



**BRAZILIAN NAVY**

**MARINE CORPS MATERIAL COMMAND**

**TECHNICAL SPECIFICATIONS FOR POSITIVELY BUOYANT BALLISTIC VEST LEVEL III-A**

**SUBJECT: LIFE SAVING BULLET PROOF VEST**

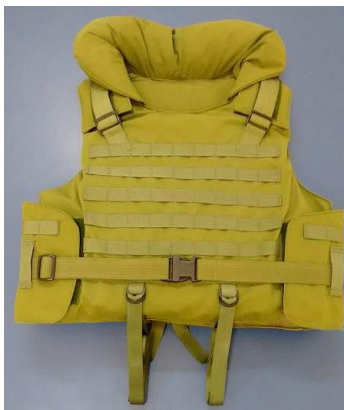
**(Level of Protection III-A, according to NIJ Standards 0101.06 / 0101.07)**

**1. GENERAL**

These specifications define the technical requirements for the manufacturing of a Life Saving Bullet Proof Vest to provide the ballistic qualities of a Tactical Vest plus the safety and buoyancy capabilities of a general Lifesaving Vest, to be used by the **Brazilian Navy personnel**.

The Life Saving Bullet Proof Vest must be designed to allow a fully equipped wearer to float comfortably in challenging situations.

The photos below show the general shape of the model specified.



**FRONT**



**BACK**



**FRONT**



**BACK**

## 2. THE LIFE SAVING BULLET PROOF VEST COMPONENTS

### 2.1 - Composition:

- **Detachable Base Vest Outer Shell**, closed at two sides and at both shoulders with adjustable straps "Velcro" Type enforced by Nylon straps and two internal pockets (front and back) for inserting ballistic plates with dimensions up till 25,4x30,3x2,2cm.
- **Vest must have provision for drainage of water below of ballistic and floatation pocket, it also have an additional extra outer belt** made with heavy duty webbing and buckles to ensure a better fit and wrap-around belt to prevent the vest from riding up while in water.
- Another webbing and **Buckles (double) passing through the legs with 1.50 meters** of length fixed below the drainage net, to prevent the vest from riding up while in the water and to allow the military if you are unconscious, do not remain with your face in the water.



**FRONT**



**BACK**

- **Base Vest Ballistic Panels**, front and back, made of ballistic and floating material to provide level III-A ballistic protection (NIJ Standard - 0101.06 / 0101.07) to the upper part of the torso, with flexibility characteristics. These panels are protected by a waterproof cover made of 100% waterproof material, and a rigorous sealing process must be used to protect the ballistic panels against the effects of water, dust and humidity. They must have the proper shape to fit in the vest cover. The side of the panel facing away from the body should be labeled "STRIKE FACE" because that is the side that is intended to be hit by the projectile.



**FRONT**



**BACK**

- **Collar (Neck) Protector** is assembled sewn to the vest with buoyancy material inside. The collar should have concealed seam to reduce irritation due to friction on the sharp edges and

Floating Material inserts shall be removable from collar and covered with impermeable Nylon fabric.



- **Floating Material inserts**, front and back, made from closed polyethylene cells, so that even if they are perforated, do not lose their buoyancy after 24 hours of immersion, protected by an impermeable Nylon cover.

The floating material must have the same shape (outline) of the Base Vest Ballistic Panels, maximum thickness of 3.5 cm on the front and 2.0 cm on the back. They must have the appropriate shape to fit in the outer shell.





The lifejacket MUST turn unconscious wearers face's out of the water and float someone with their head well out of the water.

- The lifejacket should have the ability to float:
- Medium size - one person up to 90 kg;
- Large size - one person up to 100 kg; and
- Extra-large size - one person up to 120 kg.

2.2 - All individual parts are assembled and attached to the arrangement of the Life Saving Bullet Proof Vest with adjustable straps with buckles and "Velcro" pieces of high quality material. In order to fully protect the torso area there should be no opens in the sides of the vest.

2.3 - All the ballistic protection inserts and the floating material inserts are separated parts and individually protected by an impermeable Nylon cover.

2.4 - The vest should be flexible and should allow complete freedom of movement without compromising the ability to acquire and neutralize threats from any firing position.

2.5- The weight of the complete Vest will not exceed 5,200 grams.

### 3. THE LIFE SAVING BULLET PROOF VEST MATERIALS

**3.1 - Base Vest Outer shell** - made of **Nylon coated P.U. type "Water Cordura"**, Water Repellent, Flame Retarding Finish (according to FMVSS 302 - U.S. Federal Motor Vehicle Safety Standards), **color Olive Green** (pattern of the U.S. Armed Forces - MIL-C-43734D). Straps and "Velcro" pieces made of high quality material.

**3.2 - BULLET PROOF VEST Panels (Soft armor)** - front and back, made of ballistic ARAMID and/or UHMWPE(Ultra-High Molecular Weight Polyethylene) with characteristic as follow:

- **flexibility** : High
- **Ballistic protection**: level III-A (NIJ Standard - 0101.06 / 0101.07).
- **Thickness**: 6mm ( Soft armor )
- **Cover**: impermeable Nylon fabric (color black).

**3.3 - Collar (Neck) Protector** - same material and color of the LIFE SAVING BULLET PROOF VEST. Collar is assembled sewn to the vest with buoyancy material inside and all made of high quality material for military use.

**3.4 - Floating Material inserts** - Special Closed Cell Structure Sponge with buoyancy capability according to SABS 146 Class I. The type of floatation material insert must be specified.

**3.5** - All materials must have a **water absorption** coefficient lesser than 3%.

**3.6 - BULLET PROOF VEST Panels (Soft armor) and Floating Material inserts** shall be removable from Base Vest Outer Shell and covered with impermeable Nylon fabric (color black).

### 4. PROTECTION LEVEL OF THE LIFE SAVING BULLET PROOF VEST

Ballistic performance should be tested and approved test laboratory(which must have NIJ approval letter and must be listed in: <https://www.justnet.org/compilant/NIJ-approved-labs.html> (0101.06 / 0101.07 - Level IIIA). The Life Saving Bullet Proof Vest must stop 0.357

SIG FMJ FN and 0.44 Magnum SJHP.

A certificate paper must be presented to ensure that the Life Saving Bullet Proof Vest was tested and approved according nij standards required in this document.

## 5. SPECIAL FEATURES

### 5.1 INTEGRATED LOAD CARRYING ABILITY:

- **M.O.L.L.E (Modular system)** for pouch and equipment attachment with malice clip, enabling the warrior to configure components to best meets specific missions. This system allows for direct connection of a hydration system and assault pack to the back of the LIFE SAVING BULLET PROOF VEST without having to use shoulder straps.

## 6. WARRANTY

A minimum warranty of four (4) years is required for the LIFE SAVING BULLET PROOF VEST outer shell, brace holder (neck/throat) and seven (7) years for Ballistic Panels (soft armor) and Floating Material Inserts in proper use and under normal conditions. . The protective covers of the ballistic panels must also have a guarantee of 7 (seven) years regarding sealing, waterproofing and resistance of the material in proper use and normal conditions.

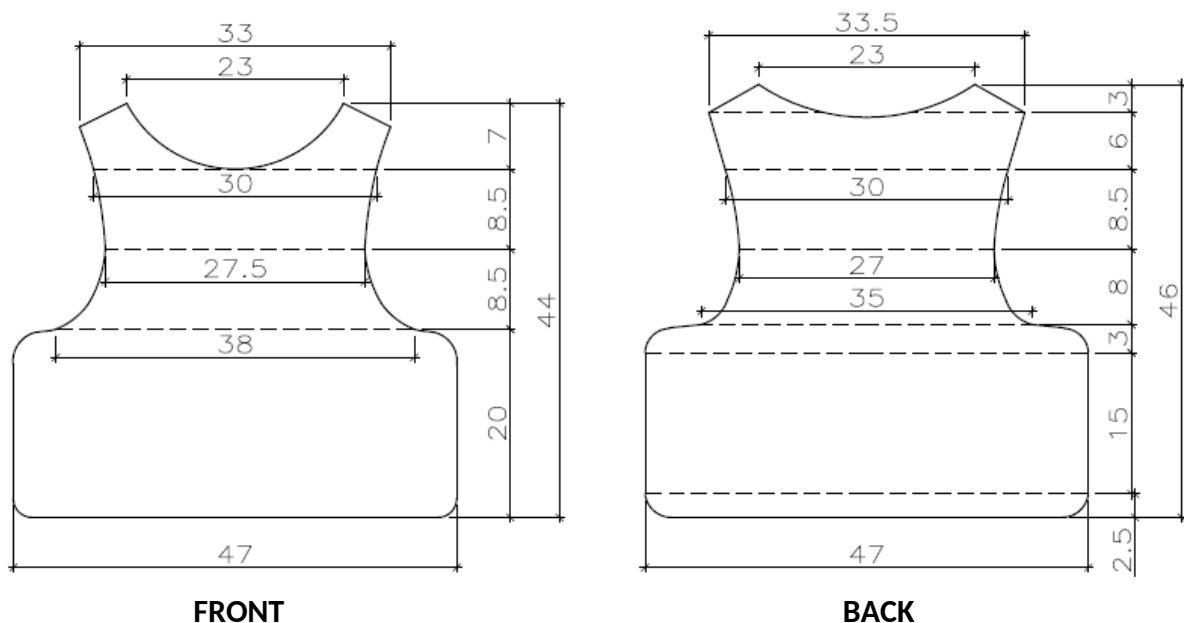
The quality assurance of industries must be given in accordance with the ISO 9001-2015 Certificate and be in full compliance with its standards.

## 7. SIZING CHART AND PROPORTION TO OBTAIN

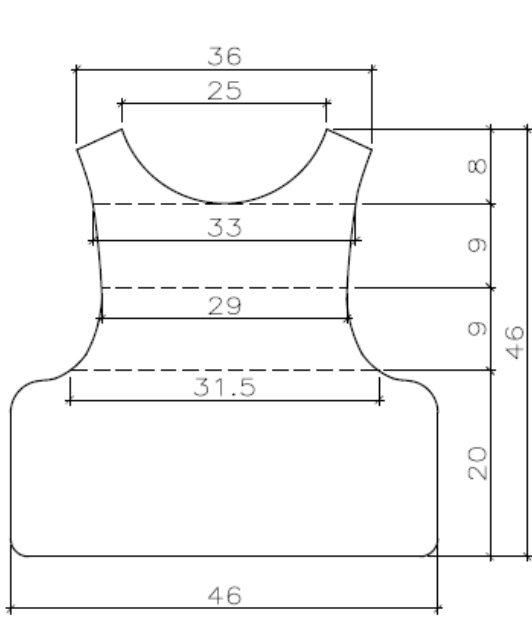
Size	Chest Circumference (Inches)	Chest Circumference (cm)	Proportion to obtain
MEDIUM (M)	37 - 41	93 - 104	10%
LARGE (L)	42 - 45	105 - 114	60%
X-LARGE (XL)	46 - 49	115 - 124	30%

The dimensions of the **FRONT and BACK** ballistic panels are presented below (**Tolerance: +/- 1 cm**).

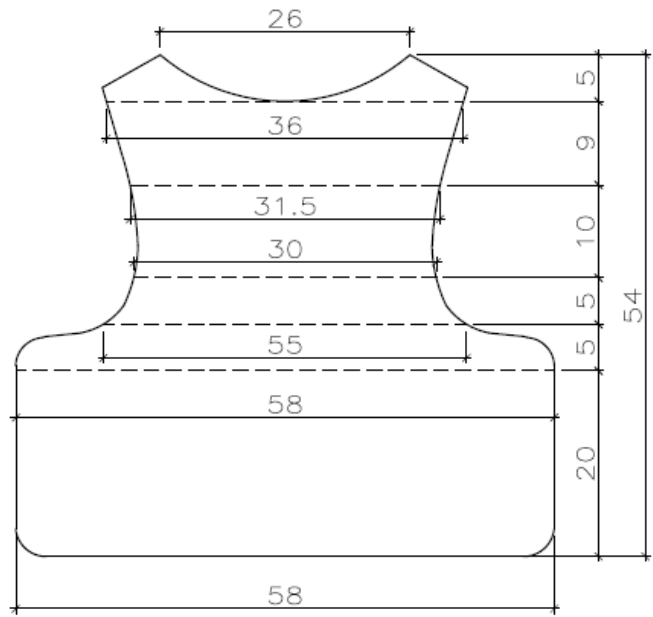
### MEDIUM



**LARGE**

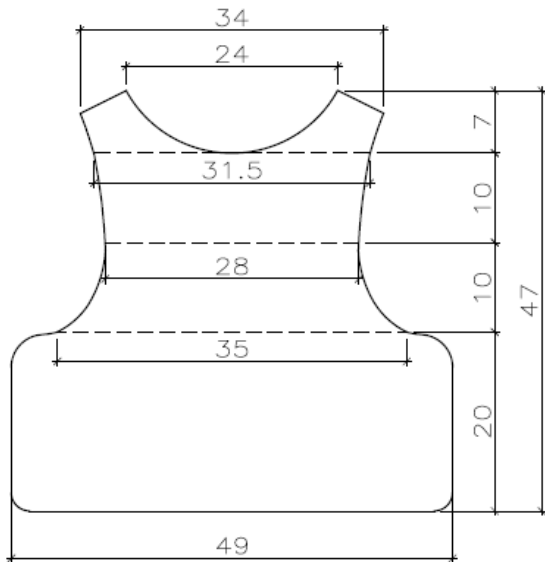


**FRONT**

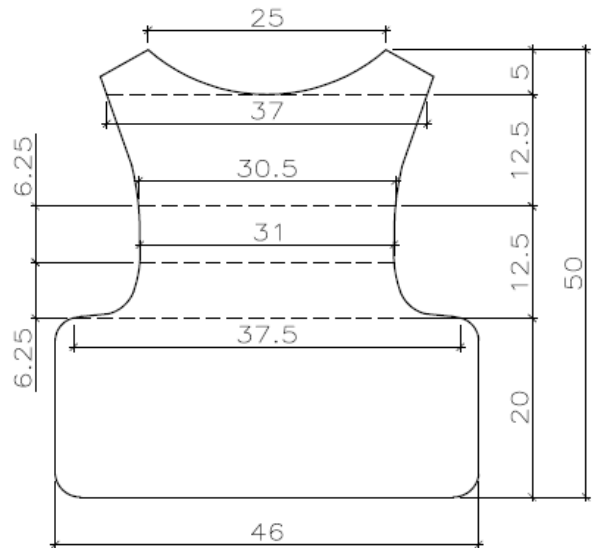


**BACK**

**EXTRA LARGE**



**FRONT**



**BACK**

## 8. IDENTIFICATION TAGS

A tag must be attached to the internal face of the Life Saving Bullet Proof Vest outer shell, to the Base Vest Ballistic Panels Covers and to each of the Floating Material Insert Covers to inform, at least: name of manufacturer, registered mark, part number, model, NIJ - level of protection, size, date of manufacture (month and year), location of manufacture, and special instructions for handle care, as shown below.



NIJ Standard-0101.06

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

## 9. SAMPLE

If requested a sample of the Life Saving Bullet Proof Vest must be presented for appreciation about fully conformity with the specifications.

## 10. MANUAL

A technical manual will be requested in both languages Portuguese and English, which must be delivered together with the sample / first delivery.

- General Information;
- Equipment Description;
- Major Components;
- Theory of Operation;
- Vest assembly;
- Storage and Maintenance Instructions; and
- NSN and Part Number of each part.