LOT 4 Personnel protection equipment

| *ANNEX II + III :* TECHNICAL SPECIFICATIONS + TECHNICAL OFFER  Contract title : Procurement equipments (Supply) p 1 /…  Publication reference : RORS 283/8 eMS  Columns 1-2 should be completed by the Contracting Authority  Columns 3-4 should be completed by the tenderer  Column 5 is reserved for the evaluation committee  Annex III - the Contractor's technical offer  The tenderers are requested to complete the template on the next pages:  Column 2 is completed by the Contracting Authority shows the required specifications (not to be modified by the tenderer),  Column 3 is to be filled in by the tenderer and must detail what is offered (for example the words “compliant” or “yes” are not sufficient)  Column 4 allows the tenderer to make comments on its proposed supply and to make eventual references to the documentation  The eventual documentation supplied should clearly indicate (highlight, mark) the models offered and the options included, if any, so that the evaluators can see the exact configuration. Offers that do not permit to identify precisely the models and the specifications may be rejected by the evaluation committee.  The offer must be clear enough to allow the evaluators to make an easy comparison between the requested specifications and the offeredspecifications.  Any mentions regarding a trade mark, brand, model is only for a proper and issyier identification of product requirements, and should be understand as followed by phrase “or equivalent”. |
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| Item number | Specification required | Specifications offered | Notes, remarks, ref to documentation | Evaluation Committie’s notes |
| **1** | **Multi-protection suit (***PROTECTIVE SUIT FOR FIREFIGHTERS* - PSF) **– 100 pcs (50 jacket and 50 pants)**   1. **GENERAL REMARKS**   The equipment must meet the minimum requirements of the following standards:  EN ISO 14116: 2015 - Protection against heat and flame,  EN ISO 20471: 2013 - High visibility signage for professional use,  EN 1149 - Protective clothing for electric springs ,  EN 343: 2003 Rain protection.  **The protective suit** **for firefighters** (PSF) must be made and used according to the requirements for **level 2** of **SR EN 469:2006 (EN 469:2005) "*Protective clothing for firefighters. Performance requirements for fire protection clothing*"** (as follows: level of protection against heat - flame and radiation: Xf2 and Xr2; level of resistance to hydrostatic pressure: Y2; level of resistance to water vapors: Z2)  The suit is made of materials with special properties, being made up of jacket and trousers, made in the range of sizes 44-62, sizes I, II, III, and has the blue-navy (ultramarine) color, with retro-reflective and fluorescent band.  **The suits allow for automatic washing at a temperature of 60°C, spinning by centrifugation at max. 550 rpm. and hot air centrifugation drying**  **II. MATERIALS USED AND TECHNICAL REQUIREMENTS**  2.1. **Outer layer** (basic material for jacket and trousers): aramid, antistatic, blue-navy (ultramarine) fabric. The basic fabric of the suit is made of **aramid fibers** (of which meta-aramid fibers 75% (± 5%) and para-aramid fibers 23% (± 5%) and of **antistatic fibers in percentage of 2-3%.** The mass of the fabric must be 200 (±5%) g/m2. The fabric must provide protection and durability when worn, increased resistance to light, rubbing, under intense operating conditions, accessible maintenance/cleaning methods.  2.2. **Intermediate layer**: multilayer material that provides protection against radiant heat and water, made from a combination of materials, as follows: **fireproof impervious breathable membrane**, made of polymers (*PTFE-FR type*), which provides water protection and **textile support** with aramid fiber, with high resistance to radiant heat, on which the impervious breathable membrane is laminated on one side, with a mass of max. 100 g/m2.  2.3. **Inner layer (lining)**: textile layer, with thermal protection, made of a layer/material made of *meta*-aramid yarn 50% (±5%) and viscose FR 50% (±5%), doubled with textile material (for the thermal barrier) from aramid and modacrylic fibers. The total mass must be below 270 g/m2.  2.4. **Patch material**: made of 100% para-aramid fibers (kevlar type), doubled on one side with a silicone/carbon layer with a density below 400 g/m2.  2.5. **Retro-reflective and fluorescent band**, with a width of 7.5+0.5 cm - material from 100% aramid, composed of a central silver-white area, of at least 2.5 cm, with retro-reflective properties and two yellow fluorescent side zones. The band must comply with the requirements of SR EN 20471:2013 and those set out in Annex B of EN 496:2006. We do not accept solutions of band separated on colors and individually sewn on suit.  The material should not be sensitive to orientation and maintain its photometric performance of retroreflection and fluorescence after tests of abrasion, flexion, bending at low temperatures, influence of rain, as well as after a minimum of 20 washes at 60° and a minimum of 5 chemical cleanings.  To demonstrate the properties, technical test reports and/or certificates of compliance with the requirements of EN 20471:2013, correlated with the visibility requirements set out in Annex B of EN 469:2006 will be submitted.  2.6. **Fireproof adhesive tape**, used for waterproofing the seams of multilayer (intermediate) material, compatible with the materials to be fastened.  2.7. Large teeth flame retardant **zipper** for high mechanical strength used for closing - opening the jacket chest.  2.8. Flame retardant **zipper** - for closing the fly on the pants.  2.9. **Elastic** with the width of min. 3.5 cm - for trouser straps.  2.10. Adjustable **buckles** with minimum opening 3.5 cm - for adjusting the trouser straps.  2.11. Flame retardant **velcro band** (loop - hook), with a width of 2,5 - 3 cm for pockets/accessories (collar, braces at the end of the sleeves, fastening the ends of the outer epaulettes) and width of 3-5 cm for the front closure of the jacket and adjustments at the waist of the pants. Continuous velcro tape will be used for closing the pockets and the front of the jacket.  2.12. **Flame retardant thread** - for stitching and threading seams.  2.13. *White-silver color flame retardant materials/paints, resistant on the product to repeated washing* - for the inscription of the logo "POMPIERII/FIREFIGHTERS" on the right chest and on the back, at the level of the shoulder blades.  2.14. Patent stockinette 1: 1, 8 cm in width, made of flame retardant yarn - used at the ends of the sleeves (cuffs), fastened to the lining (on the inside). It must meet the specifications for **index 3** of flame propagation in **EN ISO 14116:2015** - “Protective clothing. Fire protection. Materials, assemblies of materials and clothing with limited flame propagation”.  2.15. Textile **label** and cardboard label - CE marking, according to the MARKING chapter, applied to each component of the garment.  2.16. **Protective cover**, zippered, made of textile material (dark color) - according to the PACKAGING chapter.  ***Note: The quality of the materials used in making the Protective Suit for Firefighters is guaranteed by the supplier. It must ensure that all the materials introduced in the manufacturing process have the quality required by the provisions of the present technical specification and that all the materials used to make the suits do not have harmful effects on the health of the users.***  **III. PERFORMANCE LEVELS OF THE SUIT**  The finished product must meet the performance levels set out below, which constitute the **minimum quality requirements**:  **1.A. Technical specifications:** item 6.1/EN 469: Limited propagation of flames (longitudinal and transverse):  - outer fabric,  - the intermediate layer  - lining  - reflective tape  - cuff stockinette  - the joints of the basic components  - supplies (elastic band, velcro band, zipper, buckles)  **1.B.** **Required values** - minimum 3 propagation index, with the following results:  - Does not catch fire at the edges;  - No hole formation;  - No ignition or molten debris;  - No incandescence;  - No later re-ignition/flame;  **For supplies: functional after the test**  **1.C.** **Verification methods** EN ISO 15025/2002- met. A  **2.A.** **Technical specifications:** item 6.2/EN 469 Heat transfer (flame):  - HTI24 (required values: minimum 18)  -HTI24 – HTI12 (required values: minimum 5)  **2.B**. **Verification methods:** EN 367  **3.A. Technical specifications:** item 6.3/EN 469 Heat transfer (radiation) at a heat flux density of 40 kw/m2:  - RHTI24 (required values: minimum 24)  - RHTI24 – RHTI12 (required values: minimum 6)  **3.B**. **Verification methods:** EN ISO 6942  4.A. **Technical specifications:** item 6.4/EN 469 Residual tensile strength (longitudinal and transverse) after exposure to radiant heat, at a heat flux density of 10 kw/m2  4.B. **Required values**: weft: min. 850 N; netting: min. 1100 N  4.C. **Verification methods:** EN ISO 13934-1 /EN ISO 1421/98 method 1  5.A. **Technical specifications:** item 6.6/EN 469 The strength of the seams of the basic parts  **5.B. Required values:**  **a)** min 550 N by the verification method EN ISO 13934-1 / EN ISO 1421:1998 method 1  b) min 375 N by the verification method EN ISO 13935-2  **6.A**. **Technical specifications:** item 6.7/EN 469 Tear resistance - outer material  **6.B. Required values: min 80 N**  6.C. **Verification methods:** EN ISO 13937-2:2000  **7.A**. **Technical specifications:** item 6.9/EN 469 Changes in dimensions  **7.B. Required values:**  **-** Outer fabric: netting/weft (max ± 3%)  - Intermediate layer: netting/weft (max ± 3%)  7.C. **Verification methods:** ISO 5077:2007 (EN ISO 5077:2008)  **8.A.** **Technical specifications:** item 6.10/EN 469 Resistance to penetration of liquid chemicals (NaOH, HCI, H2SO4, o-xylene)  **8.B. Required values:** repelling rate bigger than:  a) 90% - NaOH, HCI, H2SO4  b) 85% - o-xylene without penetration  **8.C.** **Verification methods:** EN ISO 6530  **9.A.** **Technical specifications:** item 6.11/EN 469 Resistance to water penetration  **9.B. Required values:** min 20 kPa  **9.C. Verification methods:** EN 20811  **10.A**. **Technical specifications:** item 6.12/EN 469 Resistance of the material assembly to water vapours  **10.B. Required values: max 15** m2Pa/W  **10.C. Verification methods:** ISO 11092/ EN 31092\*  **11.A.** Test on complete clothing item  **11.B. Required values:** Estimation of damage by fire using a dummy –EN 469:2006, Annex C  **11.C. Verification methods:** EN 469:2006, Annex E  *NOTE: 1. The verifications will be carried out by specialized, neutral and notified bodies/laboratories at EU level - in the field of PPE, and the characteristics will be proven by certificates of conformity and technical test reports.*  *2. The contracting authority reserves the right to verify the quality of the raw and/or auxiliary materials used in the making of Protective Suits for Firefighters in the contracts, by taking samples of finished product and/or raw material from the lots submitted for delivery, which will be delivered for testing to the specialised neutral laboratories, the costs being borne by the supplier.*  **IV. THE MAKING OF THE SUIT**  The protective suit for firefighters consists of jacket and trousers. The jacket and trousers are made as follows:  - the outer layer of aramid fabric, which provides protection against fire;  - the intermediate layer that provides protection against heat radiation and water protection;  - inner layer - lining with thermal protection.  **4.1. The jacket** has front, back and sleeves, and at the top has a tunic type collar. The jacket is slightly arched on the waist, having retro-reflective and fluorescent bands around it, at the level of the chest and the endings, as well as on the sleeves (on the forearm and at the end) applied on it.  The front of the jacket consists of two symmetrical parts, and the back of a single part.  The closure-opening system of the jacket is with zipper and waterproof zipper cover, made of basic material, fastened with velcro tape, with a width of 3-5 cm.  This paragraph presents a minimal technical solution: the front has 3 pockets, all with welt pocket and flap. The upper part of the left chest has a pocket with welt pockets and flap, positioned above the retroreflective-fluorescent strip. Above the pocket a system for gripping the radio station is made. At the bottom of the front, a pocket with welt pockets and flap is positioned symmetrically. The closure of the flaps from the pockets is made with the continuous velcro tape over the entire length of the flap. The jacket is provided with an inside pocket, closed with a zipper, protected from moisture, access to it is made without opening the front zipper of the jacket.  The sleeves are straight, made of two longitudinal parts, provided with a gusset (for lightness). The adjustment of the sleeve width at the wrist is made with a bridle made of basic material, provided with velcro tape. At the end, the sleeves are fastened to the lining, on the inside, a 1:1 patent stockinette, flame retardant, with a minimum length of 8 cm and a release for the thumb, so that the cuff provides thermal protection of the palms. The sleeves are provided with protection in the elbow area .  The collar is designed to provide protection against risk factors for the back of the neck and neck, being made up at the front and the back of basic raw material that closes at the front with flap made of base material and velcro tape.  On the jacket, both at the level of the chest and at a distance of 10 - 20 cm from the lower edge of the jacket and sleeves, retro-reflective and fluorescent strips are applied around.  The jacket will be provided with anti-capillarity barrier, of at least 7 cm, on the inside and water drainage holes (protected with metal staples).  **4.2 Inscribing the jacket**  On the right chest, positioned above the visibility band, the logo «POMPIERII»/FIREFIGHTERS is inscribed with flame retardant reflective materials (by means of screen printing with flame retardant paint). The height of the letters is 45+0.5 mm, and the width of the logo «POMPIERII»/FIREFIGHTERS will be framed between the line of the sleeve armhole and the slit.  On the left chest, in the mirror, the logo of the financing program is inscribed under the same conditions.  On the back of the jacket (above the reflective-fluorescent flame retardant tape on the top), the logo «POMPIERII»/FIREFIGHTERS is inscribed with flame retardant reflective materials. The height of the letters is 11.5+1.5 mm, and the width of the logo «POMPIERII»/FIREFIGHTERS will be framed between the sleeves armholes of the back area. The arrangement of the letters in width will be based on the distance between the sleeve armholes, so that the width of the logo will be calculated to fit between the sleeve armholes (from approx. 50 mm to the sleeve seam), and the thickness of the letters should be 20+3 mm. The font is **arial bold**.  **4.3. The pants** are made with fly in front, which closes with a zipper, with or without a velcro tape. At the top, the pants are provided with elastic straps, to ensure lightness of movement, adjustable with buckles and spacer on the back for length adjustment.  The pants are adjusted at the waist by means of two bands positioned laterally, in the waist, the adjustment being made by the textile band (basic raw material), buckles, belts and velcro band.  On each outer thigh, a pocket with a flap pocket is applied symmetrically. The closing of the pockets flap is made with continuous velcro tape and zipper.  At the knee level a patch made of 100% para-aramid fibers, doubled on one side with a silicon/carbon layer with a maximum density of 400 g/m2 is fixed. The patch has another thermal lining applied over a length of at least 30 cm. The outer patch will be of the same length, being mounted in the side seams of the pants, and the lower and upper part are fastened by double stitches.  At a distance of 10-20 cm from the lower edge of the pants, the retro-reflective and fluorescence band is applied.  The pants will be provided with an anti-capillarity barrier of at least 15 cm and with water drainage holes.  On the inner seam, at the end, a protection against dirt is made of silicone coating material, the hem being made of the same material with silicone coating.  All stitches on the Protective Suits for Firefighters must be uniform and uninterrupted. The seams must be evenly tensioned. The joints must not be wrinkled or have ends of uncut threads.  **V. MARKING**  The "**protective suit for firefighters**" falls under **risk category III** and is subject to the procedure for assessing the conformity, rules and conditions for applying the CE marking, corresponding to the category III PPE, in compliance with Government Decision no. 305/2017 dated 5th of May, 2017, regarding the establishment of measures implementing the Regulation (EU) 2016/425 of the European Parliament and of the Council dated 9th of March 2016 on personal protective equipment.  **Both the pants and the jacket will be marked with the number of the standard in force (at the time of the manufacture of the products), minimum with the icon specific for the firefighters and with the CE marking** followed by the identification number of the notified body of the EU (including category III-PPE).  The performance level of the suit will be written on the label as follows:  Xf2 and Xr2 – for the level of protection against heat (flame and radiation, respectively);  Y2 – for the level of resistance to the initial hydrostatic pressure;  Z2 – for the level of resistance to water vapours.  Each product (jacket and pants) will be provided with a textile label, stitched, which will indicate: the name of the manufacturing company, the name of the product, the fibrous composition, the date of manufacture, the size, the international maintenance signs, the quality control sign and warn that the jacket and the pants are only worn together. The ink used for marking must be resistant to repeated washing. **If it is necessary to re-impregnate the outer material, the number of washes before re-impregnation must be clearly marked on the label.**  Also, the protective suit for firefighters will be accompanied by the information and use sheet, prepared by the supplier in accordance with the provisions of the standard in force.  **VI. PACKING**  **PACKING** - is made individually, in textile material covers (with closing system and the mass of at least 120 g/m2), taking all the measures to prevent the damaging of the suits, on which a label is applied which indicates: the name of the manufacturer; the name of the product; size indication; date of manufacture; the sign of the technical quality control body. |  |  |  |
| **2** | **Water and mud protection boots – 50 pairs**  **The long boots for water and mud protection** are used in the specific activities by the personnel of the structure of the General Inspectorate for Emergency Situations. They are black in color, made by the injection process, from polymeric materials on synthetic fiber stockinette support, according to the provisions of SR EN ISO 20345 (EN ISO 20.345:2011) “Personal protective equipment. Safety shoes”.  **I. MINIMUM TECHNICAL SOLUTION FOR MANUFACTURE**  The long boots for water and mud protection are made of antistatic polymeric materials through the injection process.  The sole and the heel will be made with a non-slip profile. The angle between the sole and the heel will be 90º, to avoid slipping during the descent of the steps.  To ensure the protection of the foot to mechanical shocks and to perforation, the protective boot for water and mud will be provided on the inside with metal toe cap and anti-puncture insert in the sole, and on the outside reinforcements in the areas of the toes, ankle, heel will be made. The flexible, waterproof extension from the top (from calf to hip) is made from polymeric materials on synthetic fiber support.  The joining of the boot with the upper extension is done by overlapping joining of the two, over a width of 28-30 mm.  The extension of the boot is joined tightly on the inside of the foot, by overlapping joining of the edges, resulting in a 12 mm wide sealing strip.  At the top, the chest of the boot ends with buckle arms that allow adjusting the size at the waist.  The outer surface of the boots and in section should be free of cracks, air bubbles, pores, inclusions of foreign bodies visible to the naked eye.  The fabric support of the boots must be well bonded to the outer layer, so that it does not have air holes and is not wrinkled.  No detachment is allowed on the line joining the face with the sole or the heel.  **Size 44 long boots for water and mud protection will have the following dimensions (minimum technical solution):**  - the minimum thickness for the upper assembly is 1 mm;  - the minimum thickness of the sole (including the spike) is 13 mm;  - the minimum height of the heel (including the spike) is 30 mm;  - the minimum height of the spike us 4 mm;  For the other size numbers, the constructive dimensions will decrease or increase, according to the related technology.  The warranty period of the product is 12 months from the date of delivery, under normal conditions of use and maintenance, and under appropriate storage conditions, period for which the manufacturer guarantees that they retain their technical, functional, shape, size and color characteristics.  **II. Table with the physical and mechanical parameters of the finished product**  **1.A. Name of requirement:** Flexural strength of the outer sole: the size of the notch  **1.B. Required values:** min 30,000 cycles, max 4 mm  **1.C. Test method:** EN ISO 20344:2011  **2.A. Name of requirement:** Abrasion resistance of the outer sole  **2.B. Required values:** max 250 mm³  **2.C. Test method:** EN ISO 20344:2011  **3.A. Name of requirement:** Slip resistance on tiled floor with SLS and on steel floor with glycerin:  - Condition A (slip of heel towards the front)  - Condition B (slip of sole towards the front)  - Condition C (slip of heel towards the front)  - Condition D (slip of sole towards the front)  **3.B. Required values:**  - Condition A (slip of heel towards the front) **permissible friction coefficient ≥0,28**  - Condition B (slip of sole towards the front) **permissible friction coefficient ≥0,32**  - Condition C (slip of heel towards the front) **permissible friction coefficient ≥0,13**  - Condition D (slip of sole towards the front) **permissible friction coefficient ≥0,18**  **3.C. Test method:** EN ISO 20344:2011  **4.A. Name of requirement:** Hydrocarbon resistance – volume increase in immersion in hydrocarbons (sole)  **4.B. Required values: ≤12 %**  **4.C. Test method:** EN ISO 20344:2011  **5.A. Name of requirement:** Tensile strength of the upper assembly  - elasticity mode at 100% elongation  - elongation at break  **5.B. Required values:**  - elasticity mode at 100% elongation **1,3 – 4,6** N/mm2  - elongation at break **>250**  **5.C. Test method:** EN ISO 20344:2011  **6.A. Name of requirement:** Resistance to degradation with chemicals (30% sodium hydroxide, 65% nitric acid) - for the upper assembly   * tear resistance after immersion * elongation at break   **6.B. Required values:**   * tear resistance after immersion ≥6,4 kN/m * elongation at break: min. 80% of the value before degradation   **6.C. Test method:** EN ISO 20344:2011  **7.A. Name of requirement:** Energy absorption in the heel  **7.B. Required values:** ≥20 J  **7.C. Test method:** EN ISO 20344:2011  **8.A. Name of requirement:** Antistatic properties  **8.B. Required values:** 105 – 109Ω  **8.C. Test method:** EN ISO 20345:2011  **9.A. Name of requirement:** Resistance to perforation  **9.B. Required values:** ≥1100 N  **9.C. Test method:** EN ISO 20345:2011  NOTE: the models presented as a technical proposal during the procurement procedures and the products delivered under the contract will be accompanied by declarations of conformity and test/evaluation reports issued by accredited and neutral profile laboratories.  **III. MARKING, PACKING**  **3.1** The **marking** of the boots for water and mud protection will be made by punching, on the sole and will include the following details: name of the manufacturing company, size, date of manufacture month/year, model, standard no. - SR EN ISO 20345-2012 (EN ISO 20.345:2011) **CE** marking, category and marking symbols: "**S5 SRC**" + "KM 200J"  **3.2 Packing** - the the boots for water and mud protection are placed in a cardboard box, on which a label with the following mentions is applied: supplier's name, product name, year/month of manufacture, size, category and marking symbols: "**S5 SRC**" + "KM 200J"  Each box contains an instruction sheet for the maintenance and use of the boots, written in Romanian |  |  |  |
| **3** | **Fire protection boots for firefighters 50 pcs ( 25 pairs)**   1. **GENERAL REMARKS**   **1.2.** Within the technical proposal the tenderer will present a document issued by a specialized body in the field (notified body), certifying that the manufacturer of the boots has implemented a quality assurance system, according to SR EN 9001/2008 or equivalent.  **1.3.** The **boots** are made and used according to the provisions of the harmonized European standard SR EN 15.090/2012 "**Footwear for firefighters**", are made in 11 sizes (measured in the French dots system) between 36 and 47 using bootlast with thickness 10 and are black in colour.  **The warranty period of the product is 12 months from the date of use, under normal conditions of use and maintenance, period for which the manufacturer guarantees that it retains its technical characteristics. For hidden defects, the manufacturer becomes directly responsible, having the obligation to replace the inappropriate products in maximum 45 days**.  **1.4.** The uppers are made of processed bovine leather - smooth press, waterproofed by chemical processes. The boots are made in a garment system (IL with the sole glued with adhesives resistant to the upper leather assembly). The sole and the heel are monolithic, made by molding processes. The vamps of the boots are covered with processed bovine leather - Smooth pressing, and the top of the boot is lined with impervious breathable and waterproof laminated fabric that provides protection against heat and water. The upper part of the top of the boot is fitted with a sleeve (collar) and clamps. The collar has the outer part made of processed bovine leather with the thickness of 1.2 - 1.4 mm. and the inner part of the silon type brushed polyester fabric, being doubled with moltopren with a thickness of 8 mm. The insole is layered with vegetable tanned bovine hides, metallic insert for resistance to puncture and fibrotex. The metallic toecap ensures the protection of the toes during crushing and mechanical shocks. The lining seams are waterproof with a heat-adhesive tape, applied with a special machine.  **1.5.** The **boots** have their uppers cut so that the direction of maximum stress during use is in the minimum direction of stretching of the uppers. The uppers have the component parts made of leather of the same kind (hue, appearance) so that when paired, they are identical. The uppers will be well spread on the bootlast, without wrinkles in the region of the tip or counter. Napping and applying the adhesive to the uppers will be done in such a way that their adhesion to the sole is uniform, without air pockets or impurities that affect the adhesion.  **II. RAW MATERIALS AND MATERIALS**  1**.** Bovine processed leather, black, smooth press, chemically waterproofed with a thickness of 2.0 - 2.2 mm - used in the vamp, top band, outer braid, counter, gripping clamps  2. Bovine processed leather, black, smooth press, chemically waterproofed with a thickness of 1,2 – 1,4 mm - used on the outer collar  3. Bovine processed leather with smooth press, with a thickness of 0,8-1,0 mm – used in vamp lining, inner braid  4. Polyurethane preformed by pressing, covered with natural lining leather, 1.5 mm thick - for insole cover  5. Polyester fabric for the inner collar  6. Impregnated material - use: thermoadhesive heel counter stiffener  7. Safety metal toecap 200 J - for protection of the toes  8. Vegetable tanned bovine hides, 3-4 mm thick for layer 1 of the insole  9. Anti-perforation insert from corrosion-protected steel sheet with a thickness of 0.4 - 0.5 mm  10. Pressed carton for layer 2 of the insole  11. Outer sole - molded sole made of fireproof rubber  12. Self adhesive moltopren with 8 mm thickness for the double sleeve  13. Flame-retardant sewing thread with 20/3 Nm for sewing toecaps and upper and with 30/3 Nm for lining sewing  14. Thermoadhesive tape and waterproofing solvent for waterproofing the seams  15. Impervious breathable laminated fabric for linings  16. Flame retardant tape with a width of 20-30 mm used as an electro-reflective element  17. Adhesives - used for adhesion of the linings and mounting of heel counter stiffener, adhesion of the outer sole  18. Waterproofing solvent - used for waterproofing of seams  **III. CHARACTERISTICS OF RAW MATERIALS**  **3.1.** The **bovine hides** used to make short boots with metallic insole are vegetable tanned. They should not have defects, they must be sufficiently soft and the fleshy part must be well cleaned. The painting must be uniform, penetrate the fleshy mass, have a pleasing surface appearance, without any irregularities or exfoliation when bending.  **3.2.** The **lining leather** must be uniform in thickness, free from defects and allow relative absorption of perspiration.  **3.3**. The **insole** is made from vegetable tanned bovine hides. The penetration of tanning substances must be complete in depth.  **3.4**. **The sole is made of flame retardant and antistatic rubber, which must be resistant to petroleum products and high temperatures. The sole is made** by molding, having on the outer surface non-slip spikes with regular shapes. No bumps or irregularities are allowed on this surface.  **3.5.** **The anti-perforation inserts** used must be incorporated into the soles of the boots so that their removal is impossible. They must not be above the reserve of the protection toe cap nor attached to it. They must be dimensioned so that, except for the heel region, the maximum distance between its edge and the edge of the bootlast is 6.5 mm, and in the region of the heel the maximum distance should not exceed 17 mm. For mounting on the sole, each insert should have no more than 3 holes with a diameter of up to 3 mm.  **3.6. The adhesives** used have a high resistance to detachment and ensure adherence within the limits imposed by the conditions of use.  **IV. MANUFACTURE**  **The short leather boots with metallic insole size 42 (see ANNEX 1), will have the following dimensions:**  - the length of the vamp from the tongue to the tip (a) is 205 mm;  - the total height of the leather top bands (b) measured from the heel to the upper edge is 290 mm;  - the width of the flattened top band, at the top (c) is 200 mm;  - the height of the leather heel counter stiffener measured from the heel to its upper edge (d) is 90 mm;  - the length of the heel measured in the median area of it (s) is 88 mm;  - the height of the leather sleeve (collar) from the top of the top bands (f) is 40 mm, over its entire length;  - the gripping clamps have a width (g) of 35 mm. and the height (h) of 90 mm.  The height of the top bands is variable depending on their size.  The following table shows the values for the height of the top bands corresponding to the boot sizes:  The following table shows the values for the height of the top bands (mm) corresponding to the boot sizes - Footwear size (French system): 39/40 – 280 mm; 41/42 – 290 mm, 43/44 – 300 mm  **4.2.** The **cutting** of the component parts for the uppers is carried out in compliance with the minimum elongation direction of the hide which must correspond to the maximum direction of stress. The cut is made by punching, by number of sizes, so that it corresponds to the dimensions of the bootlast. The edges of the overlapping pieces are thinned over a width of 4-6 mm and up to 60% of the total thickness of the hide so as not to create visible thickening in the joints. The visible edges of the parts are painted in the color of the uppers.  **4.3.** On the upper part of the **top bands** the lateral clamps are sewn and on the back outside the reflective tape is applied by sewing. In front the top bands are joined by zigzag stitching over which the braid is sewn. Behind the top bands the outer braid is mounted, fixed by a double seam executed over the heel counter stiffener. The first stitch is made at a distance of 2 mm from the edge of the heel counter stiffener, and the second 2 mm from the first stitch.  Between the gripping clamps and the front outer braid, at equal distances, 4 holes are made, each with a diameter of 4 mm, having a ventilation role. The distance between the edge of the holes and the upper edge of the top band at the point of connection with the leather sleeve is 10 mm.  **4.4**. The **vamp** is fastened to the assembled top bands, through a double seam. The first stitch is made at a distance of 2 mm from the edge of the heel counter stiffener, the second 2 mm from the first stitch.  **4.5.** The **linings** are joined at the back with an inner braid made of 0.8-1.0 mm thick leather, with a simple seam. The linings of the top bands are tubularly ended by a simple seam of end to end overlapping, after which they attached are by a skillet to the hide of the vamp. The thread used for the assembly of the linings is Nm 30/3.  **4.6.** Over all the seams of the lining a **waterproofing tape** is thermally applied with a special machine. This provides protection against water  **4.7.** The lining is fastened to the top bands by a head to head seam parallel to the upper edge of them, at a distance of 5 mm. Then the moltropene is mounted circularly and the lining is bent over the edge of the top band outwards forming an apparent sleeve. A protective band is applied to the lining of the vamp in the area of application of the metal toe cap to prevent the shoe from flexing on the metal edge.  **4.8**. The **insole** is stamped from vegetable tanned bovine hides and is processed by performing the following operations: equalization, notching, lifting of the swell (preforming), reinforcing the insole with the steel layer, metallic joint-piece and fibrotex type hard cardboard. The insole is fixed on the bootlast with three clamps.  **4.9.** The **metallic toe cap** is applied to the lining of the vamp pulled on the bootlast. Then the entire vamp is fixed to the bootlast by specific procedures.  **4.10.** The **uppers** are pulled on the bootlast after the metal heel counter stiffener and toe cap have been inserted. The resulting upper surplus is removed by mechanical cleaning and milling procedures, after which the lower part of the uppers and the intermediate sole are greased with adhesives for assembly.  **4.11.** The **outer heel counter stiffener** is made of bovine leather with a thickness of 2.0-2.2 mm. It is thinned on the edges over a 6 mm wide portion. The outer heel counter stiffener is sewn on the outer side of the top bands with two parallel seams, as follows: the first at 2 mm from the edge, and the second 2 mm from the first. The width of the heel counter stiffener in the joint area with the sole is 230 mm.  **4.12. The rear outer braid** is made of bovine leather with a thickness of 2.0-2.2 mm. Its width in the connection area with the outer heel counter stiffener is 75 mm. The braid is fixed on the top bands under the outer heel counter stiffener. At the joint line of the top band with the sleeve, the outer braid has a width of 30 mm and is fastened in the two parallel seams that attach the sleeve to the upper part of the top bands. The braid is sewn on the top bands, all around, with two parallel seams, the first at 2 mm from the edge, and the second at 2 mm from the first.  **4.13**. **The outer front braid** is made of bovine leather with a thickness of 2.0-2.2 mm. Its width is 30 mm. and is sewn on the top bands with two parallel seams, on each side, the first at 2 mm from the edge and the second 2 mm from the first. At the top it is crossed by the seam that divides the sleeve in two. The end fits into the seam of the outer leather sleeve with the inner polyester fabric sleeve.  **4.14**. The **gripping clamps** are made of bovine leather with a thickness of 2.0-2.2 mm. And are fixed 60 mm from the rear outer braid, on both sides. Their width is 35 mm. The lower end of the clamp is sewn on the top bands with a seam all around 2 mm from the edge. The upper end of the clamp is sewn into the seams joining the top bands with the sleeve.  **4.15**. **The sleeve (collar)** mounted on the upper part of the top bands, below their upper edge, is sewn to the top bands with two parallel seams, the first 2 mm from the edge, and the second 2 mm from the first. Between the outer part of the leather sleeve and the inner part, a moltoprene layer of 8 mm thickness is applied, made of brushed polyester silicon fabric. At half the height of the sleeve and along its entire length, a decorative stitch is made.  **4.16**. **The reflective tape** is mounted from the outer rear braid, parallel to the edges of the heel counter stiffener, on the outside of the boots.  **4.17**. **The sole** is cleaned and reactivated with a halogenation solution after which, respecting the evaporation times of the solvents, it is greased with adhesive. It is fixed to the upper drawn by soldering, process carried out in a reactivation furnace and by pressing under controlled pressure. The edges of the solder are cleaned if necessary and retouched with paint.  **4.18.** Inside each boot is inserted a **insole cover**, made of a polyurethane foam heel sock lining covered with lining leather, 1 mm thick. It should be well stretched and fastened to the shape of the heel sock lining so that no wrinkle is formed that will cause discomfort when worn or break free from the heel sock lining.  **4.19.** All the seams joining the top bands with the vamp, of the braid and the skin with the top bands as well as the joint line of the frame with the front and the sole are made with flame retardant thread and are waterproofed with a mixture of molten colorless wax, which has flame retardant properties.  **V. MINIMUM TECHNICAL REQUIREMENTS FOR PROTECTION**  The model presented in the procurement procedure as a technical proposal, will be accompanied by the EC Examination certificate, EC declaration of conformity and test reports issued, by a specialized laboratory, accredited and recognized in the Member States of the European Union, for the physical-mechanical characteristics of the materials used. The test reports presented will be issued for the type of product for which the certification was obtained and will refer to the requirements below:  **1.A. Name of requirement:** Type of classification  **1.B. Required values:** Type 2 classification I  **1.C. Test method:** SR EN 15090/2012  **2.A. Name of requirement:** Water resistance - water penetration total surface inside the shoe  **2.B. Required values:** max 3cm²  **2.C. Test method:** EN ISO 20344/2011  **3.A. Name of requirement:** Adhesion upper assembly - outer sole  **3.B. Required values:** min 4 N/mm  **3.C. Test method:** EN ISO 20344/2011  **4.A. Name of requirement:** Heat insulation - Inside temperature of the shoe after testing in a sand bath at 250°C for 10 minutes.  **4.B. Required values:** < 42 0C  **4.C. Test method:** SR EN 15090/2012  **5.A. Name of requirement:** Shoe degradation after testing in a sand bath at 250°C for 20 minutes.  **5.B. Required values:**- cracks with length <10 mm and depth <3 mm for outer sole  - detaching the sole from the upper assembly <15 mm in length and <5 mm in depth  - without pronounced deformation of the sole after the shoe returns to room temperature.  **5.C. Test method:** SR EN 15090/2012  **6.A. Name of requirement:** Flame resistance   * duration of persistence (sole-upper) * duration of glow (sole-upper)   **6.B. Required values: max 2 s**  **6.C. Test method:** SR EN 15090/2012  **7.A. Name of requirement:** Resistance to perforation of the sole  **7.B. Required values:** min 1100 N  **7.C. Test method:** EN ISO 20344/2011  **8.A. Name of requirement:** Shock resistance of the metal toe cap  **8.B. Required values:** 200 J  **8.C. Test method:** EN ISO 20344/2011  **9.A. Name of requirement:** Compressive strength of the metal toe cap  **9.B. Required values:** 15 kN  **9.C. Test method:** EN ISO 20344/2011  **10.A. Name of requirement:** Corrosion resistance for metal insert and metal toe cap  **10.B. Required values:**  max 2,5 mm2  **10.C. Test method:** EN ISO 20344/2011  **11.A. Name of requirement:** Electrical resistance  **11.B. Required values:** min.10 MΩ - max.1000 MΩ  **11.C. Test method:** EN ISO20344/2011  **12.A. Name of requirement:** Minimum tear resistance of:  - leather upper assembly  - rubber sole.  **12.B. Required values:**  - leather upper assembly: 120 N  - rubber sole: 8 kN/m  **12.C. Test method:** EN ISO 20344/2011  **13.A. Name of requirement:** Abrasion resistance of rubber sole  **13.B. Required values:** max 150 mm3  **13.C. Test method:** EN ISO 20344/2011  **14.A. Name of requirement:** Flexural resistance of the rubber sole – enlargement of the notch after 30,000 cycles  **14.B. Required values:** max 4 mm  **14.C. Test method:** EN ISO 20344/2011  **15.A. Name of requirement:** Bending resistance of the metal insert  **15.B. Required values:** min 1.000.000 flexions  **15.C. Test method:** EN ISO 20344/2011  **16.A. Name of requirement:** Resistance to contact heat  **16.B. Required values:** 300 0C  **16.C. Test method:** EN ISO 20344/2011  **17.A. Name of requirement:** Permeability to water vapor  **17.B. Required values:** min. 0,8 mg/cm2h  **17.C. Test method:** EN ISO 20344/2011  **18.A. Name of requirement:** Radiant heat resistance temperature increase after exposure to a heat flux of 20 kW/m2 for 40 s  **18.B. Required values:** max 24 0C  **18.C. Test method:** SR EN 15090/2012  **19.A. Name of requirement:** Water absorption of the insole  **19.B. Required values:** min 70 mg/cm2  **19.C. Test method:** EN ISO 20344/2011  **20.A. Name of requirement:** Water desorption of the insole  **20.B. Required values:** min 80%  **20.C. Test method:** EN ISO 20344/20011  **21.A. Name of requirement:** Insole PH value and insole cover  **21.B. Required values:** min. 3,2  **21.C. Test method:** EN ISO 20344/2011  **22.A. Name of requirement:** Hexavalent chromium content  **22.B. Required values:** max 3 mg/kg  **22.C. Test method:** SR EN ISO 17075/2008  **23.A. Name of requirement:** Slip resistance on ceramic tile floors, greased with detergent – coefficient of friction - condition A  - condition B  **23.B. Required values:**  - condition A : min 0,28  - condition B: min 0,32  **23.C. Test method:** EN ISO 20344/2011    NOTE: The manufacturer has the obligation to certify - through test reports - that all the materials used to make the boots comply with the requirements of this technical specification. It also guarantees through test reports and declarations of conformity that these materials do not have harmful effects on users (ph value and hexavalent chromium content)  **VI.** **MARKING AND PACKING**  **1. The "short leather boots with metallic insole" fall into category III risk** and are subject to the procedure for assessing the conformity, rules and conditions for applying the CE marking, corresponding to the category III PPE, in compliance with Government’s Decision no. 305/2017 dated 5th of May, 2017, regarding the establishment of measures implementing the Regulation (EU) 2016/425 of the European Parliament and of the Council of dated 9th of March 2016 on personal protective equipment. Also, **the boots will be marked with the type of protection 2HI2, the specific icon, the number of the standard SR EN 15090/2012, the performance category and the F2A SRA marking symbols, the manufacturer's name, the model code and the thickness (width of bootlast), the year and at least the manufacturing quarter.**  On the upper part of the top bands (on the outside), the icon showing the ensured protection is applied. On the sole of the products, the size and year of manufacture are applied by stamping.  2. The boots are packed in individual textile bags, each boot, and in individual cardboard boxes. In each box a label with instructions for the use and maintenance of the boots is inserted. The label shall be affixed to the box with the following inscriptions: name of the manufacturing company; the name of the product; size/thickness; year/month of manufacture; the quality control sign. |  |  |  |
| **4** | **Protective gloves for firefighters** 200 pcs (100 pairs)   1. **GENERAL REMARKS**   The gloves must meet the requirements of SR EN 659 + A1:2008 (EN 659:2003 + A1:2008) **-** "Protection gloves for firefighters" **based on the methods described in the related standards: SR EN 388:2004 (EN 388:2003 ) - "*Protective gloves against mechanical risks*", SR EN 420 + A1:2010 (EN 420:2003 + A1:2009) - "*Protective gloves. General requirements and test methods*"(except for the length defined in chapter 3), SR EN 407:2005 (EN 407: 2004) -" Protective gloves against thermal risks"(heat and fire).**   1. **USED MATERIALS AND TECHNICAL REQUIREMENTS**   **2.1**  **Raw materials/materials** used to make the gloves:  - palm: combination of aramid fibers (meta-aramid/para-aramid), doubled by a flame retardant, elastic layer, of dark-colored silicone, with the total mass max. 530 g/m2.  - back of the palm: a combination of aramid fibers (meta-aramide) and flame retardant viscose, dark blue or black, coated (from fingertips to second phalanges) with a flame retardant, elastic, dark-colored silicone layer with a total mass of max. 280 g/m2.  On the back of the palm, the gloves should be provided with at least two shock protection, applied on the wrist between the phalanges 1 and 2, as well as on the metacarpophalangeal wrist.  When assembled, the materials must provide gloves with fire resistance, providing protection: from fire, convection heat, radiant heat, contact heat, against mechanical hazards (abrasion, cutting, tearing, puncture) and against water penetration and chemical products penetration.  The intermediate layer, to ensure the protection against the penetration of water/moisture, should be made of a non-breathable membrane (PTFE or higher type), which will allow the removal of transpiration vapors from the inside to the outside.  Materials used to make the cuff must have properties similar to those used for the outside of the glove, respectively a combination of aramid fibers and flame retardant viscose, to provide protection from radiant, contact and convection heat.  **2.2. Auxiliary materials**  - Velcro tape (loop - hook), 2.5-3 cm wide, for hand adjustment;  - flame retardant retro-reflective and fluorescent tape (in the yellow/silver/yellow combination of colors), having a width of 5 cm (+0,5%), visibly applied on the product;  - flame retardant thread for assembly of component parts;  - ring/clamp with wide opening (preferably fall arrest type), made of metal with anti-corrosive and anti-rust properties for the pairing and attachment of the gloves to the belt;  - elastic band reinforcement, applied internally for hand adjustment.  Auxiliary materials must have technical characteristics compatible with the raw materials.  **2.3.** **The flame retardant and fluorescent tape**, with a width of (minimum) 5 cm, must meet the minimum requirements of EN 20471:2013 "*High visibility signaling clothing for professional use*" and maintain its photometric performance of retroreflection after abrasion, flexion, bending at low temperatures, the influence of rain, as well as after 50 cycles of washing at 60°C. The material should not be sensitive to orientation. The retro-reflective and fluorescent tape must be flame-retardant (according to EN 469: not to ignite, not to melt, not to bore) and be heat-resistant, and after exposure to a temperature of 260°C for 5 minutes (according to EN 469) to meet the minimum requirements of EN 20471 (the coefficient of retroreflection after exposure).  **2.4** All materials used to make gloves should not cause skin irritation or any other harmful effect that would damage the wearer's health. Also, the materials used to make gloves must be resistant to conditions of intensive use, and the protective characteristics must not undergo significant changes under the influence of aging or the conditions of maintenance/use to which the equipment is normally subjected and will not emanate unpleasant smells.  **The gloves must allow for washing with water at a temperature of 60°C, using detergents.**  **2.5.** The gloves are made in such a way as to allow easy movement of the hand during use, being made in sizes: minimum 8-10.  **III. MINIMUM TECHNICAL REQUIREMENTS FOR GLOVES**  **1.A. Name/characteristics**: innocuity (for all materials)  **1.B. Technical requirements/required values:** item 4.3 of EN 420 + A1:2009  **2.A. Name/characteristics**: Abrasion resistance of glove palm material: - cycles until perforation  **2.B. Technical requirements/required values** item 3.3 of EN 659 + A1:2008 /**Minimum performance level 3 - EN 388** *min. 2000 cycles*  **3.A. Name/characteristics:** The cutting resistance of the material from the glove palm and from the back of the glove: *–* *cutting by slicing index*  **3.B. Technical requirements/required values:** item 3.4 of EN 659 + A1:2008 / Minimum performance level **3 -** EN 388 *–* *cutting by slicing index: min. 5*  **4.A. Name/characteristics:** The tear resistance of the material in the glove palm: the tear force  **4.B. Technical requirements/required values:** item 3.5 of EN 659 + A1:2008 / Minimum performance level **3 -** EN 388 (tear force: min 50N)  **5.A. Name/characteristics:** Resistance to perforation of glove palm material: perforation force  **5.B. Technical requirements/required values:** item 3.6 of EN 659 + A1:2008 / Minimum performance level **3 -** EN 388 (perforation force: *min. 100 N)*  **6.A. Name/characteristics:** Behaviour to flame:  *– duration of persistence of the flame*   * *duration of residual incandescence*   The stitch should not open in the flame exposure area.  **6.B. Technical requirements/required values:** item 3.7 of EN 659 + A1:2008 / Minimum performance level 4  – duration of persistence of the flame: 0 seconds   * *duration of residual incandescence*: 0 seconds   The stitch should not open in the flame exposure area after an ignition time of 15 seconds.  **7.A. Name/characteristics:** Rezistenţa la căldura de convecţie (la o densitate a fluxului de căldură de 80 kW/m2): indice de transmisie a căldurii, HTI24 din palma mănuşii şi din dosul mănuşii Convection heat resistance (at a heat flux density of 80 kW/m2): heat transmission index, HTI24 from palm of the glove and back of the glove  **7.B. Technical requirements/required values:** item 3.8 of EN 659 + A1:2008 / Minimum performance level **4** - EN 407   * *index >24 seconds*   **8.A. Name/characteristics:** Resistance to radiant heat (at a heat flux density of 40 kW/m2): radiant heat transmission index, HTI24  **8.B. Technical requirements/required values:** item 3.9 of EN 659 + A1:2008   * *index >25 seconds*   **9.A. Name/characteristics:** Resistance to contact heat at a temperature of 250° C, dry and humid conditioning; - threshold time, tt  **9.B. Technical requirements/required values:** item 3.10 of EN 659+A1:2008  *- time > 15 seconds*  **10.A. Name/characteristics:** The heat resistance of the lining material, at 180°C, 5 minutes exposure time  **10.B. Technical requirements/required values:** item 3.11 of EN 659+A1:2008 The lining material must not melt, form drops, or ignite  **11.A. Name/characteristics:** Contraction in heat, at a temperature of 1800C  **11.B. Technical requirements/required values:** item 3.12 of EN 659+A1:2008 / Gloves must not contract more than 2%  **12.A. Name/characteristics:** Dexterity  **12.B. Technical requirements/required values:** item 3.13 of EN 659+A1:2008 / Performance level **5** - EN420  **13.A. Name/characteristics:** The tearing force of the stitches  **13.B. Technical requirements/required values:** item 3.14 of EN 659+A1:2008 / *minimum 350 N*  **14.A. Name/characteristics:** Glove removal time: dry and wet  **14.B. Technical requirements/required values:** item 3.15 din EN 659+A1:2008 / < 2 seconds  **15.A. Name/characteristics:** Complete glove integrity test  **15.B. Technical requirements/required values:** item 3.17 of EN 659+A1:2008 / *Water should not penetrate inside the glove*  **16.A. Name/characteristics:** Resistance to penetration of a chemical product: 30% percentage by mass H2SO4; 40% percentage by mass NaOH; 36% percentage by mass HCl; o-xylene  **16.B. Technical requirements/required values:** item 3.18 of EN 659+A1:2008 / minimum of 10 seconds / *there must be no penetration*  ***Note:***  **1. *The manufacturer/tenderer must guarantee by submitting with the technical offer declarations of conformity, that the materials introduced in the manufacturing process for making gloves, have the quality required by the requirements of this technical specification (including that they maintain their technical parameters after at least 5 washing cycles at 60° C with detergent), as well as that all the materials used to make the products have no harmful effects on the health of the users.***  ***2. In the technical proposal the technical data sheets (with the trade name/article number and the manufacturer) will be included for at least the following components: the assembly of materials used to make the gloves, the reflective-fluorescent flame retardant tape, supplies: 100% aramid thread, anti-corrosion metal ring/ clip and velcro tape.***  ***2.1 The following technical documents will also be presented:***  ***a. EC Type Examination Certificate and Conformity Assessment Report and/or Test reports on the technical and physical-chemical characteristics. The technical documents must be issued by Notified Bodies at the EU level / specialized, neutral and accredited laboratories.***  ***b. EC Declaration of Conformity together with the Instruction for Use, Maintenance and Cleaning/Disinfection Sheet, prepared by the manufacturer of the certified product.***  ***c. Certificate of quality and Certificate of guarantee issued by the tenderer.***  ***All submitted technical documents must be within their validity term on the date of submission of the technical offer, signed as certified true copies, having applied the seal of the tenderer, being accompanied by the certified translation into Romanian.***  ***3. For hidden defects, the manufacturer becomes directly responsible, having the obligation to replace the inappropriate and/or non-compliant products within a maximum of 20 days.***  **IV.** METHOD OF PRODUCTION  The protective gloves are worn over the sleeve of the protective suit jacket, being made with 5 fingers. The index, middle, ring and small fingers are cut together with the palm. The index, middle, ring and small fingers are cut together with the back of the glove. The gusset for space formation of fingers and cuff are tailored separately. The thumb is applied to the palm.  The gloves are made in 3 sizes, 8-10. The correspondence between the size and the length of the gloves is presented in the following table (Size of the glove – Minimum glove length, including cuff (mm)): 8 – 380 mm / 9 – 390 mm / 10 – 400 mm  The seams are made with flame retardant thread.  For a good attachment, in the area of the wrist, it must be provided with an elastic applied to the back of the glove, and the adjustment on the sleeve of the suit is made with the help of a clamp with Velcro tape adjustment system.  Visibility is ensured by the application of retroreflective and fluorescent bands with a minimum length of 8 cm.  At the edge of the cuff, the clips/ring for pairing and securing the gloves to the seat belt, are fastened.  The gloves are made neatly, without ends of threads or interrupted seams, and the edges of the retro-reflective bands must be finished correctly.  **V. MARKING OF PRODUCTS**  **Protective gloves for firefighters** fall into **category III risk** and are subject to the procedure for assessing the conformity, rules and conditions for applying the CE marking, corresponding to the category III PPE, in compliance with Government’s Decision no. 305/2017 dated 5th of May, 2017, regarding the establishment of measures implementing the Regulation (EU) 2016/425 of the European Parliament and of the Council dated 9th of March 2016 on personal protective equipment.  The marking is made according to the corresponding chapter of EN 420, and the marking must be visible, clear and permanent throughout the foreseeable life of the glove, having the following information printed at a minimum: the CE marking accompanied by the number of the EU notified body (including category III-PPE), the name of the manufacturer; the name of the product; size indication; date of manufacture; signs regarding instructions for use and maintenance.  **Each glove must be marked with the number of standard EN 659 and the icon specific to the firefighters**.  Also, each pair of gloves will be accompanied by an information sheet provided by the manufacturer (in Romanian), which must include instructions on how to use, maintain, as well as storage and cleaning/disinfection instructions.    **VI. PACKING**  Each pair of gloves is packaged in a textile bag (bag of textile material with a mass of at least 120 g/m2) on which a label is applied, mentioning: manufacturer's name; the name of the product; size indication; date of manufacture; the sign of the technical quality control body. |  |  |  |
| **5** | **Professional flashlight – 100 pcs**  5.1 Refueling must be done with rechargeable batteries; together with the front flashlight will be delivered: one battery charger and two battery packs (one spare); 5.2. It must have the ability to generate light with a minimum intensity of 50 lumens; 5.3. It must have at least two lighting modes: dispersed / working illumination and remote lighting (at least 100m); in the event of reaching a minimum discharge threshold, the flashlight must be equipped with an emergency lighting system for at least 2 hours without recharging or replacing the batteries; 5.4. operating autonomy with fully charged batteries: minimum 10 hours; 5.5. the batteries must be easy to remove and replaced; 5.6. the ice and accumulator compartments must be isolated from the outside environment to prevent the introduction of dangerous gases from the atmosphere (the bidder will present a document certifying the ANTIEX certification of the product); 5.7. must be resistant to shocks, dust and water (minimum IP56); 5.8. weight: maximum 400 grams with mounted batteries |  |  |  |
| **6** | **Positioning rope in "Y" for working at height – 20 pcs**  6.1. The rope is designed to prevent the fall of staff working at heights. The "Y" shape allows the person to be secured in both directions during work, and during the climbing it will always be secured in at least one direction, by the simultaneous movement of the two "arms" of the insurance  6.2. Dimensions  6.2.1. length 1,20 m – 1,70 m;  6.2.2. weight: max 2.5 kg  6.3. **Component parts:**  6.3.1. carabine for catching at the person's work belt  - breaking load : min 22 kN  - opening: min 20 mm  - lock type : auto-locking system  6.3.2. shock absorber  - sarcină minimă : 5 kN  6.3.3. static rope or webbing  - breaking load: min 22 kN  6.3.4. - 2 connectors hook type with self-locking at the ends of the connection means  - breaking load : min 22 kN  - opening: min 40 mm  6.5. must comply with the requirements of SR EN 362: 2005 - Personal protection against falls from a height. Connecting parts |  |  |  |
|  | For visibility actions, please refer to art 9 point 9.9 from Special Conditions. |  |  |  |