**Procurement documents/ Contract**

**Annex 1**

**Technical Specification for Buoyant Body ArmoUr**

**SECTION I**

**GENERAL PROVISIONS**

* 1. Buoyant Body Armour (hereinafter referred to as the vest or BBA) – is a personal protective equipment item designed to protect vital organs from the injurious effects of firearms and fragments during combat missions. The vest is intended for members of the Lithuanian National Defence System performing specific tasks on ships, on water, and in water, both within the territory of the Republic of Lithuania and abroad.
  2. The BBA and other component parts must be new and unused.
  3. Warranty periods for body armour:
  4. Ballistic plates – not less than 5 years from the date of signing the goods handover and acceptance certificate.
  5. Other elements (textile covers, buoyancy compensators, etc.) – not less than 24 (twenty-four) months under active operating conditions (counted from the date the goods are issued from the Buyer’s warehouse) and 5 years from the date of signing the goods handover and acceptance certificate.
  6. Each BBA must be supplied with operational and maintenance documentation (user/maintenance manual) in both English and Lithuanian.

**SECTION II**

**TECHNICAL REQUIREMENTS**

* 1. **The body armour consists of:**
  2. Textile covers for the front and back ballistic plates;
  3. Two adjustable shoulder straps (shoulder padding optional);
  4. Side waist belt of the vest for housing buoyancy compensators;
  5. Two plates curved in two directions for chest and back protection;
  6. Two main buoyancy compensators;
  7. Two emergency flotation devices;
  8. Transport and storage bag with compartments for ballistic plates and other components.
  9. A solid-colour moss fabric (close to colour code 6003 (olive green) according to the RAL colour catalogue), which is non-flammable on the surface, shall be used for manufacturing the textile covers of the BBA front and back ballistic plates. The exact colour will be finalized during the working sample approval process. The fabric’s technical characteristics shall meet (or exceed) the technical specifications listed in Table 1 of Annex 1.
  10. Textile (webbing) straps, hook-and-loop fasteners, and other accessories used in the vest production (clauses 5.1 – 5.3) shall be single-coloured and match the colour of the outer fabric. Accessory colours will be finalized during the working sample approval process.
  11. All external elements used in the production of the BBA (outer fabric and accessories) must be non-flammable and possess infrared (IR) reflectivity. The spectral reflectance factor of the fabric in the near-infrared radiation spectrum (800–1200 nm) shall range from 15% to 45%. The spectral reflectance factor of the accessories in the near-infrared radiation spectrum (800–1200 nm) shall be close to that of the outer fabric.
  12. **Requirements for the functionality of the BBA:**
  13. To achieve functional and ergonomic compatibility with other equipment and clothing elements used by the soldier, and to reduce the risk of catching on obstacles, the BBA shall be a low-profile plate carrier;
  14. The vest shall have a carrying/evacuation handle on the upper rear part (intended for evacuating the soldier);
  15. The BBA shall have a secure quick-release and fastening system. The vest must not come undone by itself during task execution;
  16. Height adjustment and release of the vest shall be located in the shoulder area;
  17. The vest must have width adjustment elements;
  18. The front, back, and sides of the vest must have a pouch attachment ladder system (PALS) webbing stripes or an equivalent system with at least 6 rows on the front and back;
  19. In the front and upper back of the vest, soft (loop) parts of hook-and-loop fasteners shall be sewn for patches;
  20. The waist belt must have the capability to accommodate and secure buoyancy-supporting equipment;
  21. The textile elements of the body armour must provide the user with even weight distribution and modularity;
  22. The shape and positioning of the buoyancy-supporting equipment during operation in water must ensure that the soldier’s head remains above the water;
  23. The shape and positioning of the buoyancy-supporting equipment during operation in water must not hinder the ability to use a weapon.
  24. **Requirements for ballistic protection:**
  25. To ensure soldiers’ safety from potentially threatening factors, the chest and back ballistic plates must provide at least Level III protection according to the NIJ 0101.06 standard, or Level RF1 according to the NIJ 0101.07 standard, or an equivalent standard.
  26. Backface Signature (BFS) (backface deformation (BFD)) ≤ 44 mm according to NIJ 0101.06 or NIJ 0101.07 standards, or an equivalent standard.
  27. The protective plates of the BBA must cover vital internal organs.
  28. Requirements for the size and weight of the BBA protective plates:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Dimension (± 5mm)** | **Area (±5%)** | **Maximum thickness** | **Maximum weight** |
| **Front, back** | 250x300 mm | 675 cm² | 22 mm | 1200 g |

Ballistic plates of SAPI/ESAPI type with double curvature.

* 1. All protective plates must be removable and insertable into the vest. Front and back ballistic plate mounts shall be provided to ensure stable fixation of the plates during active use.
  2. **Requirements for compensators and emergency buoyancy-supporting equipment:**
  3. Main compensators, reusable, integrated into the textile covers of the front and back ballistic plates, with an inflation tube;
  4. Minimum lifting capacity of the main compensators for M-XL vests: 10 lbs / 4.5 kg;
  5. Emergency buoyancy-supporting devices (containers), reusable with a double inflation system;
  6. Emergency buoyancy devices must have two CO2 cylinders with activation/release handles and two inflation tubes for each compartment for secondary inflation;
  7. The emergency buoyancy support device ensures the following buoyancy characteristics:

-positive buoyancy on the water surface of at least 33 kg;

-positive buoyancy at a depth of 4.5 m of at least 25 kg;

-positive buoyancy at a depth of 10 m (in seawater) of at least 20 kg;

* 1. **Body armour sizes:**

Body armour shall be manufactured in the sizes specified in the table (dimensions in centimetres):

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| SIZES | | S | M | L | XL |
| Waist circumference, cm | | 74-88 | 82-96 | 90-104 | 98-112 |
| Front height | Standard (R) | ≤ 42 | | | |
| Extended (L) | > 43 | | | |

Note. If necessary, non-standard sizes not specified in the table may be requested, not exceeding 2% of the ordered quantity.

* 1. **Body armour weight**

The weight of the body armour and its components (excluding the transport and storage bag) for size M(R) must not exceed **10** kg.

**SECTION III**

**PRODUCT LABELLING AND PACKAGING**

* 1. The labelling of the body armour and the information on the label must comply with the requirements of the NIJ standard or an equivalent standard.
  2. Labels must be attached to all parts of the vest indicating the vest model (article), serial number, batch (shipment) number, manufacturing date and place, size, front and back parts (sides) marked, and care symbols according to EN ISO 3758 standard or an equivalent standard.
  3. Labels must be resistant to sweat, washing, and cleaning.
  4. The label must be securely attached, and the marking details must be of sufficient size to allow easy reading and understanding of the provided information throughout the product’s entire service life.
  5. The vests shall be packed in sturdy cardboard boxes resistant to long-term storage and multiple transports. The weight of the boxes will be agreed upon during contract execution. Each cardboard box must be marked with the following clearly visible details:

- manufacturer/supplier name,

- for imported goods, additionally indicate the country of origin of the goods if it does not match the country where the manufacturer’s registered office is located;

- product name (must match the product name specified in the contract);

- quantity;

- contract date and number;

- batch and shipment index;

- date of manufacture;

- NSN code;

* 1. Cardboard boxes shall be delivered stacked on standard-sized (120 x 80 cm) Euro pallets (hereinafter referred to as Euro pallets). Euro pallets must be properly prepared for transportation: cardboard boxes must maintain their original shape during transport, be stacked so that they do not protrude beyond the edges of the Euro pallet, and evenly fill the pallet surface. The Euro pallet must be securely wrapped with packaging film so that the cardboard boxes cannot be separated from the pallet during transportation. Each Euro pallet must have an attached sheet no smaller than A4 size with the following clearly visible details:
* supplier name;
* manufacturer name or brand name (if different from the supplier);
* product name (must match the product name specified in the contract);
* size;
* number of boxes;
* quantity of products in one box;
* total number of products on a Euro pallet;
* other information (to be specified if necessary).

**SECTION IV**

**DOCUMENTATION REQUIREMENTS**

* 1. The manufacturer (supplier) must provide detailed operating/maintenance instructions for the body armour in English and Lithuanian, as well as valid warranty documents.

**SECTION V**

**QUALITY OF THE BODY ARMOUR**

* 1. The body armour must comply with the requirements specified in the technical specification. The supplier (manufacturer) shall provide:
  2. Documents confirming compliance with the ballistic protection specified in the technical specification (test reports from a laboratory accredited according to ISO/IEC 17025 or an equivalent standard, or a certificate issued by a certification body confirming the conformity of the body armour safety levels).
  3. Test reports from a laboratory accredited according to ISO/IEC 17025 or an equivalent standard for the outer fabric of the body armour.
  4. The test report/certificate must include the exact name of the laboratory/certification body, a description of the tested/certified item (model, article), the date of issue, and other relevant details. The test report must specify the name of the measured parameter, the testing method, and the measured value. All determined technical characteristics of the tested item shall be presented in a single report, and a physical sample of the tested item bearing the laboratory’s mark shall be provided (where possible).
  5. Compliance of sewing accessories with the requirements shall be confirmed by test reports issued by the manufacturer or a laboratory.

**SECTION VI**

**ACCEPTANCE OF BODY ARMOR**

* 1. The Buyer approves the Supplier’s working sample, which serves as the basis for the acceptance of the production.
  2. For the approval of the working sample, the Supplier shall provide:
* two identical products (of the agreed size);
* measurement table for alignment;
* instructions for use (maintenance) for coordination;
* a product description with the documents specified in clauses 5.1 and 5.2 of the technical specification (test reports, certificates, manufacturer’s confirmations, etc.) confirming that the materials used in the production of the item (fabrics, accessories, etc.) comply with the requirements specified in the technical specification.
  1. Production may only commence once the working sample has been approved.
  2. Body armour shall be delivered in transport bags.
  3. Products are accepted in batches and shipments. Each batch of goods must be marked with a contractual mark and accompanied by a declaration of conformity according to EN ISO/IEC 17050-1 (ISO/IEC 17050-1) form A.2 or an equivalent standard, along with documents confirming the conformity of the goods.
  4. The Buyer inspects the quality of goods from the selected batch and may conduct laboratory tests. If the results do not meet the technical requirements, the entire delivered batch is rejected.

**TECHNICAL SPECIFICATIONS OF THE BODY ARMOR UPPER FABRIC**

**Table 1**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **No.** | **Parameter name** | **Dimension** | **Indicator value** | **Test method reference** |
| 1. | Fibre composition\* | % | 100% PA 6.6 | Specify |
| 2. | Maximum  – warp direction  – weft direction | N | ≥ 4200  ≥ 3000 | LST EN ISO 13934-1 (ISO 13934-1) or equivalent |
| 3. | Tear strength  – warp direction  – weft direction | N | ≥ 200  ≥ 200 | LST EN ISO 13937-2 (ISO 13937-2) or equivalent |
| 4. | Surface wetting resistance | class | ≥ 4 | LST EN ISO 4920 (ISO 4920) or equivalent |
| 5. | Ignition rate | s | ≥ 7 | LST EN ISO 6940 (ISO 6940) or equivalent (surface flammability) |
| 6. | Abrasion resistance under a nominal pressure of 12 kPa | cycles | ≥ 250 000 | LST EN ISO 12947-2 (ISO 12947-2) or lygiavertis |

\* The fibre composition may be determined by any authorized method.