

SPECIFICATION No. ODC-VFJ/SP/COMPOSITE ARMOUR/02 Dated 23.10.2019

Ref: - SPECIFICATION No. OFPM/R&D/SP/COMPOSITE _ARMOUR/07, Dtd.16-03-2007
AMENDMENT No. 3, DATED 08.01.08

Specification & acceptance test procedure (ATP) composite armor for upgraded MPV
4x4

1. Technical Specification: -

- i. Material: - Composite armour material (Ultra High Molecular Weight Polyethylene)-
DYNEEMA-UD HB 25/26
- ii. Thickness: - 23 ± 1 mm
- iii. Aerial density: - $21.00 -1/+2$ Kg/m²
- iv. The material should be able to retain its original physical properties (ii & iii), when used in temperature conditions of - 40°C to +55°C

2. Protection Level: -

The material should offer protection against 7.62 SLR (Self Loading Rifle) from a distance of 10 mts.

3. Test Condition: -

- i. The firm is to give material certificate for all the components manufactured.
- ii. The firm is to give a certificate that all the components against each set manufactured should be from the same lot of material and whenever there is a change in the material lot size, separate sample should be provided.
- iii. The firm is to provide a certificate along with the samples, that they are the true representative of the bulk manufactured.
- iv. However, for each lot of material supplied at least one set of sample as per the Drawing no.2687-57-31(drawing enclosed), will be tested by VFJ to prove the above protection level and also practical trials on vehicle application. One set of test samples will be selected randomly from the components already manufactured. (In case of foreign vendor the firm should give a certificate as per (iii) and dispatch the sample to VFJ for trials).
- v. From the above one set of test sample components, two numbers of components will be selected and subjected for check at - 40 °C first in cold chamber for two hours and subsequently at + 55 °C degree in an oven for two hours to check the physical parameters of the samples for size and weight at both stages of cold chamber test and heat oven test. The samples should retain its physical properties compared to the results obtained at ambient temperature conditions. The same samples will be subjected to 24 hours conditioning at 24-28 °C before the ballistic test is conducted.

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TECHNICAL SERVICE SECTION
वाहन निर्माण जवलयूर
VEHICLE FACTORY JABALPUR
TECHNICALLY VETTED
दिनांक/DATE: 12.11.2021

For Lot size Refer Annexure dtd 12/01/2021
विभागाध्यक्ष
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- vi. Based on the satisfactory ballistic test results at (4) below, either RH or LH panels as per drawing no: 2687-57-31 (drawing enclosed), will be subjected for practical trials for vehicle application.
- vii. Quantity consumed in test / practical trials will have to be made good by the firm at their own cost.
- viii. The firm should offer the items in sets only.
- ix. Based on the test result, bulk dispatch clearance will be accorded for each lot, confirming to the approved samples.
- x. Firm is to give RAW MATERIAL ASSURANCE CERTIFICATE (RMAC) from the OEM.

4. Ballistic Test Procedure: -

- i. Samples are hung on a heavy and rigid support in vertical condition.
- ii. Shooting distance 10m.
- iii. Angle of incidence: 0° (approx)
- iv. No. of shots on each sample must be 06 from 7.62 SLR with 51mm NATO Ball ammunition M80.
- v. Distance between two shots and also from edges must be 50 mm (minimum)
- vi. Muzzle velocity to be recorded. (810 \pm 10 Mts/Sec)

5. Traceability: -

Every component in each set should have the manufacturer's initials with year of manufacture for identification of the product.

6. Acceptance Criteria: -

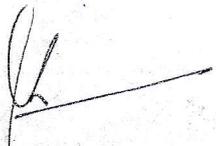
Samples and subsequently whole lot are accepted,

- iii. When there is no penetration/perforation either by the bullet or its fragment.
- iv. When passes successfully, in the practical trials for vehicle application carried out on the RH/LH panels.

Otherwise, the whole lot stands rejected.


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वाहन निर्माणी जबलपुर
भारत सरकार, रक्षा मंत्रालय
(आयुध निर्माणी बोर्ड की इकाई)

VEHICLE FACTORY JABALPUR
Govt. of India, Ministry of Defence
(A unit of Ordnance Factory Board)



Annexure-E

(Mod. Composite Armour Specification No. ODC-VFJ/SP/COMPOSITE
ARMOUR/02 Dated 23.10.2019)

The lot size of the modified composite armour has been fixed for ballistic testing as follows and same will be a part of governing specification No. ODC-VFJ/SP/COMPOSITE ARMOUR/02 Dated 23.10.2019:

“For each 60 sets of material supplied, at least one set of sample (two panel) will be tested by VFJ. Based on the test result Bulk dispatch clearance will be accorded for each 60 sets, confirming the approve sample”.

(A.K. Rai)
Jt. General Manager
For General Manager