

5/10/2011



INTERNATIONAL  
ARMORED  
GROUP

## CRITERIA FOR ARMORED VEHICLE CONSTRUCTION AND INSPECTION

*"When it comes to protection, there is no other."*



# CRITERIA FOR PROPER ARMORING FOR TLC 200

Criteria	Yes	No	Comments
Armoring design verified by independent testing and certification in accordance with VPAM BRV 2009 VR7 guidelines. All production vehicles must be built with the same armoring design, technology, and methodology as the VR7 certified vehicle			
Weight of the complete armored vehicle should be provided			
In process inspection of all the vehicles must be conducted immediately after the completion of steel work			
A documentation folder to be provided, containing: <ul style="list-style-type: none"> <li>• Ballistic steel certificate (with heat number)</li> <li>• Ballistic glass certificate</li> <li>• Run flat certificate</li> <li>• Complete specifications of the armored vehicle</li> </ul>			
Full information of the armoring design and technology should be provided			
<i>Doors</i>			
Full overlap with bullet catcher on top and bottom of each door (360 degree protection).			
Original door panels must be replaced with custom made HD panels to allow for the full overlap without a step in.			
Original door panels must be replaced with custom fabricated HD door panels with steel kick plates for durability and ease of door opening and closing. Please note resized/cut OEM panels are not acceptable. Please show pictures of the door panels.			
Vehicle doors must be supported by heavy duty upgraded hinges directly bolted onto the side vehicle armor.			
Every door needs to have a third lifting point to allow for additional support (2 other lifting points are the HD hingeS). An additional lifting mechanism is required to ensure proper door alignment over time. Please show pictures of the additional support mechanism.			
<i>Opaque Armor</i>			
Full firewall protection including the transmission.			
Specify the number of pieces on the firewall armoring.			
Each armored vehicle side must be constructed with no more than 2 pieces of ballistic steel overlap welded together. This ensures optimal side vehicle protection. Please show pictures of the side vehicle armor at the steel stage to demonstrate the number of pieces used.			

Minimum number of floor plates to be used, (i.e. Use large single pieces instead of many small pieces) welded and bolted to the original skin. Specify number of pieces used for the floor.			
Roof must be armored to B6 level with the impact angle of 90 degrees.			
<i>Transparent Armor</i>			
There should be no exposed bolts or nuts inside the passenger compartment, especially on the window frames. The exposed nuts and bolts will become shrapnel travelling at high velocities in the event of a blast, becoming a threat to the safety of the passengers.			
<i>Engineering and Design</i>			
Suspension - Provide engineering calculations proving that the suspension has been upgraded to support the new GVWR after armoring taking into account passengers and cargo weight.			
Engineering calculations for the new center of gravity should be provided. Demonstrate mathematical calculation for the difference between the OEM center of gravity and the new center of gravity, as well as provide a solution to compensate for the increased center of gravity after armoring.			
Drawings of the side and top view must be provided together with cross sections.			
Laser cutting must be used in order to maintain ballistic integrity of the steel at the edges. Plasma cutting is not acceptable as it compromises the ballistic capability of the steel around the cuts.			
Welding methods used during the production process (such as stitch or continuous welding) should be explained in detail, including descriptions and reasons for use.			
Manufacturers should employ at least 5 certified welders in accordance to ISO 9606-1. It is not acceptable to have less than 5 certified welders.			
<i>Certification Requirements</i>			
The Vendor should have at least one armored vehicle design tested and certified to VR7 under VPAM BRV2009 standards. Vendor is to provide a copy of the VR7 certificate with the bid proposal.			
The Vendor should provide valid copies of welder personnel certification to ISO9606-1 for the welding of ballistic steel. The certification has to be issued by an internationally recognized body accredited by the American Welding Society (AWS) or equivalent.			

**SCORE:**

**Buyer Responsibilities**

1. In process inspection must be conducted only by an authorized person to verify compliance to the above criteria.
2. An authorized person should verify whether all the above criteria are met by the manufacturer.