

Specification No VFJ/ODC/SP/BPHLAD/UPgraded MPV 4x4/01 date: 23/2/2019  
**Annexure-B**  
**SPECIFICATION FOR BULLET PROOF GLASSES OF UPGRADED MPV 4X4**

**1.) Scope:**

This specification pertains to supply of 50 mm thick splinter proof B.P. Glasses for upgraded MPV 4X4. Some of the glasses are provided with holes (Side glasses – 02 holes per glass; Driver side glass and Co driver side glass - 01 hole on each glass) for fitting Gun Port system (approx weight of 7.5 kg each per hole) at VFJ. Drawings will be provided separately

**2.) Protection**

Bullet proof glasses of 50 +1 mm thick along with Gun-port system (approx weight 7.5 kg each per hole) should give the protection against 7.62 mm SLR with NATO ball ammunition with muzzle velocity 810 to 830 meters per second (aprox) from a distance of 10 meter to protect from 6 rounds of fire from a distance of 10 meters should be done against the BP Glass. The distance between any two rounds should be 50mm minimum

**3.) Material Condition:**

- i) All the glasses should be splinter proof.
- ii) Entrapment of water, air or dust is not allowed between layers of glasses and for this manufacturers/suppliers are required to furnish three years guarantee.
- iii) The glasses should be free from defects such as cracks, pock marks, sand / silica marks, scratches, visual or distortions, dust particles, etc., on inner / outer surfaces of all layers.

**4.) Transparency**

The BP Glass should be fully transparent without any color tint. The refractive index of the glass should provide distortion free single image visual characteristic.

तकनीकी सेवा अनुभाग  
TECHNICAL SERVICE SECTION  
वाहन निर्माण जवाहरपुर  
VEHICLE FACTORY JABALPUR  
तकनीकी पुनरीक्षित  
TECHNICALLY VETTED  
दिनांक/DATE.../5.03.2022

क.का.प्र./टीएसएस  
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विभागीय अधिकारी

JNM/ODC

HOS/ODC

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Dir/ODC

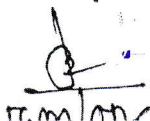
## 5.) Inspection


- i) By GM/VFJ or his authorized representative at VFJ for dimensional, visual, fitment of rubber beading and ballistic checks.
- ii) After receiving supply order, the firm should supply one no BP glass with two holes in advance for testing at VFJ. This BP glass will be ballistically tested as per test procedure at point no. 5 (iii) with two Gun-ports system fitted condition. If this BP glass fails in this test, then the supply order will be treated as cancelled.
- iii) The sample glass along with Gun-port systems fitted at VFJ will be held in a metallic frame at an appropriate height to fire from 7.62 SLR, NATO Ball ammunition with muzzle velocity of 810 to 830 meters per second (approx.), 6 rounds of fire from a distance of 10 meters should be done against the BP Glass. The distance between any two rounds should be 50mm minimum. If the sample fails in ballistic trials, complete batch will stand rejected at the cost of supplier.

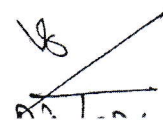
**6) Test Certificate:** The supplier will provide test certificate of BP Glass with two holes for the above protection.

## 7) Piercing/Failure of BP glass:

- a) If the bullet specified as in Para-5(iii), penetrates the sample and passes through the full thickness of the glass in which two Gun-port systems are fitted causing a through hole it will be considered as a failure of BP glass.
- b) In case one or more bullets are pierced even after maintaining 50 mm distance between any two rounds and 50 mm from the edge of glass/hole fitted with Gun-port systems, the sample may be treated as failed.
- c) In case one bullet is pierced due to less than 50 mm distance between two hits the sample may be cleared as satisfactory.
- d) The bullet also will be hit on the Gun-port which should not get a dislocated and should not make any damage to the BP Glass. If the bullet shatters the glass and lodges inside the glass, without coming out and without causing a dent on opposite surface, it will be considered acceptable. And if the bullet on the back side/opposite surface shatters, it will be considered as failure of BP Glass.

  
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8) Packing:


Proper packing of glasses is the responsibility of supplier to avoid damages in transit

9) General:

Delivery time, quantity and other terms and conditions are as per tender inquiry documents.

  
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