unaware buyers who relied on the hype: the difference is that the results can be lethal.

FORTUNE 100 FIRM FACES GRIM REALITY: BOGUS TEST STANDARDS

Let's look at a few examples. Take the case of a Fortune 100 firm that needed armor in various foreign locales. After some initial investigation, they discerned that most markets would dictate high-handgun level protection and a few needed rifle protection (we address this evaluation process in our World Armor Market Survey report). They initiated contact with some "armorers" on the Web and got price quote for Level 4 and Level 6 armor for the type of vehicle they wanted to buy. Specifications were provided by the "armorer" and the pricing appeared reasonable. Later on, when we became involved, the security director learned that:

The armor levels specified by the so called armorer had no relation to accepted international standards. The bid said Level 4 when it should have specified CEN B4 level which is highest handgun standard based on the Central European Norm and recognized worldwide. The international standards specify what type of bullet, muzzle velocity, kinetic joules of energy, distance from target and how many impacts it must defeat in a specified space. The wannabe armorer created their own "Level 4" which would not meet international defeat standards because it was much cheaper to manufacture.

The rifle level "armorer" committed the same deception and in fact, had never built any vehicle at the CEN B6 level in their entire history in business! Just to inform, the difference in building handgun-defeat level armor and rifle defeat-level armor is geometric: compare it to creating a bike path in the woods to building an interstate highway. Here we have a much higher threat level and inherent danger to the executives who are relying on a defective product.



INVALID & DECEPTIVE TESTING COMMON PRACTICES

The so called armorers had never tested one of their cars and in fact did not even batch test their raw materials for ballistic compliance. In other words , they accepted the materials they purchased and never determined if they would actually defeat the bullets the client thought they were protected from.

An isolated case? Sadly, no: it happens every day and has for years (this is our 25th year in business so these are not idle claims). We inspected one "armorer" who showed us his "testing" by shooting some window samples: this is how he impressed security directors with "live-fire" tests. When asked why the test sample glass was twice as thick as the glass used on the vehicle, why the distance to target was 12 meters when the standard called for 5 meters and how could he test without a chronograph to measure muzzle velocity, our site inspection was suddenly cancelled.

Are we getting through? Is the problem becoming clearer? There are executives and security folks all over the world that are relying on hype in potentially lethal situations. They don't know about this deception and they believe they are protected. There is no oversight agency or even product liability to rely on or turn to. If the product fails during an attack, the consequences could be disastrous. What they don't show on the evening news is the "armor graveyard" that takes an entire city block in Baghdad. These are all relatively new (in some cases a month old) armored vehicles that have failed under fire. What's the solution? Education and planning.

THE SOLUTION REQUIRES EDUCATION & INFORMED PLANNING

There really is no "armoring school" or template for selecting, ordering and building through an armoring company. Far West Consulting Group has provided most of the information necessary in their World Armor Market Surveys as they observed these mistakes being made firsthand. Once you know what to order, you have to then determine how to insure you get what you ordered: the armoring process has to be audited on-site with hands-on inspections. Materials have to be certified and batch tested. Seams and gaps in the armor have to be identified and corrected. Payloads and reinforcements must be examined. The checksheet is lengthy and unfortunately, there is no ramp-up learning curve: it has to be right the first time.

At this point, some readers are probably asking " why can't I just order an armored car from a vehicle manufacturer"? Logical --- I but in most cases, it won't do you much good as most manufacturers do not make this modification. One of the oldest and best armorers in the world is Mercedes-Benz in Germany: they have a special factory devoted to armoring run by very skilled craftsmen and they extensively test their product. Does this solve the problem for security directors?? Not really: in many markets, the high cost and thus small number of (Mercedes) vehicles in operation quickly identifies the driver as wealthy and important. In essence, the car makes targeting easier for the bad guys.



WHAT ARE THE OPTIONS AVAILABLE TODAY?

In summary, the need for armor continues to grow. If you are considering armoring, you should allocate time and resources to:

- educating yourself on ballistic standards & armor defeat levels
- determine your true threat level for the locale under consideration
- construct a detailed RFQ and ask for specific international armor standards, type of materials to be used (both opaque and transparent armor), weight addition (at net) of armor vs. vehicle payload, warranty information, testing protocols, laboratory certifications of tested materials, and a list of referrals for starters
- be highly analytical of all information received on bids—compare every detail and get clarification when you have doubts
- visit the armorer in person prior to awarding the bid: audit the factory and view other vehicles under construction. Get sample materials firsthand.
- award fees on a performance basis: make payments upon completion of stages

The checklist is three times this long but this should provide an overview of why we say “Buyer Beware”.

If the critical task of armoring is more than you have time or experience to handle, call us at Far West Consulting Group and we’ll arrange to guide you through the process.

ABOUT THE AUTHOR

Douglas S.Kennedy is the Managing Partner of **Far West Consulting Group** with offices in Arizona and Florida. Far West had been involved in specialty vehicle manufacturing business including armoring for 23 years and has developed strategic alliances in product development for both private and Law Enforcement markets. Mr. Kennedy deals primarily with Fortune 250 firms in assessing needs and implementing armoring programs for their executives worldwide. He can be reached by [email at msib@autosafety.com](mailto:msib@autosafety.com) or [phone at 954-428-8228](tel:954-428-8228).