

**1) Technical Specification:**

- i) Spall liner
- ii) Areal Density:  $\leq 6.8 \pm 0.5 \text{ kg/ m}^2$
- iii) Thickness:  $5.5 \pm 0.5 \text{ mm}$
- iv) Drawings of Spall Liner Panels as per Annexure-A

**2) Test Condition: -**

- i. Firm will supply one number free test sample of 500 mm x500mm. Sample will be subjected at -15 degree first in cold chamber for two hours and subsequently at +50 degrees 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-deg C before the ballistic test is conducted.
- ii. After no abnormality observed in sl no 1&2, ballistic test will be conducted as below:

**3) Ballistic Test Procedure: -**

- i. Sample is held from both side on a heavy and rigid support in vertical condition.
- ii. Shooting distance 05 meter.
- iii. Angle of incidence :0° (approx.)
- iv. No. of shots on each sample must be 06 from 9 mm CMG with 9mmX19 mm ball ammunition.
- v. Distance between two shots and also from edges must be 51 mm (minimum).
- vi. Muzzle velocity to be recorded. ( $430 \pm 15 \text{ m/sec}$ )

**4) Traceability: -**

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

**5) Acceptance Criteria: -**

Samples and whole lot are accepted,

- i. When there is no penetration / perforation on the sample.
- ii. When sample passes successful as above, dimensional inspection will be done in one set of panel.
- iii. VFJ reserve the right to inspect from 1 to 4 as above in any of the panel/component of set besides free sample. In case panel fails, the complete lot will be rejected. Firm should ensure that the sample is true representative of the lot supplied by the firm. Replacement of Expanded panel will be provided by the firm.

**6) Other terms and condition**

- i. Supplier representative will be present at VFJ and provide necessary assistance during pasting of Spall panels in the vehicle.
- ii. Supplier will provide the adhesive required to paste the spall panel in the vehicle and also provide the technical specification/Brand for the same.

  
JWM/LA

  
JWM/ODC

  
WM/ODC

  
DIR/ODC