

**QRs/specifications of the Bullet Proof Helmet (Ballistic) for Commandos
(Kerala Police)**

OPERATIONAL CHARACTERISTICS

Ergonomy: It should be possible to wear, adjust and remove the helmet with ease even with gloved hands. It should be provided with a three point chin strap with cotton chin cup.

Shape : The helmet should adequately cover the neck and ears of the wearer and its design should be on the lines of the US Personal Armour System Ground Troops (PASGT). The shape of the helmet should facilitate the use of hands sets of in-service communication equipment. Helmet should desirably have provision to mount a display system, hands free communication equipment and fix electro-optical devices as and when required.

Surface Finish and Camouflage: The proposed helmet should be of crinkle mattfinish . Colour should be in black.

Protection: The ballistic helmet should be able to defeat 9mm KF amn fired from Indian 9mm Carbine from 20m. The deformation in the helmet should not exceed 13 mm, the min gap necessary between the harness and inner surface of the helmet.

Climatic Condition: The helmet must withstand repeated and sustained exposure to climatic conditions as under :-

- (a) Temperature $_\ _ -50\text{ }^{\circ}\text{C}$ to $_ _ +50\text{ }^{\circ}\text{C}$.
- (b) Relative Humidity $_\ _ \text{ upto } + 80\%$

Use of Optical Instruments : The design of the helmet should be such that it should not obstruct the use of binoculars (day & night),optical sights fitted on the weapons, range finders and Artillery optical instruments like director etc.

Compatibility : The design of the helmet should preferably be compatible to wear along with respirators and chemical hoods. This may be considered as a desirable feature for subsequent improvement and development.

Comfort : The helmet should not cause any undue discomfort even after prolonged wearing by an individual for more than six to eight hours.

Ability to absorb IR Radiation: It is desirable that the helmet should be able to absorb 60 to 100 percent of IR radiations from an active IR source and should not reflect any such radiations.

Weight : The weight should of the helmet should be as under:-

- (a) Medium size helmet - Not more than 1.20 Kgs.
- (b) Large size helmet - Not more than 1.30 Kgs.

Inner lining / Harness:- The helmet should be provided with harness which should be adjustable to head size. The minimum distance between the harness and the inner surface of the helmet should be 13mm. It should be comfortable to wear and ensure air circulation.

Chin Strap :- Adjustable chin strap with three point support must be provided. The material of the chin strap should be suitable to Indian weather conditions and should be rugged enough to withstand rough handling in the field. The buckle of the chin strap should be easy to engage/disengage and its position on the cheek should not hinder aiming during firing. The material of the buckle should be harmless to skin in all types of climate temperatures.

Size :- The helmet should be provided in two sizes, viz medium and large size. The circumference of the helmet should be adjustable as under:-

- (a) Medium size - 48 to 57 cms
- (b) Large size - 58 to 62 cms

Shelf Life :- Shelf life of helmet to be minimum 10 years in field conditions.

Provision for Visor :- Suitable provisions should exist in the helmet for attaching plastic visor, to provide limited protection against blast and splinters, without increase in weight of the helmet. An additional weight of upto 500 gms for the visor is acceptable.

OPERATION AND MAINTENANCE

Packing:- The helmet should be packed individually preferably in a water proof carry bag.

User Evaluation :- The approval for introduction into service of the proposal helmet will be based on the test procedures as laid down in NIJ Standard 0106.01.HP White Laboratory, UK and the standards set in this GSQR (to be tested in field conditions).

Literature :- Literature giving details of the equipment, functioning and handling should be provided at the time of trials. It must also give out details of maintenance requirements.

Testing Facilities :- Ballistic trials as per the QRs will be held at Thiruvananthapuram.

Above These :-

- The supplier should have well equipped office/workshop for maintenance.
- The supplier should have direct authorization from the Original Equipment Manufacturer (OEM) to participate in the tender. Necessary authorization documents should be made available in this regard.
- The name of the OEM along with the contact telephone numbers addresses fax numbers and e-mail address may be available for confirmation with the OEM about the status of the supplier.
- Minimum 3 years warranty for the equipment and should provide AMC for at least 5 years.
- AMC proposal for a period of 5 years after the warranty period, should be enclosed with the tender proposal.
- AMC should be expressed as percentage of Total Product Value (TPV) separately for each year of AMC.
- Tender will be valuated based on the net liability to department which includes the product cost and AMC cost.