



BRAZILIAN NAVY

MARINE CORPS MATERIAL COMMAND

TECHNICAL SPECIFICATION FOR POSITIVELY BUOYANT BALLISTIC PLATE Level III

SUBJECT: FLOATING ARMOR PLATE (Level of Protection III)

1. GENERAL

Below are the refined specifications for the manufacturing of a Floating Armor Plate, designed to enhance the ballistic protection of individual Body Armor Vests utilized by Police personnel:

Purpose: These specifications outline the technical requirements necessary for the production of a Floating Armor Plate, intended to bolster the ballistic capabilities of standard Body Armor Vests used by law enforcement officers.

Design: The Floating Armor Plate is to be seamlessly integrated into designated front and back pockets of the Body Armor Vests, augmenting their ballistic resistance to meet or exceed level III standards.

Floating Capability: The Floating Armor Plate must possess inherent buoyancy, ensuring it remains afloat in water-based environments, thereby enhancing the wearer's survivability in aquatic scenarios.

Visual Reference: Refer to the accompanying images below for a visual representation of the recommended design parameters and general shape specifications.

FRONT and BACK (Top Cut Corner)



2. THE FLOATING ARMOR PLATE COMPONENTS AND MATERIALS

- **Floating armor plate**, made of ARAMID and/or UHMWPE (Ultra-High Molecular Weight Polyethylene), with characteristic of flexibility, contour-curved shape to provide maximum wearer comfort. The plate must provide a minimum Level III ballistic protection (NIJ Standard - 0101.06 / 0101.07), in conjunction with (ICW) level III-A vests.

- **Floating Armor Plate Cover**, made of waterproof Material, color black or green, to protect and seal the Armor Plate from water, dust and moisture.

3. THE FLOATING ARMOR PLATE DIMENSIONS, WEIGHT AND MATERIALS

3.1- Length

300mm (+/- 3mm).

3.2- Width

250mm (+/- 3mm).

3.3- Thickness

20mm (max.).

3.4- Form

contour-curved with curve radius about 400mm.

3.5- Weight

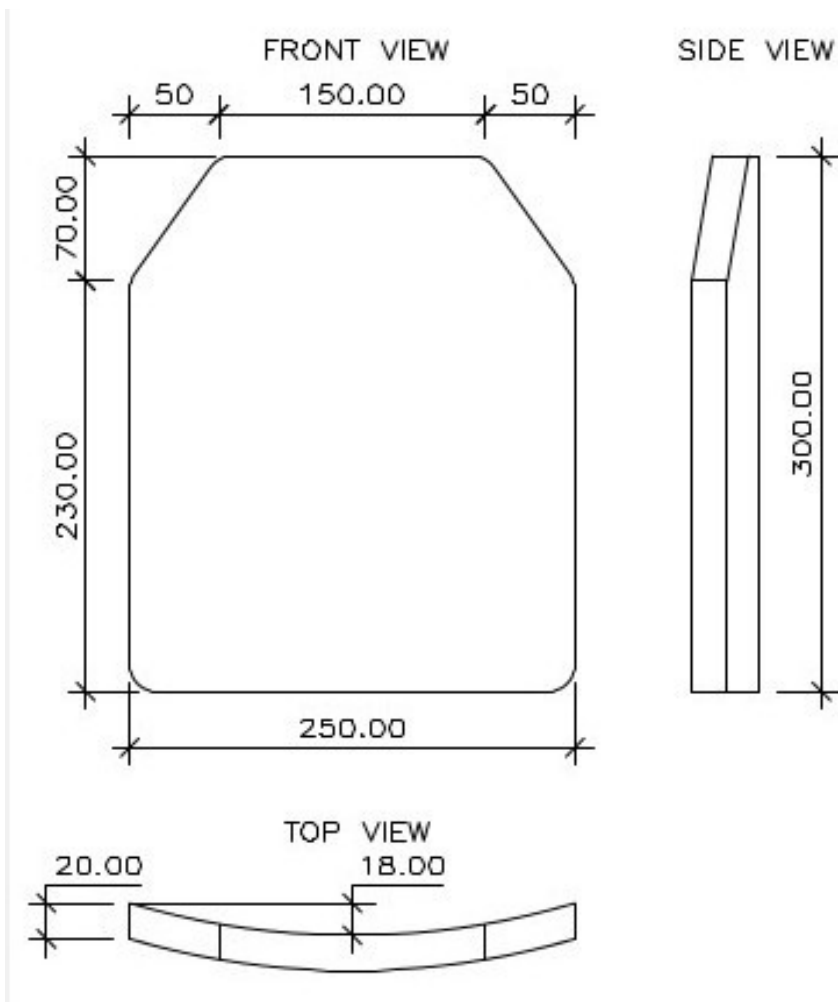
1,50Kg(max.)

3.6 - Ballistic Material:

Aramid and/or UHMWPE (Ultra-High Molecular Weight Polyethylene)

3.7 - Plate cover material

Black Polyurea



4. PROTECTION LEVEL OF THE FLOATING ARMOR PLATE

The ballistic performance of the Floating Armor Plate must undergo testing and approval by a recognized laboratory in accordance with NIJ Standards (0101.06 / 0101.07 - Level III), supported by an approval letter, and listed on <https://www.justnet.org/compliant/NIJ-approved-labs.html>. It should achieve a minimum V50 rating of 1000 m/sec protection (MIL-STD 662), in Conjunction with III-A soft armor. The Floating Armor Plate may be categorized as level III and must, in conjunction with (ICW) a level III-A vest, provide protection against the following threat levels:

- 7.62x51mm Lead Core (NATO Ball, M-80, SLR, L2A2);
- 7.62x39mm Lead Core (CJLC);
- 7.62x39mm Mild Steel Core (Kalashnikov, AK-47 MSC); and
- 5.56x45mm Lead Core (M193, L2A1).

A certificate must be presented, along with laboratory test reports, to confirm that the Armor Plate has been tested and approved as required. This certificate should explicitly reference the model of the Plate proposed for procurement.

5. WARRANTY

The longevity of a ballistic panel, and consequently its warranty, holds significant importance. A prolonged lifespan not only ensures durability but also enhances sustainability efforts.

It is required a minimum warranty of seven (7) years for the Floating Armor Plate to guarantee optimal ballistic performance.

6. QUALITY ASSURANCE OF INDUSTRIES

A quality assurance of industries must be given according Certificate ISO 9001-2015 and fully complies with its standards.

7. IDENTIFICATION MARKS

A tag must be attached to the internal face of the armor plate to inform, at least: name of manufacturer, registered mark, part number, model, NIJ - level of protection, size, date of manufacture with at least month and year, location of manufacture, and special instructions for handle care, as well as, the threat levels protection ICW a level III-A Vest:

- 7.62x51mm Lead Core (NATO Ball, M-80, SLR, L2A2);
- 7.62x39mm Lead Core (CJLC);
- 7.62x39mm Mild Steel Core (Kalashnikov, AK-47 MSC); and
- 5.56x45mm Lead Core (M193, L2A1).shown below.

8. NIJ label

The NIJ label, as depicted Below, is essential as it serves as a certification for ballistic quality testing.



NIJ Standard-0101.06

9. SAMPLE

If requested a sample of the Armor Plate must be presented for appreciation about fully conformity with those specifications.