

SPECIFICATION FOR ITEM NO.4

Item Code : 2111657090

CERAMIC PLATES USED IN MANUFACTURE OF SIDE HARD ARMOUR
PANELS (HAP) OF BODY ARMOURS ~~FOR~~ SIZE LARGE *(enclosed)*

OCF AVADI SPECIFICATION No.: 1201909/003 *(Enclosed)*

**VETTED FOR
TECHNICAL PARTICULARS ONLY**

1/9/19
M/S/O DC.

Specification No.: 1201909/003**DATE: 12.09.2019**

Nomenclature : Ceramic Plates used in manufacture of Hard Armour Panels (HAP) of Body Armours

Specification:**a) Chemical**

- (i) Material: Silicon Carbide (SiC)
- (ii) Composition: Bonded Silicon Carbide (SiC)

b) Physical

- (i) Construction: Monolithic
- (ii) Density: Max 2.8 to 3.2 g/cc
- (iii) Thickness: 7.5 mm (Tolerance + 0 mm – 0.25 mm)
- (iv) Dimensions: As per Drawing enclosed
- (v) Plate shall be free from cracks, voids, or any other surface defects when subjected to Radiographic/X-rays screening as per ASTM standards.

c) Mechanical

- (i) Modulus of Rupture: at RT 150-180 MPa,
at 1400°C 170- 200 MPa
- (ii) Fracture Toughness: 2.8 to 4.3 MPa/m²
- (iii) Modulus of Elasticity: 200 to 300 GPa

d) Ballistic

- (i) Monolithic Silicon Carbide Ceramic Plate of thickness 7.5 mm with Multiple layers of UHMWPE fabric with areal density of 4.90 Kg/m², when subjected to ballistic testing for threat level III+ as a composite shall be able to stop bullets fired from the following ammunitions a distance of 10 metre.

Table-A

Test Bullet	Bullet Weight (g)	Reference Velocity (m/s)
7.62 X 39mm (Hard steel core)	7.45 to 8.05	700 ± 15
7.62 mm NATO FMJ	9.4 to 9.6	838 ± 15

- (ii) Plates supplied shall be of Vintage not before 2019.

Note: OCF Avadi reserves the right to perform 100% radiography/X-ray screening of all the plates and ballistic evaluation of item supplied.



AGM/ODC



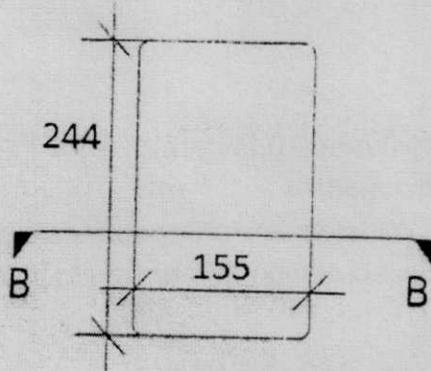
AWM/ODC



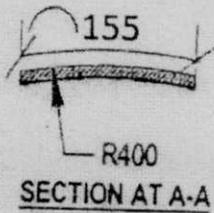
HOS/ODC

Drawing for Ceramic Armour Plate Side Large:

Drawing No: OCFAV/Ceramic/S/L001



ELEVATION



SECTION AT A-A



Note:

Area : 0.0377 M²

Length and Width of the plate mentioned is for guiding purpose only for arriving the Area.
All Dimensions are in mm.

19/9/19
Hos)00C