TECHNICAL SPECIFICATIONS
OF OCCUPATIONAL AND SAFETY FOOTWEAR FOR THE WARM SEASON

I. GENERAL REQUIREMENTS

1. The construction and properties of occupational and safety footwear (hereinafter referred to as the footwear) should meet the general (ordinary) requirements applicable to the footwear.

1.1. The main indices of requirements for safety footwear are stipulated in standard LST EN ISO 20345:2012 Personal protective equipment. Safety footwear (ISO 20345:2011) or equivalent standard.

1.2. The main indices of requirements for occupational footwear are stipulated in standard LST EN ISO 20347:2012 Personal protective equipment. Occupational footwear (ISO 20347:2012) or equivalent standard.

2. The sizes of footwear should meet the requirements of standard LST ISO 9407:2000 or equivalent.

3. The footwear should be manufactured no more than 1 (one) year before its supply. The sample of footwear with inscription “REFERENCE” presented together with the tender should be marked according to the requirements stipulated in Items 6 and 7 of this technical specification.

4. The quality of footwear should be ensured by the warranty period of at least one year.

5. The sole of footwear should be with a pattern, casted of polyurethane (PU), combination of thermoplastic polyurethane (TPU) or rubber (rubber), resistant to oil products, impermeable to water and non-slip (i.e., meeting the SRC class and marked with a respective mark). The pattern of the wearing surface of the sole should not be characterised by the risk of breaking. The patterns in cross-section should be variable and of wider grooves.

6. The labelling (mark) of footwear should meet the requirements stipulated in standards LST EN ISO 20345:2012 and LST EN ISO 20347:2012 (or equivalent) as well as the requirements of this technical specification.

7. The year and the quarter of footwear manufacture should be impressed on the tongue or any other visible place of the leather.

8. The supplier, producer or distributor of footwear should replace the footwear, if the labelling and CE marking smears during the period of warranty.

9. In addition to the tender, the supplier should submit the following:

9.1. footwear sample of size 43;
9.2. copy of the certificate of footwear manufacturer’s quality management system according to standard ISO 9001 (or equivalent) or certificate of an equivalent quality system approved by the seal and signature of the footwear manufacturer.

The equivalent standard is considered to be the standard with the requirements equivalent to or exceeding the requirements of standard ISO 9001. The compliance of the requirements of such standard with the requirements of standard ISO 9001 should be confirmed by the accredited certification body;

9.3. copies of the certificate of EC-type tests of the notified body certifying that the supplied footwear meets the requirements of the national standards LST EN ISO 20345:2012 and LST EN ISO 20347:2012 (or equivalent) approved by the seal and signature of footwear manufacturer and their properly approved translations to the Lithuanian language;
9.4. manufacturer’s declaration’s of the sample form certifying that the supplier’s footwear meets the requirements of the main Technical Regulation “Personal protective equipment” approved by Order No 69 of the Minister of Social Security and Labour of 03.07.2000 (Official Gazette, 2000, No 65-1967). The submitted declarations should be approved with the seal and signature of the footwear manufacturer and submitted together with the properly certified translations into the Lithuanian language;
9.5. the production/technical documentation sealed and signed by the footwear manufacturer (description, technical characteristics, footwear test protocols, etc.) and their proper translations into the Lithuanian language;
9.6. footwear instruction manual in the national (Lithuanian) language;
9.7. samples of all leathers of the size of 60 x 70 mm used for the production of the boot-top;
9.8. the documents should be presented in the national (Lithuanian) language. If the submitted documents are in a language other than in the national language, their translations (original) to the Lithuanian language should also be submitted. The translation of each document should be approved with the translator’s signature (by indicating the name, family name and duties of the translator), seal of the translation bureau and mark that the person translating the documents certifies its authenticity.

II. REQUIREMENTS FOR THE OCCUPATIONAL FOOTWEAR FOR THE WARM SEASON

10. SUMMER SHOES (070101)

10.1. Functional requirements
10.1.1. The summer shoes (hereinafter referred to as the shoes) should be impermeable to water and protect the feet from mechanical impacts.
10.1.2. The shoes should retain their properties throughout the entire period of wearing; the sole should have a sufficient insulation from heat in case of unfavourable conditions and should also be protected against breaking and ungluing at the maximum ambient temperature of + 35°C.
10.1.3. The construction and manufacture of shoes should meet the requirements applicable for the occupational footwear and specified in standard LST EN ISO 20347:2012, general (ordinary) requirements applicable to footwear and the requirements of this technical specification.

10.2. Model description
10.2.2. Closed-type tongue located in the front part of the shoes should prevent the water, dirt and rainfall from passing inside the footwear.
10.2.3. The footwear should be laced through the holes or eyelets or through the combination of the two.
10.2.4. The toe cap should be hardened with a thermoplastic material and should be non-sagging. The connection should contain no sewing stitches and should be made of one leather part.
10.2.5. The heel counter should be unbending.

10.3. Requirements for the main materials
10.3.1. Leather
10.3.1.1. The natural, black, hydrophobically processed leather of large bovine animals with a natural grain and impressed pattern should be used for the vamp. The thickness of leather should be at least 2.0 mm.
10.3.1.2. The softened edge of the shoes should be made of natural, black, soft, hydrophobically processed leather of large bovine animals.
10.3.1.3. The leather of the tongue – of large bovine animals, hydrophobic processed, black-coloured, soft.
10.3.2. Lining
10.3.2.1. The lining in the shoe connection and the top as well as under the tongue should be made of rubbing-resistant materials meeting the requirements of standard LST EN ISO 20347:2012 (or equivalent). The lining material should be characterised by good moisture absorption, vaporisation and rubbing-resistance properties.

10.3.3. Sole
10.3.3.1. The sole should be with a pattern, casted of polyurethane (PU), combination of thermoplastic polyurethane (TPU) or rubber (rubber), resistant to oil products, impermeable to water and non-slip (i.e., meeting the SRC class and marked with a respective mark).
10.3.3.2. The layout of sole spikes should be discontinuous (variable) in cross-section and of wider grooves.

10.3.4. Insert
10.3.4.1. The insert should be formed, removable, characterised by good absorption properties and vaporising the moisture from the feet. The insert should not lose its form and characteristics after washing at the temperature of + 30°C.

10.4. Other materials
10.4.1. The insole should be made of footwear cardboard or any other material that has equivalent or better characteristics and meets the requirements specified in standard LST EN ISO 20347:2012 (or equivalent) and is of the thickness of at least 2.0 mm.
10.4.2. The stiff heel counter should be formed of special footwear cardboard, thermoplastic material or natural leather.
10.4.3. Shoelaces – woven polyester or polyamide, dark-coloured and matching the colour of the shoe leather.
10.4.4. At least 4 (four) pairs of metal or non-metal eyelets or holes or the combination of the two should be used for lacing of summer shoes. The metal parts should be resistant to corrosion. The technical characteristics of non-metal holes and eyelets should be equivalent to or better than those of metal holes and eyelets.
10.4.5. The sewing thread should be impermeable (polyester or polyamide).

10.5. Marking of footwear
10.5.1. The marking of footwear should meet the requirements applicable to the marking of footwear and indicated in Items 6-8 of Part I “General Requirements for the Occupational and Safety Footwear” of this specification.

10.6. The main physical/mechanical indices
10.6.1. The main physical/mechanical indices for the occupational footwear should be equivalent to or better than those indicated in standard LST EN ISO 20347:2012 Personal protective equipment. Occupational footwear or (equivalent).

11. SUMMER SANDALS (070105)

11.1. Functional requirements
11.1.1. The summer sandals (hereinafter referred to as the sandals) should protect the feet from mechanical impacts during the warm season.
11.1.2. The sandals should be characterised by good ventilation properties and should retain their properties throughout the entire period of wearing; the sole should have a sufficient insulation from heat in case of unfavourable conditions and should also be protected against breaking and ungling at the maximum ambient temperature of + 35°C.
11.1.3. The construction and manufacture of sandals should meet the requirements applicable for the occupational footwear and specified in standard LST EN ISO 20347:2012 (or equivalent).

11.2. Model description
11.2.2. The connection of sandals (part of instep) should contain the holes of the maximum diameter of 4 mm, which should be situated at the height of at least 26 ± 3 mm over the plane of the insole in the instep area.

The holes should also be in the heel counter area from both sides at the height of at least 26 ± 3 mm to the place of the insole.

The lining should cover the entire internal width of the sandal.

11.2.3. The clasps used for the fastening of sandals should be made of corrosion-resistant metal or non-metal clasp should be used with the technical characteristics equivalent to or better than those of metal clasps.

11.2.4. The toe cap should be hardened with a thermoplastic material and should be non-sagging. The connection should contain no sewing stitches and should be made of one leather part.

11.3. Requirements for the main materials

11.3.1. Leather

11.3.1.1. The natural, black, hydrophobically processed leather of large bovine animals with a natural grain and impressed pattern should be used for the vamp. The thickness of leather should be at least 2.0 mm.

11.3.1.2. The softened edge of the sandals should be made of natural, black, soft, hydrophobically processed leather of large bovine animals.

11.3.2. Lining

11.3.2.1. The lining in the shoe connection and the top as well as under the tongue should be made of rubbing-resistant materials meeting the requirements of standard LST EN ISO 20347:2012 (or equivalent). The lining material should be characterised by good moisture absorption, vaporisation and rubbing-resistance properties.

11.3.3. Sole

11.3.3.1. The sole should be with a pattern, casted of polyurethane (PU), combination of thermoplastic polyurethane (TPU) or rubber (rubber), resistant to oil products, impermeable to water and non-slip (i.e., meeting the SRC class and marked with a respective mark).

11.3.3.2. The layout of sole spikes should be discontinuous (variable) in cross-section and of wider grooves.

11.3.4. Insert

11.3.4.1. The insert should be formed, removable, characterised by good absorption properties and vaporising the moisture from the feet. The insert should not lose its form and characteristics after washing at the temperature of + 30°C.

11.4. Other materials

11.4.1. The insole should be made of footwear cardboard or any other material that has equivalent or better characteristics and meets the requirements specified in standard LST EN ISO 20347:2012 (or equivalent) and is of the thickness of at least 2.0 mm.

11.4.2. The stiff heel counter should be formed of special footwear cardboard, thermoplastic material or natural leather.

11.4.3. The claps should be metal or non-metal. The strap of clasp at the top should be fitted with a leather strap so that it would not break throughout the entire period of wearing. The metal parts should be resistant to corrosion. The technical characteristics of non-metal clasps should be equivalent to or better than those of metal clasps.

11.4.4. The leather strap and clasp leather strap should be inlaid between the shoe lining and the shoe top to the depth of at least 10 ± 2 mm. The places of inlay of strap and clasp strap should be sewn with a double seam along the whole perimeter of the place of inlay.

11.4.5. The sewing thread should be impermeable (polyester or polyamide).

11.5. Marking of footwear

11.5.1. The marking of sandals should meet the requirements applicable to the marking of footwear and indicated in Items 6-8 of Part I “General Requirements for the Occupational and Safety Footwear” of this specification.
11.6. The main physical/mechanical indices
11.6.1. The main physical/mechanical indices for the occupational footwear should be equivalent to or better than those indicated in standard LST EN ISO 20347:2012 Personal protective equipment. Occupational footwear or (equivalent).

12. SUMMER SANDALS (070106)

12.1. Functional requirements
12.1.1. The summer sandals (hereinafter referred to as the sandals) should protect the feet from mechanical impacts and perforation during the warm season.
12.1.2. The sandals should be characterised by good ventilation properties and should retain their properties throughout the entire period of wearing; the sole should have a sufficient insulation from heat in case of unfavourable conditions and should also be protected against breaking and ungluing at the maximum ambient temperature of +35°C.
12.1.3. The construction and manufacture of sandals should meet the requirements applicable for the occupational footwear and specified in standard LST EN ISO 20347:2012 (or equal), general (ordinary) requirements applicable to footwear and the requirements specified herein.

12.2. Model description
12.2.2. The connection of sandals (part of instep) should contain the holes of the maximum diameter of 4 mm, which should be situated at the height of at least 26 ± 3 mm over the plane of insole in the instep area. The holes should also be in the heel counter area from both sides at the height of at least 26 ± 3 mm to the place of the insole. The lining should cover the entire internal width of the sandal.
12.2.3. The clasps and straps should be used for fastening the sandals.
12.2.4. The toe cap should be hardened with a thermoplastic material and should be non-sagging. The connection should contain no sewing stitches and should be made of one leather part.

12.3. Requirements for the main materials
12.3.1. Leather
12.3.1.1. The natural, black, hydrophobically processed leather of large bovine animals with a natural grain and impressed pattern should be used for the vamp. The thickness of leather should be at least 2.0 mm.
12.3.1.2. The softened edge of the sandals should be made of natural, black, soft, hydrophobically processed leather of large bovine animals.

12.3.2. Lining
12.3.2.1. The lining in the shoe connection and the top as well as under the tongue should be made of rubbing-resistant materials meeting the requirements of standard LST EN ISO 20347:2012 (or equivalent). The lining material should be characterised by good moisture absorption, vaporisation and rubbing-resistance properties.

12.3.3. Sole
12.3.3.1. The sole should be with a pattern, casted of polyurethane (PU), combination of thermoplastic polyurethane (TPU) or rubber (rubber), resistant to oil products, impermeable to water and non-slip (i.e., meeting the SRC class and marked with a respective mark).
12.3.3.2. The layout of sole spikes should be discontinuous (variable) in cross-section and of wider grooves.
12.3.3.3. The insole protecting the foot against cutting should be made of non-metal composite material resistant to perforation or any other material that has analogous characteristics and meets the requirements specified in standard LST EN ISO 20347:2012 (or equivalent standard).
12.3.4. Insert
12.3.4.1. The insert should be formed, removable, characterised by good absorption properties and vaporising the moisture from the feet. The insert should not lose its form and characteristics after washing at the temperature of + 30°C.

12.4. Other materials
12.4.1. The stiff heel counter should be formed of special footwear cardboard, thermoplastic material or natural leather.
12.4.2. The claps should be metal or non-metal. The strap of clasp at the top should be fitted with a leather strap so that it would not break throughout the entire period of wearing. The metal parts should be resistant to corrosion. The technical characteristics of non-metal clasps should be equivalent to or better than those of metal clasps.
12.4.3. The leather strap and clasp leather strap should be inlaid between the shoe lining and the shoe top to the depth of at least 10 ± 2 mm. The places of inlay of strap and clasp strap should be sewn with a double seam along the whole perimeter of the place of inlay.
12.4.4. The sewing thread should be impermeable (polyester or polyamide).
12.4.5. The insole protecting the foot against cutting should be made of non-metal composite material resistant to perforation or any other material that has analogous characteristics and meets the requirements specified in standard LST EN ISO 20347:2012 (or equivalent standard).

12.5. Marking of footwear
12.5.1. The marking of sandals should meet the requirements applicable to the marking of footwear and indicated in Items 6-8 of Part I “General Requirements for the Occupational and Safety Footwear” of this specification.

12.6. The main physical/mechanical indices
12.6.1. The main physical/mechanical indices for the occupational footwear should be equivalent to or better than those indicated in standard LST EN ISO 20347:2012 Personal protective equipment. Occupational footwear or (equivalent).

13. SUMMER ANKLE BOOTS (070202)

13.1. Functional requirements
13.1.1. Summer ankle boots (hereinafter referred to as ankle boots) should be impermeable to water and protect the feet from mechanical impact and perforation.
13.1.2. The ankle boots should retain their properties throughout the entire period of wearing; the sole should have a sufficient insulation from heat in case of unfavourable conditions and should also be protected against breaking and ungluing at the maximum ambient temperature of + 35°C.
13.1.3. The construction and manufacture of ankle boots should meet the requirements applicable for the footwear and specified in standard LST EN ISO 20347:2012 (or equal), general (ordinary) requirements applicable to footwear and the requirements specified herein.

13.2. Model description
13.2.2. The ankle boots should have a closed-type tongue, which prevents the water, dirt and rainfall from passing inside the footwear. The latex or foam of the thickness of at least 10 mm should be used for softening the upper edge of the top of ankle boots and of the thickness of at least 5 mm – for the tongue.
13.2.3. The footwear should be laced through the holes or eyelets or through the combination of the two.
13.2.4. The toe cap should be hardened with a thermoplastic material and should be non-sagging.
13.2.5. The front part of the toe cap covering the toes should be coated solidly with a sole and the coating should cover the protective cap throughout the entire width.
13.2.6. The vamp connection should contain no sewing stitches and should be made of one leather part.
13.2.7. The lining should cover the entire internal width of the boot, except for the heel counter.
13.2.8. The heel counter should be unbending.

**13.3. Requirements for the main materials**

**13.3.1. Leather**
13.3.1.1. The natural, black, hydrophobically processed leather of large bovine animals with a natural grain and impressed pattern should be used for the vamp. The thickness of leather should be at least 2.0 mm.
13.3.1.2. The softened edge of the ankle boots should be made of natural, black, soft, hydrophobically processed leather of large bovine animals.
13.3.1.3. The leather of the tongue – of large bovine animals, hydrophobic processed, black-coloured, soft and of the thickness of at least 2.0 mm.

**13.3.2. Lining**
13.3.2.1. The lining in the shoe connection and the top as well as under the tongue should be made of rubbing-resistant materials meeting the requirements of standard LST EN ISO 20347:2012 (or equivalent). The lining material should be characterised by good moisture absorption, vapourisation and rubbing-resistance properties.

**13.3.3. Sole**
13.3.3.1. The sole should be with a pattern, casted of polyurethane (PU), combination of thermoplastic polyurethane (TPU) or rubber (rubber), resistant to oil products, impermeable to water and non-slip (i.e., meeting the SRC class and marked with a respective mark).
13.3.3.2. The layout of sole spikes should be discontinuous (variable) in cross-section and of wider grooves.
13.3.3.3. The insole protecting the foot against cutting should be made of non-metal composite material resistant to perforation or any other material that has analogous characteristics and meets the requirements specified in standard LST EN ISO 20347:2012 (or equivalent standard).

**13.3.4. Insert**
13.3.4.1. The insert should be formed, removable, characterised by good absorption properties and vapourising the moisture from the feet. The insert should not lose its form and characteristics after washing at the temperature of +30°C.

**13.4. Other materials**
13.4.1. The stiff heel counter should be formed of special footwear cardboard, thermoplastic material or natural leather.
13.4.2. Shoelaces – woven polyester or polyamide, dark-coloured and matching the colour of the shoe leather.
13.4.3. The ankle boots should be laced through the holes or eyelets or through the combination of the two. The metal parts should be resistant to corrosion. The technical characteristics of non-metal holes and eyelets should be equivalent to or better than those of metal holes and eyelets.
13.4.4. The sewing thread should be impermeable (polyester or polyamide).

**13.5. Marking of footwear**
13.5.1. The marking of ankle boots should meet the requirements applicable to the marking of footwear and indicated in Items 6-8 of the General Requirements.

**13.6. The main physical/mechanical indices**
13.6.1. The main physical/mechanical indices for the occupational footwear should be equivalent to or better than those indicated in standard LST EN ISO 20347:2012 Personal protective equipment. Occupational footwear or (equivalent).

### III REQUIREMENTS FOR THE SAFETY FOOTWEAR FOR THE WARM SEASON

**14. SUMMER SANDALS (070108)**
14.1. Functional requirements
14.1.1. Summer sandals (hereinafter referred to as the sandals) with non-metal toe protective cap should be impermeable to water and protect the feet from mechanical impacts and perforation and should be non-slip.
14.1.2. The sandals should retain their properties throughout the entire period of wearing; the sole should have a sufficient insulation from heat in case of unfavourable conditions and should also be protected against breaking and ungluing at the maximum ambient temperature of + 35ºC.
14.1.3. The construction and manufacture of sandals should meet the requirements applicable for the safety footwear and specified in standard LST EN ISO 20345:2012 (or equivalent).

14.2. Model description
14.2.2. The connection of sandals (part of instep) should contain the holes of the maximum diameter of 4 mm, which should be situated at the height of at least 26 ± 3 mm over the plane of insole in the instep area. The holes should also be in the heel counter area from both sides at the height of at least 26 ± 3 mm to the place of the insole.
14.2.3. The clasps and straps should be used for fastening the sandals.
14.2.4. The nose should contain no sewing stitches and should be made of one leather part.

14.3. Requirements for the main materials
14.3.1. Leather
14.3.1.1. The natural, black, hydrophobically processed leather of large bovine animals with a natural grain and impressed pattern should be used for the vamp. The thickness of leather should be at least 2.0 mm.
14.3.1.2. The softened edge of the sandals should be made of natural, black, soft, hydrophobically processed leather of large bovine animals.

14.3.2. Lining
14.3.2.1. The lining in the shoe connection and the top as well as under the tongue should be made of rubbing-resistant materials meeting the requirements of standard LST EN ISO 20345:2012 (or equivalent). The lining material should be characterised by good moisture absorption, vapourisation and rubbing-resistance properties.

14.3.3. Sole
14.3.3.1. The sole should be with a pattern, casted of polyurethane (PU), combination of thermoplastic polyurethane (TPU) or rubber (rubber), resistant to oil products, impermeable to water and non-slip (i.e., meeting the SRC class and marked with a respective mark).
14.3.3.2. The height of sole spikes should be at least 4 mm, the layout discontinuous (variable) in cross-section.

14.3.4. Insert
14.3.4.1. The insert should be formed, removable, characterised by good absorption properties and vapourising the moisture from the feet. The insert should not lose its form and characteristics after washing at the temperature of + 30ºC.

14.4. Other materials
14.4.1. The protective toe cap of sandals should be made of non-metal composite impact-resistant material or any other material with analogous characteristics and meeting the requirements of standard LST EN ISO 20345:2012 (or equivalent standard).
14.4.2. The insole protecting the foot against cutting should be made of non-metal composite material resistant to perforation or any other material that has analogous characteristics and meets the requirements specified in standard LST EN ISO 20345:2012 (or equivalent standard).
14.4.3. The stiff heel counter should be formed of special footwear cardboard, thermoplastic material or natural leather.
14.4.4. The strap of clasp at the top should be fitted with a leather strap so that it would not break throughout the entire period of wearing. The metal parts should be resistant to corrosion. The technical characteristics of non-metal clasps should be equivalent to or better than those of metal clasps.

14.4.5. The leather strap and clasp leather strap should be inlaid between the shoe lining and the shoe top to the depth of at least 10 ± 2 mm. The places of inlay of strap and clasp strap should be sewn with a double seam along the whole perimeter of the place of inlay.

14.4.6. The sewing thread should be impermeable (polyester or polyamide).

14.5. Marking of footwear

14.5.1. The marking of sandals should meet the requirements applicable to the marking of footwear and indicated in Items 6 - 8 of Part I “General Requirements for the Occupational and Safety Footwear” of this specification.

14.6. The main physical/mechanical indices

14.6.1. The main physical/mechanical indices for the safety footwear should be equivalent to or better than those indicated in standard LST EN ISO 20345:2012 Personal protective equipment. Safety footwear (ISO 20345:2011) or equivalent standard.

15. SUMMER ANKLE BOOTS (070204)

15.1. Functional requirements

15.1.1. Summer ankle boots (hereinafter referred to as the ankle boots) with non-metal toe protective cap should be impermeable to water and protect the feet from mechanical impacts and perforation and should be non-slip.

15.1.2. The ankle boots should retain their properties throughout the entire period of wearing; the sole should have a sufficient insulation from heat in case of unfavourable conditions and should also be protected against breaking and ungluing at the maximum ambient temperature of + 35ºC.

15.1.3. The construction and manufacture of ankle boots should meet the requirements applicable for the safety footwear and specified in standard LST EN ISO 20345:2012 (or equal), general (ordinary) requirements applicable to footwear and the requirements specified herein.

15.2. Model description

15.2.1. Model B, S3 (I) category ankle boots, laced. The height, size and completeness of boots should meet the requirements stipulated in standards LST EN ISO 20345:2012 and LST EN ISO 9407:2000 (or equivalent).

15.2.2. Closed-type tongue should be fitted in front of the ankle boot, which prevents the water and dirt from passing inside the footwear.

15.2.3. The porous latex of foam of the thickness of at least 10 mm should be used for softening of the upper edge of the top of ankle boots and of the thickness of at least 5 mm – for the tongue.

15.2.4. The footwear should be laced through the holes or eyelets or through the combination of the two.

15.2.5. The toe cap covering the toes of ankle boots should be non-metal and coated solidly with a sole and the coating should cover the protective cap throughout the entire width.

15.2.6. The vamp connection should contain no sewing stitches and should be made of one leather part.

15.2.7. The heel counter should be unbending.

15.3. Requirements for the main materials

15.3.1. Leather

15.3.1.1. The natural, black, hydrophobically processed leather of large bovine animals with a natural grain and impressed pattern should be used for the vamp. The thickness of leather should be at least 2.0 mm.

15.3.1.2. The softened edge of the ankle boots should be made of natural, black, soft, hydrophobically processed leather of large bovine animals.

15.3.1.3. The leather of the tongue – of large bovine animals, hydrophobic processed, black-coloured, soft.
15.3.2. Lining
15.3.2.1. The lining in the shoe connection and the top as well as under the tongue should be made of rubbing-resistant materials meeting the requirements of standard LST EN ISO 20345:2012 (or equivalent). The lining material should be characterised by good moisture absorption and vaporisation properties.

15.3.3. Sole
15.3.3.1. The sole should be with a pattern, casted of polyurethane (PU), combination of thermoplastic polyurethane (TPU) or rubber (rubber), resistant to oil products, impermeable to water and non-slip (i.e., meeting the SRC class and marked with a respective mark).
15.3.3.2. The height of sole spikes should be at least 4 mm, the layout discontinuous (variable) in cross-section.

15.3.4. Insert
15.3.4.1. The insert should be formed, removable, characterised by good absorption properties and vaporising the moisture from the feet. The insert should not lose its form and characteristics after washing at the temperature of + 30°C.

15.4. Other materials
15.4.1. The protective toe cap of ankle boots should be made of non-metal composite impact-resistant material or any other material meeting the requirements of standard LST EN ISO 20345:2012 (or equivalent standard).
15.4.2. The insole protecting the foot against cutting should be made of non-metal composite material resistant to perforation or any other material that has analogous characteristic and meets the requirements specified in standard LST EN ISO 20345:2012.
15.4.3. The stiff heel counter should be formed of special footwear cardboard, thermoplastic material or natural leather.
15.4.4. Shoelaces – woven polyester or polyamide, dark-coloured and matching the colour of the shoe leather.
15.4.5. The ankle boots should be laced through the holes or eyelets or through the combination of the two. The metal parts should be resistant to corrosion. The technical characteristics of non-metal holes and eyelets should be equivalent to or better than those of metal holes and eyelets.
15.4.6. The sewing thread should be impermeable (polyester or polyamide).

15.5. Marking of footwear
15.5.1. The marking of ankle boots should meet the requirements applicable to the marking of footwear and indicated in Items 6-8 of Part I “General Requirements for the Occupational and Safety Footwear” of this specification.

15.6. The main physical/mechanical indices
15.6.1. The main physical/mechanical indices for the safety footwear should be equivalent to or better than those indicated in standard LST EN ISO 20345:2012 Personal protective equipment. Safety footwear (ISO 20345:2011) or equivalent standard.

16. SUMMER ANKLE BOOTS (070304)

16.1. Functional requirements
16.1.1. Summer ankle boots (hereinafter referred to as the ankle boots) with non-metal toe protective cap should be impermeable to water and protect the feet from mechanical impacts and perforation and should be non-slip.
16.1.2. The ankle boots should retain their properties throughout the entire period of wearing; the sole should have a sufficient insulation from heat in case of unfavourable conditions and should also be protected against breaking and ungluing at the maximum ambient temperature of + 35°C.
16.1.3. The construction and manufacture of ankle boots should meet the requirements applicable for the footwear and specified in standard LST EN ISO 20345:2012 (or equal), general (ordinary) requirements applicable to footwear and the requirements specified herein.
16.2. Model description
16.2.1. Model C, S3(I) category ankle boots, laced. The height, size and completeness of boots should meet the requirements stipulated in standards LST EN ISO 20345:2012 and LST EN ISO 9407:2000 (or equivalent).
16.2.2. Closed-type tongue should be fitted in front of the ankle boot, which prevents the water, dirt and rainfall from passing inside the footwear.
16.2.3. The porous latex of foam of any other material having equal or better characteristics and meeting the requirements of standards and of the thickness of at least 10 mm should be used for softening of the upper edge of the top of ankle boots and of the thickness of at least 5 mm – for the tongue.
16.2.4. The footwear should be laced through the holes or eyelets or through the combination of the two.
16.2.5. The toe cap covering the toes of ankle boots should be non-metal and coated solidly with a sole and the coating should cover the protective cap throughout the entire width.
16.2.6. The vamp connection should be non-sagging, contain no sewing stitches and be made of one leather part.
16.2.7. The heel counter should be unbending.

16.3. Requirements for the main materials
16.3.1. Leather
16.3.1.1. The natural, black, hydrophobically processed leather of large bovine animals with a natural grain and impressed pattern should be used for the vamp. The thickness of leather should be at least 2.0 mm.
16.3.1.2. The softened edge of the ankle boots should be made of natural, black, soft, hydrophobically processed leather of large bovine animals.
16.3.1.3. The leather of the tongue – of large bovine animals, hydrophobically processed, black-coloured, soft.

16.3.2. Lining
16.3.2.1. The lining in the shoe connection and the top as well as under the tongue should be made of rubbing-resistant materials meeting the requirements of standard LST EN ISO 20345:2012 (or equivalent). The lining material should be characterised by good moisture absorption and vapourisation properties.

16.3.3. Sole
16.3.3.1. The sole should be with a pattern, casted of polyurethane (PU), combination of thermoplastic polyurethane (TPU) or rubber (rubber), resistant to oil products, impermeable to water and non-slip (i.e., meeting the SRC class and marked with a respective mark).
16.3.3.2. The height of sole spikes should be at least 4 mm, the layout discontinuous (variable) in cross-section.

16.3.4. Insert
16.3.4.1. The insert should be formed, removable, characterised by good absorption properties and vapourising the moisture from the feet. The insert should not lose its form and characteristics after washing at the temperature of + 30°C.

16.4. Other materials
16.4.1. The protective toe cap of ankle boots should be made of non-metal composite impact-resistant material or any other material meeting the requirements of standard LST EN ISO 20345:2012 (or equivalent standard).
16.4.2. The insole protecting the foot against cutting should be made of non-metal composite material resistant to perforation or any other material that has analogous characteristic and meets the requirements specified in standard LST EN ISO 20345:2012 (or equivalent standard).
16.4.3. The stiff heel counter should be formed of special footwear cardboard, thermoplastic material or natural leather.
16.4.4. Shoelaces – woven polyester or polyamide, dark-coloured and matching the colour of the shoe leather.
16.4.5. At least 5 (five) pairs of metal or non-metal eyelets or holes or the combination of the two should be used for the lacing of ankle boots. The metal parts should be resistant to corrosion. The technical characteristics of non-metal holes and eyelets should be equivalent to or better than those of metal holes and eyelets.

16.4.6. The sewing thread should be impermeable (polyester or polyamide).

16.5. Marking of footwear

16.5.1. The marking of ankle boots should meet the requirements applicable to the marking of footwear and indicated in Items 6-8 of Part I “General Requirements for the Occupational and Safety Footwear” of this specification.

16.6. The main physical/mechanical indices

16.6.1. The main physical/mechanical indices for the safety footwear should be equivalent to or better than those indicated in standard LST EN ISO 20345:2012 Personal protective equipment. Safety footwear (ISO 20345:2011) or equivalent standard.
AB “LIETUVOS GELEŽINKELIAI”
TECHNICAL SPECIFICATION OF OCCUPATIONAL FOOTWEAR
FOR THE COLD SEASON

1. PROCUREMENT OBJECT
1.1. Procurement of personal protection means for the employees, i.e. occupational footwear for the cold season (hereinafter referred to as the goods, footwear or shoes) according to Code 188 of the Common Procurement Vocabulary, conducted by AB “Lietuvos geležinkeliai” (Lithuanian Railways, JSC) (hereinafter referred to as the Company).
1.2. The goods of the following models are planned to be purchased:
1.2.1. insulated ankle boots (070305\(^1\));
1.2.2. protective insulated ankle boots (070308\(^2\));
1.2.3. protective insulated high boots (070404\(^3\)).
1.3. The goods indicated in Item 1.2 of the technical specification should be supplied to the addresses and in the quantities specified in the terms and conditions of the tendering specifications.
1.4. The procurement object is split into lots according to the models of goods. The supplier can submit tenders for one, several or all lots of the procurement object.

2. AREA OF APPLICATION OF THE PROCUREMENT OBJECT
The aim of the procurement of goods – to provide the company’s employees with the personal protection means protecting from the risk factors that could threaten the safety and health of employees, pursuant to Article 271 of the Labour Code of the Republic of Lithuania, Articles 25 and 28 of the Law on Occupational Health and Safety of the Republic of Lithuania, Order No A1-331 of the Minister of Social Security and Labour of the Republic of Lithuania of 26.11.2007 On the Approval of Regulations of the Provision of Employees with Personal Protection Means and other legal acts effective in the Republic of Lithuania.

3. TECHNICAL REQUIREMENTS WHICH SHOULD BE MET BY THE PURCHASED GOODS
3.1. GENERAL REQUIREMENTS FOR THE GOODS
3.1.1. The parameters of the height, size and other parameters of footwear model are stipulated in standards LST EN ISO 20345:2012 and LST EN ISO 20347:2012 (or equivalent standards). The height of footwear is measured without the shoe insert inside the footwear.
3.1.2. The footwear should be manufactured no earlier than 1 (one) year before its supply (it does not apply to the sample of footwear with inscription “REFERENCE” submitted to the tendering procedure).
3.1.3. Each supplier should present the shoe of the offered model, which meets the requirements indicated in this technical specification, with inscription “REFERENCE” selectively from sizes 42

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\(^1\) The code of shoe model is indicated according to Order No 338 of the General Director of AB “Lietuvos geležinkeliai” “Regulation of the Provision of Employees of AB “Lietuvos geležinkeliai” with Personal Protection Means SS/161”, as amended.
\(^2\) Ibid.
\(^3\) Ibid.
to 45. The other shoe offered by the supplier should be cut cross-sectionally (cut in half lengthwise).

3.1.4. The quality of footwear should be ensured by the warranty period of at least one year.

3.1.5. The footwear should meet the requirements of standard LST EN ISO 20345:2012 *Personal protective equipment. Safety footwear* and standard LST EN ISO 20347:2012 *Personal protective equipment. Occupational footwear or equivalent standards*. The footwear test methods should meet the requirements of standard LST EN ISO 20344:2012 *Test methods for footwear or equivalent standard*. The footwear marking should meet the requirements of standard LST EN ISO 20345:2012 and standard LST EN ISO 20347:2012 *Personal protective means. Occupational footwear or equivalent standards as well as the requirements of this technical specification.*

3.1.6. The year and at least the quarter of manufacture of footwear should be stamped (or marked in any other equivalent way, which prevents the inscription from smearing) on the boot tongue or other visible place on the footwear leather.

3.1.7. The footwear should protect the legs against the cold and mechanical impact, should be impermeable to water (meet the WRU or equivalent requirement), resistant to oil products (meet the FO or equivalent requirements) and non-slip (meet SRC or equivalent requirement).

3.1.8. The footwear should retain its properties throughout the entire period of quality warranty at the ambient temperatures ranging from 0º C to - 25º C.

3.1.9. The heel counter should be stiff and made of special footwear cardboard, thermoplastic material or natural leather.

3.1.10. The vamp connection should contain no sewing stitches (be uncut) and should be made of one leather part.

3.1.11. The insert should be removable, formed, made of two layers and produced of materials characterised by good moisture absorption and vapourisation properties. The bottom layer of insert should be made of washing-resistant and moisture-absorbing footwear cardboard or any other formed, wearing and washing resistant materials characterised by good moisture absorption characteristics and made of artificial fur with 100% wool cover or any other material that has characteristics equivalent to or better than those specified in Table 1 below.

<table>
<thead>
<tr>
<th>Item No</th>
<th>Type of test</th>
<th>Measurement unit</th>
<th>Test result of non-woven wool material sample used for lining and inserts:</th>
<th>Test method</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Tearing strength: <em>longitudinal</em> <em>transverse</em></td>
<td>N</td>
<td>53.8 45.7</td>
<td>LST EN ISO 20344:2012, - Item 6.3.</td>
</tr>
<tr>
<td>3</td>
<td>Water vapour permeability</td>
<td>mg/cm²h</td>
<td>56.2</td>
<td>LST EN ISO 20344:2012, - Item 6.6.</td>
</tr>
<tr>
<td>4</td>
<td>Water vapour coefficient</td>
<td>mg/cm²</td>
<td>453.5</td>
<td>LST EN ISO 20344:2012, - Item 6.8.</td>
</tr>
<tr>
<td>5</td>
<td>Harmlessness: - aromatic amines</td>
<td>mg/kg</td>
<td>Must not be detected</td>
<td>LST EN ISO 14362-1:2012</td>
</tr>
<tr>
<td>6</td>
<td>Harmlessness: - formaldehyde</td>
<td>mg/kg</td>
<td>≤ 75</td>
<td>LST EN ISO 17226-2:2008</td>
</tr>
</tbody>
</table>
3.1.12. The sole of footwear should be made of casted, two-layered different hardness polyurethane (PU/PU) or polyurethane and rubber ((PU/rubber), which is resistant to oil products and outdoor temperatures of down to -25 °C and impermeable to water.

3.1.13. The layout of sole spikes should be discontinuous (variable) in cross-section.

3.1.14. The insulating material should be characterised by good moisture absorption, vaporisation and rubbing-resistance properties. The insulation of footwear should be made of artificial fur with 100% wool cover or any other material that has characteristics equivalent to or better than those specified in Table 1 above.

3.1.15. The insulation from cold is necessary in footwear soles (should meet the CI or equivalent requirement).

3.1.16. The front part of toe covering cap of insulated footwear should be coated with a solid polyurethane layer covering the protective cap throughout the entire width.

3.2. ADDITIONAL REQUIREMENTS FOR INSULATED ANKLE BOOTS (070305)

3.2.1. Model A, O2 (I) category boots, laced.

3.2.2. Closed-type tongue, which prevents the water, dirt and rainfall from passing inside the footwear.

3.2.3. The toe cap should be hardened with a thermoplastic material and should be non-sagging.

3.2.4. The natural, black, hydrophobically processed leather of large bovine animals with a natural grain and impressed pattern should be used for the vamp including the upper edge of the softened boot-top and the tongue. The leather should be of the thickness of at least 2.0 mm, except for the tongue construction parts connecting the tongue with the boot-top sides.

3.2.5. The leather of tongue construction parts connecting the tongue with the boot-top sides should be of large bovine animals, natural, black, soft and with a natural grain.

3.2.6. The softened upper edge of the boot-top should be made of natural, black, soft, hydrophobically processed leather of large bovine animals.

3.2.7. The insulation should cover the entire internal surface of the boot, except for the heel counter and tongue construction parts connecting the tongue with the boot-top sides.

3.2.8. The insole should be made of footwear cardboard or any other material that has equivalent or better characteristics and meets the requirements specified in standard LST EN ISO 20347:2012 and is of the thickness of at least 2.0 mm.

3.2.9. Bootlaces – made of impermeable material, woven polyester or polyamide, dark-coloured.

3.2.10. At least 6 (six) pairs of metal or non-metal eyelets or holes or the combination of the two should be used for lacing. The metal parts should be resistant to corrosion. The technical characteristics of non-metal holes and eyelets should be equivalent to or better than those of metal holes and eyelets.

3.3. ADDITIONAL REQUIREMENTS FOR PROTECTIVE INSULATED ANKLE BOOTS (070308)

3.3.1. Model C, S3 (I) category boots, laced.

3.3.2. Closed-type tongue, which prevents the water, dirt and rainfall from passing inside the footwear.

3.3.3. The upper part (area around tarsus) of the boot-top should be softened with porous latex, foam or any other material of equivalent characteristics and thickness of at least 10 mm. The softened edge of the boot-top should be of the height of 55 ± 10 mm when measuring from non-softened upper edge to the top of the boot-top.

3.3.4. The insulation should cover the entire internal surface of the boot, except for the counter and tongue construction parts connecting the tongue with the boot-top sides.

3.3.5. The natural, black, hydrophobically processed leather of large bovine animals with a natural grain and impressed pattern should be used for the vamp including the upper edge of the softened boot-top and the tongue. The leather should be of the thickness of at least 2.0 mm, except for the tongue construction parts connecting the tongue with the boot-top sides.
3.3.6. The leather of tongue construction parts connecting the tongue with the boot-top sides should be of large bovine animals, natural, black, soft and with a natural grain.

3.3.7. The insole protecting the foot against cutting should be made of non-metal composite material resistant to perforation or any other non-metal material that has analogous characteristic and meets the requirements specified in standard LST EN ISO 20345:2012 (or equivalent standard).

3.3.8. The protective toe cap should be made of non-metal composite impact-resistant material or any other non-metal material with analogous characteristics and meeting the requirements of standard LST EN ISO 20345:2012 (or equivalent standard).

3.3.9. Bootlace – made of impermeable material (polyester or polyamide), dark-coloured.

3.3.10. At least 6 (six) pairs of metal or non-metal eyelets or holes or the combination of the two should be used for lacing. The metal parts should be resistant to corrosion. The technical characteristics of non-metal holes and eyelets should be equivalent to or better than those of metal holes and eyelets.

3.4. ADDITIONAL REQUIREMENTS FOR PROTECTIVE INSULATED HIGH BOOTS (070404)

3.4.1. Model D, S3 (I) category boots, laced.

3.4.2. The insulation should cover the entire surface of boot connection and inside of the boot-top, except for the boot-top width regulation part and heel counter.

3.4.3. A belt with a clasp can be used for fastening the boot-top.

3.4.4. The natural, black, hydrophobically processed leather of large bovine animals with a natural grain and impressed pattern should be used for the vamp. The thickness of leather – at least 2.0 mm, except for the connecting part of the boot-top.

3.4.5. The insole protecting the foot against cutting should be made of non-metal composite material resistant to perforation or any other non-metal material that has analogous characteristics and meets the requirements specified in standard LST EN ISO 20345:2012 (or equivalent standard).

3.4.6. The protective toe cap should be made of non-metal composite impact-resistant material or any other non-metal material with analogous characteristics and meeting the requirements of standard LST EN ISO 20345:2012 (or equivalent standard).

3.4.7. The clasp should be metal or non-metal. A belt with a clasp at the boot-top should be fitted with leather loops. The metal parts should be resistant to corrosion. The technical characteristics of non-metal clasps should be equivalent to or better than those of metal clasps.

4. DOCUMENTS REQUESTED FOR THE VALIDATION OF TECHNICAL CHARACTERISTICS AND QUALITY OF THE PROCUREMENT OBJECT

4.1. DOCUMENTS TO BE SUBMITTED TOGETHER WITH THE TENDER

4.1.1. The supplier has a right to pursue the activity necessary for the performance of procurement contract (a digital copy of the supplier’s (legal entity’s) statutes or other documents certifying the supplier’s right to be engaged in a respective activity or a document (digital copy) issued by the institution of the country of supplier’s registration (certificates of vocational and activity managers, state authorised institutions as established in the Member State of supplier’s registration) or a digital copy of the declaration of bona fides approved by the supplier and certifying the suppliers right to pursue a respective activity (stamped, if the stamp is mandatory)).

4.1.2. Any other documents are indicated in the tendering specification.
AB “LIETUVOS GELEŽINKELIAI”
TECHNICAL SPECIFICATION OF OCCUPATIONAL CLOTHING AND CAPS FOR THE WARM SEASON

1. PROCUREMENT (RENT) OBJECT
1.1. Procurement of personal protection means for the employees, i.e. occupational clothing and caps for the warm season (hereinafter referred to as the garments and goods) according to Code 1813 of the Common Procurement Vocabulary, conducted by AB “Lietuvos geležinkeliai” (Lithuanian Railways, JSC) (hereinafter referred to as the Company).
1.2. The garments of the following models are planned to be purchased (rented):
1.2.1. summer orange cap (01 02 01);
1.2.2. signaller’s summer cap (01 02 02);
1.2.3. summer blue cap (01 02 03);
1.2.4. protective orange cap (01 02 07);
1.2.5. high visibility (summer) working costume with semi-overall (11 01 01);
1.2.6. high visibility (summer) working costume with trousers (11 01 02);
1.2.7. high visibility (summer) jacket (11 01 03);
1.2.8. high visibility (summer) semi-overall (11 01 07);
1.2.9. high visibility (summer) trousers (11 01 08);
1.2.10. summer working costume with semi-overall (11 06 01);
1.2.11. summer working costume with trousers (11 06 02);
1.2.12. summer jacket (11 06 03);
1.2.13. summer semi-overall (11 06 04);
1.2.14. summer trousers (11 06 05);
1.2.15. high visibility orange-red signal vest (11 14 01);
1.2.16. high visibility yellow signal vest (11 14 03);
1.2.17. high visibility orange-red signal vest (11 14 04);
1.2.18. high visibility yellow signal vest (11 14 06);
1.2.19. working costume for the protection against the electric arc (11 15 01);
1.2.20. high visibility raincoat (11 09 01).
1.3. The goods indicated in Item 1.2 of the technical specification should be supplied to the addresses and in the quantities specified in the terms and conditions of the tendering specifications.
1.4. The procurement (rent) object is split into lots according to the models of garments. The supplier can submit tenders for one, several or all lots of the procurement object.

2. AREA OF APPLICATION OF THE PROCUREMENT (RENT) OBJECT
The aim of the procurement (rent) of goods – to provide the company’s employees with the personal protection means protecting from the risk factors that could threaten the safety and health of employees, pursuant to Article 271 of the Labour Code of the Republic of Lithuania, Articles 25 and 28 of the Law on Occupational Health and Safety of the Republic of Lithuania, Technical Regulation “Personal Protection Means” (hereinafter referred to as Technical Regulation “Personal protection means”) approved by Order No 69 of the Minister of Social Security and Labour of the Republic of Lithuania of 03.07.2000, Order No A1-331 of the Minister of Social Security and Labour of the Republic of Lithuania of 26.11.2007 On the
Approval of Regulations of the Provision of Employees with Personal Protection Means and other legal acts effective in the Republic of Lithuania.

3. TECHNICAL REQUIREMENTS WHICH SHOULD BE MET BY THE PURCHASED (RENTED) GARMENTS

3.1. GENERAL REQUIREMENTS


3.1.2. The garments should be marked according to the requirements of standard LST EN ISO 13688:2013 Protective clothing. General requirements (or equivalent) and this technical specification.

3.1.3. All garments should meet the requirements stipulated for the occupational clothing in standard LST EN ISO 13688:2013 (or equivalent).

3.1.4. The garments should be fitted with company’s logo (see Fig. 1).

Fig. 1. Company’s logo

3.2. ADDITIONAL REQUIREMENTS FOR HIGH VISIBILITY (SUMMER) WORKING COSTUME WITH SEMI-OVERALL (11 01 01)

3.2.1. High visibility (summer) working costume with semi-overall (11 01 01) consists of high visibility (summer) jacket (11 01 03) (hereinafter referred to as the high visibility jacket, see Fig. 2) and high visibility (summer) semi-overall (11 01 07) (hereinafter referred to as the high visibility semi-overall, see Fig. 3).

High visibility (summer) working costume with semi-overall (hereinafter referred to as the working costume) should be made of the combination of fluorescent orange-red and dark-blue colour fabrics with retroreflective stripes and should meet the requirements of Class 2 high visibility clothing and be certified according to standard LST EN ISO 20471:2013 High visibility clothing. Test methods and requirements (or equivalent).

3.2.2. High visibility jacket should be of straight silhouette and with set-in sleeves. The collar – of the height of 70 mm and of the stick-up form. High visibility jacket should be closed with a zipper, which should be covered with a placket part closing the jacket with metal press-fasteners up to the neck.
3.2.3. The retroreflective stripes of the width of 50 mm should be arranged horizontally by two on the sleeves and along the perimeter of high visibility jacket. Their arrangement should meet the requirements of standard LST EN ISO 20471: 2013 *High visibility clothing. Test methods and requirements* (or equivalent). The retroreflective stripes should be sewn with a double hemstitch.

3.2.4. The dark-blue fabrics should be used for tailoring the collar, placket, the bottom of the sleeves until the first horizontal retroreflective stripe from the top of the sleeve, cuffs, the bottom of high visibility jacket until the first horizontal retroreflective stripe from the top of high visibility jacket throughout the entire perimeter of the jacket, the hanging loop and the strap at the bottom of the sides of back part. If certification of working costume lacks the necessary area of fluorescent orange-red colour fabric, in such case and to the extent necessary, the ratio of blue and fluorescent orange-red fabric colours can be changed.

3.2.5. The press-fasteners of the high visibility jacket should be made of stainless steel.

3.2.6. The yoke should be fitted on the chest part of high visibility jacket. On both sides from the yoke to the horizontal retroreflective stripe, the patch pockets or inlaid pockets with flaps closed with press-fasteners should be fitted. The left pocket should be additionally closed with a zipper through the gap of the pocket. The expanded pocket for the mobile phone with a flap and of a contact tape closing type should be fitted on the left pocket. The inside bag of the chest left side pocket (made of the main fabric) should be attached through the yoke seam and closed with a zipper.

3.2.7. On the front part of high visibility jacket between horizontal retroreflective stripes, the transverse pockets with bartackings should be inlaid. The pockets should be closed with press-fasteners.

3.2.8. The fold of the depth of 30 mm with a tacked edge should be fitted on the line of back shoulders of high visibility jacket from the shoulder to the waist. On the shoulder line, the fold should be secured with the basis.

3.2.9. The company’s logo should be placed by the way of screen-printing technology on the back of high visibility jacket (see Fig. 1).

3.2.10. The width of the waist part of front edges of high visibility jacket – 35-40 mm, through the middle of the back part – 90 mm. The width of high visibility jacket is regulated through the waist from the back by using the press-fasteners and the strap. The width can be reduced by no more than 60 mm.

3.2.11. The slashes should be fitted on the bottom of the sleeves. The cuffs should be regulated with press-fasteners. The width of cuffs – 35-40 mm.

3.2.12. High visibility semi-overall should be of straight silhouette and made with braces.
3.2.13. The reflective stripes of the width of 70 mm should be situated horizontally by two on high visibility semi-overall legs, their arrangement should meet the requirements of standard LST EN ISO 20471:2013 *High visibility clothing. Test methods and requirements* (or equivalent). The retroreflective stripes should be sewn with a double hemstitch.

3.2.14. Dark-blue fabric should be used to make the lower part of high visibility semi-overall from the waist bottom seam to the knees throughout the entire garment and the bottom of the legs. If certification of working costume lacks the necessary area of fluorescent orange-red colour fabric, in such case and to the extent necessary, the ratio of blue and fluorescent orange-red fabric colours can be changed.

3.2.15. Elastic knitted pricks should be sewn on the sides of high visibility semi-overall (the knitwear is knitted together with an elastic thread).

3.2.16. The pocket on the chest part of high visibility semi-overall should be inlaid and attached through the height of the chest and closed with a zipper.

3.2.17. The braces should be fastened with plastic clasps. On the back part, the braces should end with elastic stripes, sewn to the back part of high visibility semi-overall. The braces should be crossed and fixed within the area of shoulders.

3.2.18. The legs of high visibility semi-overall should be closed with a zipper covered with the part of trousers with bartackings.

3.2.19. Two inlaid pockets of transverse cutting and bartackings at the edges should be sewn symmetrically on the front part of high visibility semi-overall from the waist. Orange patch pockets with flaps closed with a contact tape through the middle should be sewn on both sides of high visibility semi-overall – symmetrically on dark-blue part 50 mm above the knees (from the area of connection of orange and dark-blue fabrics). 2 little patch pockets with bartackings should be fitted on each patch pocket. One expanded pocket with a flap for the mobile phone closed with a contact tape, the other – patched. Two patched pockets with orange flaps, bartacking and closed with press-fasteners of stainless steel should be fitted on the back part of legs of the semi-overall.

The back part of the high visibility semi-overall near the waist should be fitted with an elastic string throughout the entire width. On the external size of high visibility semi-overall, the tag for the belt should be fitted on the waist.
3.3. ADDITIONAL REQUIREMENTS FOR HIGH VISIBILITY (SUMMER) WORKING COSTUME WITH TROUSERS (11 01 02)

3.3.1. High visibility (summer) working costume with trousers (11 01 02) (hereinafter referred to as the working costume with trousers) consists of high visibility (summer) jacket (11 01 03) (see the description of high visibility jacket presented in Item 3.2 of the technical specification) and high visibility (summer) trousers (11 01 08) (hereinafter referred to as high visibility trousers, see Fig. 4).

3.3.2. Dark-blue fabric is used to make the lower part of high visibility trousers from the waist to the knees throughout the entire garment and the bottom of the legs. If certification of working costume with trousers lacks the necessary area of fluorescent orange-red colour fabric, in such case and to the extent necessary, the ratio of blue and fluorescent orange-red fabric colours can be changed.

3.3.3. The reflective stripes of the width of 70 mm should be arranged horizontally by two on the legs of high visibility trousers, their arrangement should meet the requirements of standard LST EN ISO 20471:2013 *High visibility clothing. Test methods and requirements* (or equivalent).

3.3.4. High visibility trousers are closed with a zipper covered with the trousers part with bartacking and closed with press-fasteners or a clasp of stainless steel.

3.3.5. Two inlaid pockets of transverse cutting and bartakings at the edges should be sewn symmetrically on the front part from the waist of high visibility trousers. Orange patch pockets with flaps closed with a contact tape through the middle should be sewn on both sides of high visibility trousers – symmetrically on dark-blue part 50 mm above the knees (from the area of connection of orange and dark-blue fabrics). 2 little patch pockets with bartakings should be fitted on each patch pocket. One expanded pocket with a flap for the mobile phone closed with a contact tape, the other – patched. Two patched pockets with orange flaps, bartacking and closed with press-fasteners of the stainless steel should be fitted on the back part of high visibility trousers. On the external size of high visibility trousers, the tag for the belt should be fitted on the waist.

3.4. REQUIREMENTS FOR MATERIALS OF HIGH VISIBILITY JACKETS (11 01 03), SEMI-OVERALLS (11 01 07) AND TROUSERS (11 01 08)

<table>
<thead>
<tr>
<th>Item No</th>
<th>Requirements</th>
<th>Value of index</th>
<th>Test methods</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>The high visibility fluorescent orange-red and dark-blue (according to PANTONE colour</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Catalogue – 19-3921TCX or equivalent) fabrics should be with water-repelling finishing and resistant to oil products, creasing, fading and be stable. The fabrics should meet the requirements of standard LST ISO 20471:2013 or equivalent. The protocols of requested test results of each fabric should be submitted.

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1.1</td>
<td>Weight, g/m²</td>
<td>240 ÷ 270</td>
</tr>
<tr>
<td>1.2</td>
<td>Composition: cotton/polyester</td>
<td>≥ 60 % / ≤ 40 %</td>
</tr>
<tr>
<td>1.3</td>
<td>Breaking toughness of warp, weft</td>
<td>≥ 1,350 N ≥ 850 N</td>
</tr>
<tr>
<td>1.4</td>
<td>Tearing toughness of warp, weft</td>
<td>≥ 45 N ≥ 25 N</td>
</tr>
<tr>
<td>1.5</td>
<td>Fuzzing resistance</td>
<td>3 – 4</td>
</tr>
<tr>
<td>1.6</td>
<td>Change of dimensions after washing</td>
<td>≤ 3 %</td>
</tr>
<tr>
<td>1.7</td>
<td>Wash-resistance of dyeing</td>
<td>4</td>
</tr>
<tr>
<td>1.8</td>
<td>Friction-resistance of dyeing</td>
<td>3 – 4</td>
</tr>
<tr>
<td>1.9</td>
<td>Sweat-resistance of dyeing</td>
<td>4</td>
</tr>
<tr>
<td>1.10</td>
<td>Resistance of dyeing to artificial light</td>
<td>4</td>
</tr>
<tr>
<td>1.11</td>
<td>Resistance to oil</td>
<td>–</td>
</tr>
<tr>
<td>1.12</td>
<td>Resistant to water vapour Ret, m²Pa/W</td>
<td>≤ 4.9</td>
</tr>
<tr>
<td>1.13</td>
<td>Resistance to abrasion, revolutions</td>
<td>≥ 70 000</td>
</tr>
<tr>
<td>1.14</td>
<td>Weaving Streak</td>
<td></td>
</tr>
</tbody>
</table>

2. The retroreflective stripe should be of the width of 50 and 70 mm and of silver colour, flexible. It should meet the requirements of standard LST ISO 20471:2013 or equivalent. The protocols of requested test results should be submitted.

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>2.1</td>
<td>Composition: cotton/polyester</td>
<td>≥ 35 % / ≤ 65 %</td>
</tr>
<tr>
<td>2.2</td>
<td>Abrasion</td>
<td>RA &gt; 100</td>
</tr>
<tr>
<td>2.3</td>
<td>Flexing</td>
<td>RA &gt; 100</td>
</tr>
<tr>
<td>2.4</td>
<td>Bending (-20 °C)</td>
<td>RA &gt; 100</td>
</tr>
<tr>
<td>2.5</td>
<td>Temperature variations: 12 h (50 ± 2 °C), 20 h (-30 ± 2 °C)</td>
<td>RA &gt; 100</td>
</tr>
<tr>
<td>2.6</td>
<td>Washing (60 °C – 50 cycles)</td>
<td>RA &gt; 100</td>
</tr>
<tr>
<td>2.7</td>
<td>Soaking, due to rain</td>
<td>RA &gt; 400</td>
</tr>
</tbody>
</table>

3. Contact tape of the width of 20 mm
3.1. Composition: nylon | 100 % | – |
| 3.2. | Wash-resistance of dyeing | 5 | LST EN ISO 105-C06:2010 |
| 3.3. | Longitudinal shear strength of adhesive closing after washing and drying, N/cm² | ≥ 9 | LST EN ISO 13780:2003 |
| 3.4. | Longitudinal shear strength of adhesive closing after 5,000 cycles of opening and closing, N/cm² | ≥ 5 | LST EN ISO 13780:2003 |
| 3.5. | Resistance of dyeing of adhesive closing to the dry/wet friction. | 4 | LST EN ISO 102-X12:2004 |

### 3.5. ADDITIONAL REQUIREMENTS FOR SUMMER WORKING COSTUME WITH SEMI-OVERALL (11 06 01)

3.5.1. The summer working costume with semi-overall (11 06 01) consists of summer jacket (11 06 03) (hereinafter referred to as the jacket, see Fig. 5) and summer semi-overall (11 06 04) (hereinafter referred to as the semi-overall, see Fig. 6). The summer working costume with semi-overall (hereinafter referred to as the working costume) should be made of dark-blue fabrics with retroreflective stripes.

3.5.2. The jacket should be of straight silhouette and with set-in sleeves. The collar – of the height of 70 mm and of the stick-up form. The jacket should be closed with a zipper, which should be covered with a placket part closing the jacket with metal press-fasteners up to the neck.

![Fig. 5. Jacket](image_url)

3.5.3. The press-fasteners of the jacket should be made of stainless steel.

3.5.4. The transverse yoke should be made on the chest part of the jacket. The patch or inlaid pockets with flaps closed with press-fasteners should be made on both sides from the yoke. The left pocket should be additionally closed with a zipper through the gap of the pocket. The expanded pocket for the mobile phone with a flap and contact tape closing type should be fitted on the left pocket. The inside bag of the chest left side pocket (made of the main fabric) should be attached through the yoke seam and closed with a zipper. The retroreflective stripe of 25 mm should be sewn at bottom of right pocket.

3.5.5. The transverse pockets with bartackings should be inlaid at the front of the jacket. The pockets should be closed with press-fasteners.

3.5.6. The fold of the depth of 30 mm with a tacked edge should be fitted on the line of back shoulders of jacket from the shoulder to the waist. On the shoulder line, the fold should be secured with the basis.

3.5.7. The company’s logo should be placed by the way of screen-printing technology on the back of jacket (see Fig. 1).

3.5.8. The width of the waist part of front edges of the jacket – 35-40 mm, through the middle of back part – 90 mm. The width of jacket is regulated through the waist from the back by
using the press-fasteners and the strap. The width can be reduced by no more than 60 mm. The retroreflective triangle (50 x 50 x 50 mm) should be fitted in the middle of the back part.

3.5.9. The slashes should be fitted on the bottom of the sleeves. The cuffs should be regulated with press-fasteners. The width of cuffs – 35-40 mm.

3.5.10. The semi-overall should be of straight silhouette and made with braces. Elastic knitted pricks should be sewn on the sides of semi-overall (the knitwear is knitted together with an elastic thread).

3.5.11. The pocket on the chest part of semi-overall should be inlaid and attached through the height of the chest and closed with a zipper.

3.5.12. The braces should be fastened with plastic clasps. On the back part, the braces should end with elastic stripes, sewn to the back part of semi-overall. The braces should be crossed and fixed within the area of shoulders.

3.5.13. The legs of semi-overall should be closed with a zipper covered with the part of trousers with bartackings.

3.5.14. Two inlaid pockets of transverse cutting and bartackings at the edges should be sewn symmetrically on the front part of the semi-overall from the waist. Orange patch pockets with flaps closed with a contact tape through the middle should be sewn on both sides of semi-overall – symmetrically on dark-blue part 50 mm above the knees. 2 little patch pockets with bartackings should be fitted on each patch pocket. One expanded pocket with a flap for the mobile phone closed with a contact tape, the other – patched.

Two patched pockets with flaps, bartacking and closed with press-fasteners of stainless steel should be fitted on the back part of legs of the semi-overall.

3.5.15. The back part of the semi-overall near the waist should be fitted with an elastic string throughout the entire width. On the external size of semi-overall, the tag for the belt should be fitted at the waist.

3.5.16. The retroreflective stripe of 25 mm should be sewn at bottom of legs of semi-overall.

Fig. 6. Semi-overall
3.6. ADDITIONAL REQUIREMENTS FOR SUMMER WORKING COSTUME WITH TROUSERS (11 06 02)

3.6.1. The summer working costume with trousers (hereinafter referred to as the working costume with trousers) consists of summer jacket (11 06 03) (see the description of the jacket indicated in Item 3.5 of the technical specification) and summer trousers (11 06 05) (hereinafter referred to as the trousers, see Fig. 7).

3.6.2. The trousers are closed with a zipper covered with the trousers part with bartackings and closed with press-fasteners or a clasp of stainless steel.

Fig. 7. Trousers

3.6.3. Two inlaid pockets of transverse cutting and bartackings at the edges should be sewn symmetrically on the front part of the trousers from the waist. Orange patch pockets with flaps closed with a contact tape through the middle should be sewn on both sides – symmetrically on dark-blue part 50 mm above the knees. 2 little patch pockets with bartackings should be fitted on each patch pocket. One expanded pocket with a flap for the mobile phone closed with a contact tape, the other – patched.

Two patched pockets with flaps, bartacking and closed with press-fasteners of stainless steel should be fitted on the back part of legs. On the external size of trousers, the tag for the belt should be fitted at the waist.

3.6.4. The retroreflective stripe of 25 mm should be sewn at bottom of legs of trousers.

3.7. REQUIREMENTS FOR THE MATERIALS OF SUMMER JACKETS (11 06 03), SEMI-OVERALLS (11 06 04) AND TROUSERS (11 06 05)

<table>
<thead>
<tr>
<th>Item No</th>
<th>Requirements</th>
<th>Value of index</th>
<th>Test methods</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.1</td>
<td>Dark-blue (according to PANTONE colour catalogue – 19-3921TCX or equivalent) fabric should be resistant to oil products, creasing, fading and should be stable.</td>
<td>240 - 270</td>
<td>–</td>
</tr>
<tr>
<td>1.2</td>
<td>Composition: cotton/polyester</td>
<td>≥ 60 % / ≤ 40 %</td>
<td>–</td>
</tr>
<tr>
<td>1.3</td>
<td>Breaking toughness of warp, weft</td>
<td>≥ 1,350 N&lt;br&gt;≥ 850 N</td>
<td>EN ISO 13934-1:2013 (or equivalent)</td>
</tr>
<tr>
<td>1.4</td>
<td>Tearing toughness of warp, weft</td>
<td>≥ 45 N&lt;br&gt;≥ 25 N</td>
<td>EN ISO 13937-2:2000 (or equivalent)</td>
</tr>
<tr>
<td>1.5</td>
<td>Fuzzing resistance</td>
<td>3 – 4</td>
<td>EN ISO 12945-2:2000 (or equivalent)</td>
</tr>
</tbody>
</table>
1.6.  | Change of dimensions after washing | ≤ 3 % | EN ISO 5077:2008 (or equivalent) |
1.7.  | Wash-resistance of dyeing         | 4     | EN ISO 105-C06:2010 (or equivalent) |
1.9.  | Sweat-resistance of dyeing        | 4     | EN ISO 105-E04:2013 (or equivalent) |
1.10. | Resistance of dyeing to artificial light | 4   | EN ISO 105-B02:2013 (or equivalent) |
1.11. | Resistance to oil                 | –     | The tests according to the valid legal acts |
1.12. | Resistant to water vapour Ret, m²Pa/W | ≤ 4.9 | EN ISO 31092:2002/A1:2012 (or equivalent) |
1.13. | Resistance to abrasion, revolutions | ≥ 70,000 | EN ISO 12947-2:2001 (or equivalent) |
1.14. | Weaving                          | Streak | – |

2.   | The retroreflective stripe should be of the width of 25 mm and of silver colour, flexible. It should meet the requirements of standard LST ISO 20471:2013 or equivalent. The protocols of requested test results should be submitted. |

2.1. | Composition: cotton/polyester     | ≥ 35 % / ≤ 65 % | – |
2.2. | Abrasion                         | RA > 100 | LST EN 530:2010 (or equivalent) method 2, the samples are measured after 5,000 cycles |
2.3. | Flexing                          | RA > 100 | LST EN ISO 7854 (or equivalent) method A, the samples are measured after 7,500 cycles |
2.4. | Bending (-20 °C)                 | RA > 100 | ISO 4675 (or equivalent) |
2.5. | Temperature variations:          | RA > 100 | LST EN ISO 20471:2013 (or equivalent) |
| 12 h (50 ± 2 °C), 20 h (-30 ± 2 °C) | | |
2.6. | Washing (60 °C – 50 cycles)      | RA > 100 | LST EN ISO 6330 (or equivalent), method 2 |
2.7. | Soaking, due to rain             | RA > 400 | LST EN ISO 20471:2013 (or equivalent) |

3.   | Contact tape of the width of 20 mm | – |

3.1. | Composition: nylon               | 100 % | – |
3.2. | Wash-resistance of dyeing        | 5     | LST EN ISO 105-C06:2010 |
3.3. | Longitudinal shear strength of adhesive closing after washing and drying, N/cm² | ≥ 9 | LST EN ISO 13780:2003 |
3.4. | Longitudinal shear strength of adhesive closing after 5,000 cycles of opening and closing, N/cm² | ≥ 5 | LST EN ISO 13780:2003 |
5.5. | Resistance of dyeing of adhesive closing to the dry/wet friction. | 4 | LST EN ISO 102-X12:2004 |

3.8. ADDITIONAL REQUIREMENTS FOR WORKING COSTUME FOR THE PROTECTION AGAINST THE ELECTRIC ARC (11 15 01)
3.8.1. The working costume for the protection against the electric arc (11 15 01) consists of the jacket (see Fig. 8) and semi-overall (see Fig. 9).
The working costume for the protection against the electric acts should be made of the combination of orange and dark-blue fabrics with retroreflective stripes. The working costume should meet the requirements of standards LST EN 11612:2009 A1, B1, C1 Protective Equipment. Clothing to protect against heat and flame (ISO 11612:2008) and standard EN 61482-1-2 (class 1) Live working. Protective clothing against the thermal hazards of an electric arc.

3.8.2. The jacket should be of straight silhouette and with set-in sleeves. The collar – of the height of 70 mm and of the stick-up form. The jacket should be closed with a zipper, which should be covered with a placket part closing the jacket with a contact tape up to the neck (in 5-6 points).

Fig. 8. The jacket protecting from an electric arc

3.8.3. The retroreflective stripes of the width of 50 mm are situated horizontally by two on the sleeves and along the perimeter of the jacket. Their arrangement should meet the requirements of standard LST EN ISO 20471: 2013 High visibility clothing. Test methods and requirements (or equivalent). The retroreflective stripes should be sewn with a double hemstitch.

3.8.4. The dark-blue fabrics should used for tailoring the collar, placket, the bottom of the sleeves until the first horizontal retroreflective stripe from the top of the sleeve, cuffs, the bottom of the jacket until the first horizontal retroreflective stripe from the top of the jacket throughout the entire perimeter of the jacket, the hanging loop and the strap at the bottom of the sides of back part.

3.8.5. The transverse yoke should be made on the chest part of the jacket. On both sides from the yoke to the horizontal retroreflective stripe, the patch or inlaid pockets with contact tapes should be fitted. The left pocket should be additionally closed with a zipper through the gap of the pocket. The expanded pocket for the mobile phone with a flap and of a contact tape closing type should be fitted on the left pocket. The inside bag of the chest left side pocket (made of the main fabric) should be attached through the yoke seam and closed with a zipper.

3.8.6. On the front part of jacket between horizontal retroreflective stripes, the transverse pockets with bartackings should be inlaid. The pockets are closed with contact tapes.

3.8.7. The fold of the depth of 30 mm with a tacked edge should be fitted on the line of back shoulders of jacket from the shoulder to the waist. On the shoulder line, the fold should be secured with the basis.

3.8.8. The company’s logo should be placed by the way of screen-printing technology on the back of the jacket (see Fig. 1).

3.8.9. The width of the waist part of front edges of the jacket – 35-40 mm, through the middle of back part – 90 mm. The width of jacket is regulated through the waist from the back by using the contact tape and the strap. The width can be reduced by no more than 60 mm.

3.8.10. The cuffs of sleeves are shrunk by using the elastic strap. The width of cuffs – 50-60 mm.
3.8.11. The semi-overall for the protection against the electric arc should be of straight silhouette and made with braces.

![Fig. 9. Semi-overall for the protection against the electric arc](image)

3.8.12. The reflective stripes of the width of 50 mm should be situated horizontally by two on the semi-overall legs, their layout should meet the requirements of standard LST EN ISO 20471:2013 *High visibility clothing. Test methods and requirements* (or equivalent). The retroreflective stripes should be sewn with a double hemstitch.

3.8.13. Dark-blue fabric should be used to make the lower part of semi-overall from the waist bottom seam to the knees throughout the entire garment and the bottom of the legs.

3.8.14. Elastic knitted pricks should be sewn on the sides of semi-overall (the knitwear is knitted together with an elastic thread).

3.8.15. The pocket on the chest part of semi-overall should be inlaid and attached through the height of the chest and closed with a zipper.

3.8.16. The braces should be fastened with plastic claps. On the back part, the braces should end with elastic stripes, sewn to the back part of semi-overall. The braces should be crossed and fixed within the area of shoulders.

3.8.17. The legs of semi-overall should be closed with a zipper covered with the part of trousers with bartackings.

3.8.18. Two inlaid pockets of transverse cutting and bartackings at the edges should be sewn symmetrically on the front part of the semi-overall from the waist. Orange patch pockets with flaps closed with a contact tape through the middle should be sewn on both sides of semi-overall – symmetrically on dark-blue part 50 mm above the knees (from the area of connection of orange and dark-blue fabrics). 2 little patch pockets with bartackings should be fitted on each patch pocket. One expanded pocket with a flap for the mobile phone closed with a contact tape, the other – patched. Two patched pockets with orange flaps, bartacking and closed with a contact tape should be fitted on the back part of legs of the semi-overall. The back part of the semi-overall near the waist should be fitted with an elastic string throughout the entire width. On the external size of semi-overall, the tag for the belt should be fitted on the waist.

3.8.19. The requirements for the materials of summer costumes protecting against the electric arc are listed below.

<table>
<thead>
<tr>
<th>Item No</th>
<th>Requirements</th>
<th>Value of index</th>
<th>Test methods</th>
</tr>
</thead>
</table>

*Fig. 9. Semi-overall for the protection against the electric arc*
Orange (according to PANTONE colour catalogue 0 17-1464TCX or equivalent) and dark-blue (according to PANTONE colour catalogue – 19-3921TCX or equivalent) fabrics should be resistant to oil products, creasing, fading and should be stable. The fabrics should meet the requirements of standard LST EN 11612:2009 A1, B1, C1 Protective Equipment. Clothing to protect against heat and flame (ISO 11612:2008) and standard EN 61482-1-2 (class 1) Live working. Protective clothing against the thermal hazards of an electric arc. The protocols of requested test results of each fabric should be submitted.

1.1 Weight, g/m² 300 – 340 –
1.2. Composition: cotton 100 % –
1.3. Breaking toughness of warp, weft ≥ 1,100 N ≥ 550 N EN ISO 13934-1:2013 (or equivalent)
1.4. Tearing toughness of warp, weft ≥ 45 N ≥ 25 N EN ISO 13937-2:2000 (or equivalent)
1.5. Change of dimensions after washing (with washing conditions at 60 °C with mechanical drying) ± 3 % EN ISO 5077:2008 (or equivalent)
1.6. Wash-resistance of dyeing 4 EN ISO 105-C06:2010 (or equivalent)
1.7. Friction-resistance of dyeing 3 – 4 EN ISO 105-X12:2002 (or equivalent)
1.8. Sweat-resistance of dyeing 4 EN ISO 105-E04:2013 (or equivalent)

2. The retroreflective stripe should be of the width of 50 mm and of silver colour, flexible. It should meet the requirements of standard LST ISO 20471:2013 or equivalent. The protocols of requested test results should be submitted.

2.1 Composition: cotton/polyester ≥ 35 % / ≤ 65 % –
2.2. Abrasion RA > 100 LST EN 530:2010 (or equivalent) method 2, the samples are measured after 5,000 cycles
2.3. Flexing RA > 100 LST EN ISO 7854 (or equivalent) method A, the samples are measured after 7,500 cycles
2.4. Bending (-20 °C) RA > 100 ISO 4675 (or equivalent)
2.5. Temperature variations: 12 h (50 ± 2 °C), 20 h (-30 ± 2 °C) RA > 100 LST EN ISO 20471:2013 (or equivalent)
2.6. Washing (60 °C – 50 cycles) RA > 100 LST EN ISO 6330 (or equivalent), method 2
2.7. Soaking, due to rain RA > 400 LST EN ISO 20471:2013 (or equivalent)

3. Contact tape of the width of 20 mm
3.1. Composition: nylon 100 % –
3.2. Wash-resistance of dyeing 5 LST EN ISO 105-C06:2010
3.3. Longitudinal shear strength of adhesive closing after washing and ≥ 9 LST EN ISO 13780:2003
drying, N/cm²

| 3.4. | Longitudinal shear strength of adhesive closing after 5,000 cycles of opening and closing, N/cm² | ≥ 5 | LST EN ISO 13780:2003 |
| 3.5. | Resistance of dyeing of adhesive closing to the dry/wet friction. | 4 | LST EN ISO 102-X12:2004 |

### 3.9. ADDITIONAL REQUIREMENTS FOR SUMMER CAPS

3.9.1. The upper part of summer orange cap (01 02 01) (see Fig. 10) should be sewn of fluorescent orange-red fabric, whereas the hard peak – of dark-blue fabric:

![Fig. 10. Summer orange cap](image)

3.9.2. Signaller’s summer cap (01 02 02) (see Fig. 11) should be sewn of fluorescent yellow fabric, whereas the hard peak – of dark-blue fabric:

![Fig. 11. Signaller’s summer cap](image)

3.9.3. Summer blue cap (01 02 03) (see Fig. 12) with hard peak should be made of a dark-blue fabric:

![Fig. 12. Summer blue cap](image)

3.9.4. The upper part of summer orange cap (01 02 07) (see Fig. 13), which does not replace the helmet and only protects from inconsiderable mechanical impacts, should be made of fluorescent orange-red fabric, whereas the hard-peak – of dark-blue fabric. Orange protective caps should be made with a shock-absorbing insert and soft lining, protecting the head from shocks. Orange protective cap should meet the requirements of standard LST EN 812 *Industrial protective caps* (or equivalent) and have the CE mark (or equivalent).
Fig. 13. Orange protective cap

3.9.5. All models of summer caps should be fitted with ventilation gaps throughout the perimeter of the upper part to ensure the air circulation and comfort.

3.9.6. Solid insert of synthetic material should be used for the hardening of peaks of summer caps.

3.9.7. The retroreflective stripe of the width of 25 mm should be fitted between the upper part of the summer caps and the peak (at the bottom of the cap).

3.9.8. The size of summer cap should be regulated with a contact tape or plastic (or material of equivalent characteristics) regulated strap fitted on the back part of the cap.

3.9.9. The sizes of caps (54 – 62) are regulated by the contact tape or plastic (or material of equivalent characteristics) regulated strap.

3.9.10. The requirements for the materials of summer caps are listed below.

<table>
<thead>
<tr>
<th>Item No</th>
<th>Requirements</th>
<th>Value of index</th>
<th>Test methods</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>The high visibility fluorescent orange-red and dark-blue (according to PANTONE colour catalogue – 19-3921TCX or equivalent) fabrics should be with water-repelling finishing and resistant to oil products, creasing, fading and be stable. The fabrics should meet the requirements of standard LST ISO 20471:2013 (or equivalent). The protocols of requested test results of each fabric should be submitted.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.1</td>
<td>Weight, g/m²</td>
<td>240 ± 270</td>
<td>–</td>
</tr>
<tr>
<td>1.2</td>
<td>Composition: cotton/polyester</td>
<td>≥ 60 % / ≤ 40 %</td>
<td>–</td>
</tr>
<tr>
<td>1.3</td>
<td>Breaking toughness of warp, weft</td>
<td>≥ 1,350 N</td>
<td>EN ISO 13934-1:2013 (or equivalent)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>≥ 850 N</td>
<td></td>
</tr>
<tr>
<td>1.4</td>
<td>Tearing toughness of warp, weft</td>
<td>≥ 45 N</td>
<td>EN ISO 13937-2:2000 (or equivalent)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>≥ 25 N</td>
<td></td>
</tr>
<tr>
<td>1.5</td>
<td>Fuzzing resistance</td>
<td>3 – 4</td>
<td>EN ISO 12945-2:2000 (or equivalent)</td>
</tr>
<tr>
<td>1.6</td>
<td>Change of dimensions after washing</td>
<td>≤ 3 %</td>
<td>EN ISO 5077:2008 (or equivalent)</td>
</tr>
<tr>
<td>1.7</td>
<td>Wash-resistance of dyeing</td>
<td>4</td>
<td>EN ISO 105-C06:2010 (or equivalent)</td>
</tr>
<tr>
<td>1.8</td>
<td>Friction-resistance of dyeing</td>
<td>3 – 4</td>
<td>EN ISO 105-X12:2002 (or equivalent)</td>
</tr>
<tr>
<td>1.9</td>
<td>Sweat-resistance of dyeing</td>
<td>4</td>
<td>EN ISO 105-E04:2013 (or equivalent)</td>
</tr>
</tbody>
</table>
1.1. Resistance of dyeing to artificial light

<table>
<thead>
<tr>
<th>Test</th>
<th>Value</th>
<th>Standard</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>4</td>
<td>EN ISO 105-B02:2013 (or equivalent)</td>
</tr>
</tbody>
</table>

1.11. Resistance to oil

The tests according to the valid legal acts of the Republic of Lithuania

1.12. Weaving

Streak

1.13. Resistant to water vapour Ret, m²Pa/W

≤ 4.9

EN ISO 31092:2002/A1:2012 (or equivalent)

1.14. Resistance to abrasion, revolutions

≥ 70,000

EN ISO 12947-2:2001 (or equivalent)

2. The retroreflective stripe should be of the width of 25 mm and of silver colour, flexible. It should meet the requirements of standard LST ISO 20471:2013 or equivalent. The protocols of requested test results should be submitted.

2.1. Composition: cotton/polyester

≥ 35 % / ≤ 65 %

2.2. Abrasion

RA > 100

LST EN 530:2010 (or equivalent) method 2, the samples are measured after 5,000 cycles

2.3. Flexing

RA > 100

LST EN ISO 7854 (or equivalent) method A, the samples are measured after 7,500 cycles

2.4. Bending (-20 °C)

RA > 100

ISO 4675 (or equivalent)

2.5. Temperature variations:

12 h (50 ± 2 °C), 20 h (-30 ± 2 °C)

RA > 100

LST EN ISO 20471:2013 (or equivalent)

2.6. Washing (60 °C – 50 cycles)

RA > 100

LST EN ISO 6330 (or equivalent), method 2

2.7. Soaking, due to rain

RA > 400

LST EN ISO 20471:2013 (or equivalent)

3.10. ADDITIONAL REQUIREMENTS FOR SIGNAL VESTS

3.10.1. High visibility orange-red signal vests (codes 11 14 01 (see Fig. 14) and 11 14 05 (see Fig. 16) should be made of fluorescent orange-red fabric, high visibility yellow signal vests (codes 11 14 03 (see Fig. 15) and 11 14 06 (see Fig. 17) should be made of fluorescent yellow fabric (hereinafter collectively referred to as the signal vests). The signal vests should meet the requirements of high visibility clothing of class 2 and be certified according to the requirements of standard LST EN ISO 20471:2013 High visibility clothing. Test methods and requirements (or equivalent).

3.10.2. The signal vests should be of straight silhouette.

3.10.3. The company’s logo should be placed by the way of screen-printing technology on the back of signal vests (see Fig. 1).

3.10.4. Two internal pockets of the width of 180 mm and height of 160 mm and closed with contact tape of 20 x 30 mm should be made at the front of high visibility orange-red signal vest (11 14 01) and high visibility yellow signal vest (11 14 03) on the chest part. The closing with three contact tape should be at the front of signal vests. The neckline and cuts of sleeves should be finished with a black stripe of the width of 20 mm.

3.10.5. The example of high visibility orange-red signal vest (11 14 01):
3.10.6. The example of high visibility yellow signal vest (11 14 03):

3.10.7. The requirements for the fabrics of high visibility orange-red signal vest (11 14 01) and high visibility yellow signal vest (11 14 03) are listed below.

<table>
<thead>
<tr>
<th>Item No</th>
<th>Requirements</th>
<th>Value of index</th>
<th>Test methods</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>The high visibility fluorescent orange-red and yellow (according to PANTONE colour catalogue – 19-3921TCX or equivalent) fabrics should be with water-repelling finishing and resistant to oil products, creasing, fading and be stable. The fabrics should meet the requirements of standard LST ISO 20471:2013 (or equivalent). The protocols of requested test results of each fabric should be submitted.</td>
<td></td>
<td>EN ISO 13934-1:2013 (or equivalent)</td>
</tr>
<tr>
<td>1.1</td>
<td>Weight, g/m²</td>
<td>240 ÷ 270</td>
<td>–</td>
</tr>
<tr>
<td>1.2.</td>
<td>Composition: cotton/polyester</td>
<td>≥ 60 % / ≤ 40 %</td>
<td>–</td>
</tr>
<tr>
<td>1.3.</td>
<td>Breaking toughness of warp, weft</td>
<td>≥ 1,350 N</td>
<td>EN ISO 13934-1:2013 (or equivalent)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>≥ 850 N</td>
<td>–</td>
</tr>
<tr>
<td>1.4.</td>
<td>Tearing toughness of warp, weft</td>
<td>≥ 45 N</td>
<td>EN ISO 13937-2:2000 (or equivalent)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>≥ 25 N</td>
<td>–</td>
</tr>
<tr>
<td>1.5.</td>
<td>Fuzzing resistance</td>
<td>3 – 4</td>
<td>EN ISO 12945-2:2000 (or equivalent)</td>
</tr>
<tr>
<td>1.6.</td>
<td>Change of dimensions after washing</td>
<td>≤ 3 %</td>
<td>EN ISO 5077:2008 (or equivalent)</td>
</tr>
<tr>
<td>1.7.</td>
<td>Wash-resistance of dyeing</td>
<td>4</td>
<td>EN ISO 105-C06:2010 (or equivalent)</td>
</tr>
<tr>
<td>1.9.</td>
<td>Sweat-resistance of dyeing</td>
<td>4</td>
<td>EN ISO 105-E04:2013 (or equivalent)</td>
</tr>
<tr>
<td>1.10.</td>
<td>Resistance of dyeing to artificial light</td>
<td>4</td>
<td>EN ISO 105-B02:2013 (or equivalent)</td>
</tr>
<tr>
<td>1.11.</td>
<td>Resistance to oil</td>
<td>–</td>
<td>The tests according to the valid legal acts</td>
</tr>
<tr>
<td>1.12.</td>
<td>Weaving</td>
<td>Streak</td>
<td>–</td>
</tr>
<tr>
<td>1.13.</td>
<td>Resistant to water vapour Ret, m²Pa/W</td>
<td>≤ 4.9</td>
<td>EN ISO 31092:2002/A1:2012 (or equivalent)</td>
</tr>
<tr>
<td>1.14.</td>
<td>Resistance to abrasion, revolutions</td>
<td>≥ 70,000</td>
<td>EN ISO 12947-2:2001 (or equivalent)</td>
</tr>
</tbody>
</table>

2. The retroreflective stripe should be of the width of 50 mm and of silver colour, flexible. It should meet the requirements of standard LST ISO 20471:2013 or equivalent. The protocols of requested test results should be submitted.

| 2.1. | Composition: cotton/polyester | ≥ 35 % / ≤ 65 % | – |
| 2.2. | Abrasion | RA > 100 | LST EN 530:2010 (or equivalent) method 2, the samples are measured after 5,000 cycles |
| 2.3. | Flexing | RA > 100 | LST EN ISO 7854 (or equivalent) method A, the samples are measured after 7,500 cycles |
| 2.4. | Bending (-20 °C) | RA > 100 | ISO 4675 (or equivalent) |
| 2.5. | Temperature variations: 12 h (50 ± 2 °C), 20 h (-30 ± 2 °C) | RA > 100 | LST EN ISO 20471:2013 (or equivalent) |
| 2.6. | Washing (60 °C – 50 cycles) | RA > 100 | LST EN ISO 6330 (or equivalent), method 2 |
| 2.7. | Soaking, due to rain | RA > 400 | LST EN ISO 20471:2013 (or equivalent) |

3. Contact tape of the width of 20 mm

| 3.1. | Composition: nylon | 100 % | – |
| 3.2. | Wash-resistance of dyeing | 5 | LST EN ISO 105-C06:2010 |
| 3.3. | Longitudinal shear strength of adhesive closing after washing and drying, N/cm² | ≥ 9 | LST EN ISO 13780:2003 |
| 3.4. | Longitudinal shear strength of adhesive closing after 5,000 cycles of opening and closing, N/cm² | ≥ 5 | LST EN ISO 13780:2003 |
| 3.5. | Resistance of dyeing of adhesive closing to the dry/wet friction. | 4 | LST EN ISO 102-X12:2004 |
3.10.8. High visibility orange-red signal vest (11 14 04) and high visibility yellow signal vest (11 14 06) are made of fabric of the composition of 100% polyester and density – no more than $200 \text{ g/m}^2 \pm 5 \text{ g/m}^2$. The fabric should have excellent breathable characteristics. The closing with 2 contact tapes should be at the front of signal vests.

3.10.9. The example of high visibility orange-red signal vest (11 14 04):

![High visibility orange-red signal vest](image)

Fig. 16. High visibility orange-red signal vest

3.10.10. The example of high visibility yellow signal vest (11 14 06):

![High visibility yellow signal vest](image)

3.11. ADDITIONAL REQUIREMENTS FOR HIGH VISIBILITY RAINCOAT (11 09 01)

3.11.1. High visibility raincoat (11 09 05), hereinafter referred to as the raincoat, is made of combination of orange and dark-blue colour flexothane or analogous fabrics with horizontal 50 mm retroreflective stripes and should meet the requirements of class 2 high visibility clothing and be certified according to the requirements of standards LST EN ISO 20471:2013 *High visibility clothing. Test methods and requirements (or equivalent), LST EN 343+A1:2007 Protective clothing. Protection against rain.*

3.11.2. The raincoat should be of straight silhouette, with detachable hood and set-in sleeves. The collar should be of the stick-up form. The length of raincoat should be 100 mm below knees.

3.11.3. The upper part of raincoat to the waist line (except for the collar and the hood), the part of sleeve above the elbow, the front closing stripe should be made of orange fabric. The bottom part of the raincoat, collar, hood, the bottom part of sleeves should be made of dark-blue fabric, the internal cuff should be made of neoprene (or materials with equivalent characteristics) and lean tightly to the hand wrists to prevent the water from passing to the sleeve when lifting the hand.

3.11.4. The raincoat should protect against rainwater (slob), oil products and perform the signalling function.
3.11.5. The hood should be attachable to the collar to prevent the water from passing inside. The front part of the hood should be transparent (made of transparent material) to maximise the side view. The width of the hood should be regulated by the string. Where necessary, the hood should be placed into the collar.

3.11.6. The collar should be of the stick-up form. Three-layered. The hood should be attachable to the collar.

3.11.7. The air-permeable lining (net) should be sewn in the raincoat sleeves and the upper part to the waist. Two gaps by 100 mm for the ventilation covered with a fold should be placed on the back part of the rain coat at the level of shoulders. The depth of fold ≥ 50 mm. The raincoat is closed with a zipper. The front closing is hidden. The front closing stripe is fastened with at least 7 press-fasteners of stainless steel (or material with equivalent characteristics).

3.11.8. Two patch pockets with flaps should be placed at the hips. The width of pocket – 190 mm, height – 210 mm, the width of flap – 200 mm, height – 70 mm. The flaps are closed with a contact tape of 20 x 40 mm. Four ventilation openings ensuring the air circulation and comfort should be fitted in the armpits of the raincoat.

3.11.9. The bottom of the raincoat sleeve is regulated by using the contact tapes of the strap. The length of the strap – 90 mm, the length of contact tape on the strap – 70 mm, the length of the contact tape on the sleeve – 200 mm. The raincoat should have an internal cuff the bottom of which should be shrunk with an elastic stripe. This internal cuff is fitted to the sleeve ~ 200 mm from the bottom of the sleeve (to prevent the water from passing to the sleeves when lifting the arms). The slash should be fitted on the back of the raincoat. All seams of the garment should be insulated to avoid the passing of water.

3.11.10. The retroreflective stripe should be glued to the raincoat.

3.11.11. All seams of the raincoat should be impermeable to water.

3.11.12. The company’s logo should be placed by the way of screen-printing technology on the back yoke 90 mm from the collar (see Fig. 1).

3.11.13. Example of raincoat model is presented in Fig. 18.
4. DOCUMENTS REQUESTED TO BE SUBMITTED TOGETHER WITH THE TENDER FOR THE VALIDATION OF TECHNICAL CHARACTERISTICS AND QUALITY OF THE PROCUREMENT OBJECT

4.1. The samples of clothes of respective models should also be presented together with the tender. The label with inscription “REFERENCE” should be fitted to the samples of clothing models submitted by the tenderers. The label should indicate the name, family name and signature of the responsible person. The inscription should be approved by the company’s seal (if the use of seal is mandatory according the valid legal acts of the Republic of Lithuania). The samples presented to the tendering procedure – “References” should be fully completed, i.e., when presenting the working costume, it is necessary to submit the jacket and semi-overall and not one of the parts of the working costume. In case of failure to present any constituent part of the sample, it should be considered that the sample “Reference” was not presented.

4.2. The samples of materials of respective clothing models should be submitted together with the tender (fabrics and retroreflective stripes); the fabrics should be of the size of at least 100 x 100 mm. The sample of model materials cannot be glued and should only be fixed to the sheet of paper at two upper edges and approved by the supplier’s signature and seal (if the seal is mandatory).

4.3. Together with the tender, the supplier must submit the following documents of purchased (leased) garments:

4.3.1. copies of the EC-type test certificates and their supplements approved by the manufacturer of clothing and certifying the respective certified clothing test performed by the European Community notified body and compliance of these PPM with the requirements of the specific EU legal acts and Technical Regulation “Personal protection means”. The copies should have an inscription “True Copy” approved by the original signature and seal of the manufacturer (if the seal is mandatory) and the signature (with indication of the name and family name of the signatory) and company’s seal (if the seal is mandatory) of the supplier (authorised representative) submitting the tender;

4.3.2. The EC declaration of conformity for the certified clothing prepared by the clothing manufacturer for the high visibility (summer) working costume with semi-overall (11 01 01), high visibility (summer) working costume with trousers (11 01 02) and high-visibility signal vests (11 14 01, 11 14 03, 11 14 04, 11 14 06) according to the form indicated in Annex VI of the Technical Regulation “Personal protection means” certifying that the submitted PPMs meet the type described in the EC-type test certificate according to the requirements of standard LST EN ISO 13688:2013 Protective clothing. General requirements (or equivalent), standard LST EN ISO 20471:2013 High visibility clothing. Test methods and requirements (or equivalent), other standards valid in the Republic of Lithuania and this technical specification;
4.3.3. the supplier should submit the manufacturer’s declaration of conformity for the summer working costume with semi-overall (11 06 01), summer working costume with trousers (11 06 02) and caps (01 02 01, 01 02 02, 01 02 03), according to the form indicated in Annex VI of the Technical Regulation “Personal protection means” certifying that the submitted PPMs meet the requirements of standard LST EN ISO 13688:2013 Protective clothing. General requirements (or equivalent) and this technical specification;

4.3.4. EC declaration of conformity for the certified clothing prepared by the clothing manufacturer for the working costume for protection against the electric arc (11 15 01) according to the form indicated in Annex VI of the Technical Regulation “Personal protection means” certifying that the submitted PPMs meet the type described in the EC-type test certificate according to the requirements of standard LST EN ISO 13688:2013 Protective clothing. General requirements (or equivalent), LST EN 11612:2009 A1, B1, C1 Protective clothing. Clothing to protect against heat and flame (or equivalent) and standard EN 61482-1-2 (class 1) Live working. Protective clothing against the thermal hazards of an electric arc (or equivalent);

4.3.5. EC declaration of conformity for the certified clothing prepared by the clothing manufacturer for the high visibility raincoat (11 09 01) according to the form indicated in Annex VI of the Technical Regulation “Personal protection means” certifying that the submitted PPMs meet the type described in the EC-type test certificate according to the requirements of standard LST EN ISO 13688:2013 Protective clothing. General requirements (or equivalent), standard LST EN ISO 20471:2013 High visibility clothing. Test methods and requirements (or equivalent), LST EN 343+A1:2007 Protective clothing. Protection against rain (or equivalent);

4.3.6. EC declaration of conformity for the certified clothing prepared by the clothing manufacturer for the orange protective cap (01 02 07) according to the form indicated in Annex VI of the Technical Regulation “Personal protection means” certifying that the submitted PPMs meet the type described in the EC-type test certificate according to the requirements of standard LST EN ISO 13688:2013 Protective clothing. General requirements (or equivalent) and standard LST EN 812 Industrial protective caps.

4.4. Approved copies of technical specifications, certificates and protocols of tests performed by the notified or accredited laboratories prepared by the manufacturers of materials (fabrics and retroreflective stripes) used for the tailoring of clothing. The copies submitted to the tendering procedure should have an inscription “True Copy” approved by the original signature and seal of the manufacturer (if the seal is mandatory by the legal acts of the Republic of Lithuania) and signature (with indication of the name and family name of the signatory) and company’s seal (if the seal is mandatory) of the supplier (authorised representative) submitting the tender. The authenticity of the translations of document to the Lithuanian language should be approved by the translation office or the supplier.
AB “LIETUVOS GELEŽINKELIAI”
TECHNICAL SPECIFICATION OF OCCUPATIONAL CLOTHING AND CAPS FOR THE COLD SEASON

1. PROCUREMENT OBJECT

1.1. Procurement of personal protection means for the employees, i.e. occupational clothing for the cold season (hereinafter referred to as the garments and goods) according to Code 1813 of the Common Procurement Vocabulary, conducted by AB “Lietuvos geležinkeliai” (Lithuanian Railways, JSC) (hereinafter referred to as the Company).

1.2. The garments of the following models are planned to be purchased:

1.2.1. high visibility insulated working costume (11 01 04) consisting of:
   1.2.1.1. high visibility insulated jacket (11 01 05);
   1.2.1.2. high visibility insulated semi-overall (11 01 06);

1.2.2. insulated working costume (11 04 04) consisting of:
   1.2.2.1. insulated jacket (11 04 05);
   1.2.2.2. insulated semi-overall (11 04 06);

1.2.3. high visibility winter cap (01 02 04);

1.2.4. winter cap (01 02 05);

1.2.5. signaller’s winter cap (01 02 10).

1.3. The goods indicated in Item 1.2 of the technical specification should be supplied to the addresses and in the quantities specified in the terms and conditions of the tendering specifications.

1.4. The procurement object is split into lots according to the models of garments. The supplier can submit tenders for one, several or all lots of the procurement object.

2. AREA OF APPLICATION OF THE PROCUREMENT OBJECT

The aim of the procurement of goods – to provide the company’s employees with the personal protection means protecting from the risk factors that could threaten the safety and health of employees, pursuant to Article 271 of the Labour Code of the Republic of Lithuania, Articles 25 and 28 of the Law on Occupational Health and Safety of the Republic of Lithuania, Technical Regulation “Personal protection means” (hereinafter referred to as Technical Regulation “Personal protection means”) approved by Order No 69 of the Minister of Social Security and Labour of the Republic of Lithuania of 03.07.2000, Order No A1-331 of the Minister of Social Security and Labour of the Republic of Lithuania of 26.11.2007 On the Approval of Regulations of the Provision of Employees with Personal Protection Means and other legal acts effective in the Republic of Lithuania.

3. TECHNICAL REQUIREMENTS WHICH SHOULD BE MET BY THE PURCHASED GARMENTS

3.1. GENERAL REQUIREMENTS

3.1.1. The garments should meet the requirements of the legal acts valid in the European Union and the Republic of Lithuania and regulating the occupational health and safety, including the requirements of standards LST EN ISO 13688:2013 Protective clothing. General

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4 The code of shoe model is indicated according to Order No 338 of the General Director of AB “Lietuvos geležinkeliai” “Regulation of the Provision of Employees of AB “Lietuvos geležinkeliai” with Personal Protection Means SS/161”, as amended.
3.1.2. The garments should be marked according to the requirements of standard LST EN ISO 13688:2013 *Protective clothing. General requirements* (or equivalent) and this technical specification.

3.1.3. The garments should be fitted with AB “Lietuvos geležinkeliai” logo and the mark of the year of manufacture (see Figure 1 with the reference year indicated):

![Image of logo and year 2014]

**Fig. 1.**

3.2. ADDITIONAL REQUIREMENTS FOR HIGH VISIBILITY INSULATED WORKING COSTUME (11 01 04)

3.2.1. High visibility insulated working costume (hereinafter referred to as the working costume) consists of high visibility insulated jacket (11 01 05) (hereinafter referred to as the jacket, see Fig. 2) and high visibility insulated semi-overall (11 01 06) (hereinafter referred to as the semi-overall, see Fig. 3). The working costume should be made of the combination of fluorescent orange-red and dark-blue colour fabrics with retroreflective stripes and should meet the requirements of Class 2 high visibility clothing and be certified according to standard LST EN ISO 20471:2013 *High visibility clothing. Test methods and requirements* (or equivalent).
3.2.2. The jacket should be elongated, of straight silhouette and with set-in sleeves. The collar should be of the stick-up form. The jacket should be zipped with a zipper with 2 (two) sliders, which should be covered with a placket part closing the jacket with metal press-fasteners up to the neck. The string should be fitted in the waist part to regulate the waist of jacket by using the fixers. The retroreflective stripes of the width of 50 mm should be arranged horizontally by two on the sleeves and along the jacket perimeters at the bottom of the garment. Their arrangement should meet the requirements of standard LST EN ISO 20471: 2013 Protective clothing. General requirements (or equivalent). All retroreflective stripes should be sewn with a double hemstitch.

The dark-blue fabric should be used for tailoring the collar, placket, the bottom of the sleeves until the first horizontal retroreflective stripe from the top of the sleeve, the strap on the sleeves, the bottom of the jacket from the level of front pockets throughout the entire perimeter of the jacket and the hanging loop.

The press-fasteners of the jacket should be made of stainless steel.

3.2.3. At the front of the jacket – the pocket inlaid transversely on the chest area (the width of pocket gap – 16 cm, length – to the retroreflective stripe in the chest area, covered with flaps of the size of 16.5 x 6 cm, which should be closed with 2 contact tapes (4 x 2 cm) in the flap angles.

Inlaid horizontal pockets should be stitched at the bottom waist part of the jacket (width of the hole – 18 cm, length – to the bottom of the jacket with flaps, 22 x 6 cm). The pocket should be closed with 2 contact straps (4 x 2 cm) on the flap angles.

The bags of jacket pockets should be cut of the main fabric.

3.2.4. The strap should be fitted at the bottom of the sleeves, which helps the contact tapes to regulate the width of the bottom of the sleeve. The strap is sewn at the upper part of the sleeve (12 x 4.5 cm, the contact tape on the strap 7.5 x 2 cm, the contact tape on the sleeve part 12 x 2 cm).

3.2.5. The height of collar on the front part – 11 cm, back – 9 cm, inside part of collar should be of elastic knitted fabric of the colour of lining. The collar should be insulated with 100 ± 10 g/m² sintepon.

3.2.6. The insulation of jacket should be removable (zip-off). The back and front parts of insulation to the waist part should be made of dark-coloured fleece (matching the dark-blue fabric of the jacket), the lower part and the sleeves – of the lining fabric tacked every 10 cm with 140 ±
The sintepon should be tacked with the parts made of fleece. The insulation at the height of chest should be fitted with 2 internal inlaid pockets with a frame made of dark-blue top fabric of the jacket. The cuffs of insulation sleeves should be made of 5-7 cm elastic knitted fabric of the colour of lining. The cuffs of insulation should be attachable to the jacket cuffs with the buttons.

The placket and the collar should be insulated with 100 ± 10 g/m² sintepon.

3.2.7. The string with tips matching the dark-blue colour of the fabric should be used for the stretching of jacket. The ends of the string should be fixed with plastic fixers.

3.2.8. The hanging loop should be of the length of 7 cm and sewn between the linen and the stand.

3.2.9. When stitching the jacket with a double hemstitch, the first hemstitch should be within a distance of 0.1-0.2 cm from the edge. Two finishing hemstitches are used to stitch the areas of shoulders, sleeves, yoke, placket, collar, pocket flaps, fluorescent orange-red and dark-blue colour front and back connection area along the perimeter of the jacket.

3.2.10. The company’s logo and the mark of the year of manufacture under the logo should be placed on the back of the jacket by using the silk-screen printing. The sketch of the logo and the year of manufacture are provided in the general requirements of the technical specification (see Fig. 1).

3.2.11. The requirements for the materials of the jacket are listed below.

<table>
<thead>
<tr>
<th>Item No</th>
<th>Requirements</th>
<th>Value of index</th>
<th>Test methods</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>The high visibility fluorescent orange-red and dark-blue fabrics should be with water-repelling finishing and resistant to oil products, creasing, fading and should be stable. The fabrics should meet the requirements of standard LST ISO 20471:2013 or equivalent. The protocols of requested test results of each fabric should be submitted.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.1</td>
<td>Weight, g/m²</td>
<td>240 ÷ 265 ± 5 %</td>
<td>-</td>
</tr>
<tr>
<td>1.2</td>
<td>Composition: cotton/polyester</td>
<td>≥ 30 % / ≤ 70 %</td>
<td>-</td>
</tr>
<tr>
<td>1.3</td>
<td>Breaking toughness of warp, weft</td>
<td>≥ 1,200 N ≥ 850 N</td>
<td>EN ISO 13934-1:2013 (or equivalent)</td>
</tr>
<tr>
<td>1.4</td>
<td>Tearing toughness of warp, weft</td>
<td>≥ 45 N ≥ 35 N</td>
<td>EN ISO 13937-2:2000 (or equivalent)</td>
</tr>
<tr>
<td>1.5</td>
<td>Abrasion resistance (12 kPa)</td>
<td>≥ 50,000 cycles</td>
<td>ISO 12947 (or equivalent)</td>
</tr>
<tr>
<td>1.6</td>
<td>Fuzzing resistance</td>
<td>3-4</td>
<td>EN ISO 12945-2:2000 (or equivalent)</td>
</tr>
<tr>
<td>1.7</td>
<td>Change of dimensions after washing</td>
<td>≤ 3 %</td>
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</tr>
<tr>
<td>1.8</td>
<td>Wash-resistance of dyeing</td>
<td>4</td>
<td>EN ISO 105-C06:2010 (or equivalent)</td>
</tr>
<tr>
<td>1.9</td>
<td>Friction-resistance of dyeing</td>
<td>3-4</td>
<td>EN ISO 105-X12:2002 (or equivalent)</td>
</tr>
<tr>
<td>1.10</td>
<td>Sweat-resistance of dyeing</td>
<td>4</td>
<td>EN ISO 105-E04:2013 (or equivalent)</td>
</tr>
<tr>
<td>1.11</td>
<td>Resistance of dyeing to artificial light</td>
<td>4</td>
<td>EN ISO 105-B02:2013 (or equivalent)</td>
</tr>
<tr>
<td>1.12</td>
<td>Resistance to surface moistening</td>
<td>≥ 90</td>
<td>EN ISO 4920:2012 (or equivalent)</td>
</tr>
<tr>
<td>1.13</td>
<td>Resistance to oil</td>
<td>-</td>
<td>The tests according to the valid legal acts</td>
</tr>
</tbody>
</table>

2. The retroreflective stripe should be of the width of 5 cm and of silver colour, flexible. It should meet the requirements of standard LST ISO 20471:2013 or equivalent. The protocols of requested test results should be submitted.

2.1. Composition: cotton/polyester | ≥ 35 % / ≤ 65 % | - |
2.2. Abrasion | RA > 100 | LST EN 530:2010 (or equivalent) method 2, the samples are measured after 5,000 cycles
2.3. Flexing | RA > 100 | LST EN ISO 7854 (or equivalent) method A, the samples are measured after 7,500 cycles
2.4. Bending (-20 °C) | RA > 100 | ISO 4675 (or equivalent)
2.5. Temperature variations: 12 h (50 ± 2 °C), 20 h (-30 ± 2 °C) | RA > 100 | LST EN ISO 20471:2013 (or equivalent)
2.6. Washing (60 °C – 50 cycles) | RA > 100 | LST EN ISO 6330 (or equivalent), method 2
2.7. Soaking, due to rain | RA > 400 | LST EN ISO 20471:2013 (or equivalent)

3. The lining should be durable, air-permeable, dark, matching the dark-blue colour of the fabric.
3.1. Weight, g/m² | 80 - 110 | -
3.2. Composition – polyester | 100 % | -
4. Insulation – sintepon
4.1. Composition: polyester | 100 % | -
4.2. Surface density, g/m²:
   for placket, collar insulation of the bottom of the jacket and sleeves
   100 ± 10
   140 ± 10
5.1. Composition: polyester | 100 % | -
5.2. Surface density, g/m² | 350 ± 10 | -
6. The finishing of cuffs (5-7 cm) and collar (at least 11 cm) – elastic knitted fabric of the jacket lining colour
6.1. Composition: wool/synthetic material
   ≥ 50 % / ≤ 50 % | -
7. Zipper of the width of 5.6-6.2 mm suitable for wearing outdoors, with two sliders for zipping the jacket. Removable zipper for the attachment of insulation (length – according to the size of jacket). The zipper should be of dark colour matching the dark-blue colour of fabric.
8. Press-fasteners of stainless steel Ø15 mm (±2 mm) | - | -
9. Contact tape of the width of 20 mm | - | -

3.2.12. The semi-overall should be symmetrical, straight, with braces, zipped at the front, the zipper covered with placket part, closed with metal press-fasteners. The retroreflective stripes of the width of 50 mm should be arranged horizontally by two on the semi-overall legs, their layout should meet the requirements of standard LST EN ISO 20471:2013 Protective clothing. General requirements (or equivalent). All retroreflective stripes should be sewn with a double hemstitch. The dark-blue colour fabric should be used for making the braces and loops, semi-overall placket, which covers the zipper, bottom part of the semi-overall from the bottom seam of the waist to the knees throughout the entire garment and the bottom of the legs.

3.2.13. The semi-overall should be zipped with a zipper of 2 sliders, the zipper should be covered with placket part, closed with three metal press-fastenings. 2 horizontal pockets (height – 21 cm, width – 16 cm) with flaps (height – 6 cm, width – 22 cm) and closed with metal press-fastenings at the centre should be fitted on the front part of the semi-overall.
3.2.14. The back part of the semi-overall near the waist should be fitted with an elastic string throughout the entire width. 2 eyeholes for the belt of the width of 5 cm should be fitted on the external side at the waist area. The elastic string of the width of 8 cm and the length of 4-5 cm should be fitted to the back upper part (at the level of shoulder-blade). The upper part of the elastic string should be sewn into the connection of the brace triangle. The braces should be overlapped and fixed with a triangle.

3.2.15. The braces should be fastened with plastic clasps. The width of braces should be from 8 cm and narrow down to 4 cm through at least 60 cm of the length. The area of brace at the shoulders should be insulated with 100 ± 10 g/m² sintepon.

3.2.16. Two inlaid pockets of transverse cutting and bartackings at the edges should be sewn symmetrically on the front part of the semi-overall from the waist. The patch pockets of the size of 21 x 19 cm with flaps should be fitted on both sides of the semi-overall on the dark-blue part, 5 cm above the knees (from the area of the connection of orange and dark-blue fabrics) of the height of 6 cm at the front side and 4.5 cm at the back side and fastened with a contact tape in the middle. 2 patch pockets with backtackings should be fitted on the pocket. One pocket (for the phone) with a flap: size of pocket 13 x 8 cm, the sides raised by 2.8 cm, pocket flap – 7 x 8.5 cm, fastened with a contact strap – 4 x 2 cm. The other pocket of the size of 15 x 8 cm.

**High visibility insulated semi-overall (11 01 06)**

![Fig. 3.]

3.2.17. The zippers of the length of 40 cm should be fitted on the bottom part of the legs.

3.2.18. The semi-overall should be insulated with 140 ± 10 g/m² sintepon and be fitted with a durable air-permeable lining. The lining should be basted with sintepon and attached with Ø15 mm buttons – six buttons to the base of trousers at the waist and two buttons at the bottom of trousers. The insulation at the bottom of trousers is shrunk with 30 cm elastic string.

3.2.19. The company’s logo and the mark of the year of manufacture under the logo should be placed by the way of silk-screening printing on the back part of the semi-overall within a 3 cm distance from the upper edge (see Fig. 1). The sizes of company’s logo and the year of manufacture indicated in the general requirements should be reduced proportionally up to 2 times.

3.2.20. The requirements for the fabrics of the semi-overall are listed below.
<table>
<thead>
<tr>
<th>Item No</th>
<th>Requirements</th>
<th>Value of index</th>
<th>Test methods</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>The high visibility fluorescent orange-red and dark-blue fabrics should be with water-repelling finishing and resistant to oil products, creasing, fading and should be stable. The fabrics should meet the requirements of standard LST ISO 20471:2013 or equivalent. The protocols of requested test results of each fabric should be submitted.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.1.</td>
<td>Weight, g/m²</td>
<td>240 ± 265 ± 5%</td>
<td>-</td>
</tr>
<tr>
<td>1.2.</td>
<td>Composition: cotton/polyester</td>
<td>≥ 30% / ≤ 70%</td>
<td>-</td>
</tr>
<tr>
<td>1.3.</td>
<td>Breaking toughness of warp, weft</td>
<td>≥ 1,200 N ≤ 850 N</td>
<td>EN ISO 13934-1:2013 (or equivalent)</td>
</tr>
<tr>
<td>1.4.</td>
<td>Tearing toughness of warp, weft</td>
<td>≥ 45 N ≥ 35 N</td>
<td>EN ISO 13937-2:2000 (or equivalent)</td>
</tr>
<tr>
<td>1.5.</td>
<td>Abrasion resistance (12 kPa)</td>
<td>≥ 50,000 cycles</td>
<td>ISO 12947 (or equivalent)</td>
</tr>
<tr>
<td>1.6.</td>
<td>Fuzzing resistance</td>
<td>3-4</td>
<td>EN ISO 12945-2:2000 (or equivalent)</td>
</tr>
<tr>
<td>1.7.</td>
<td>Change of dimensions after washing</td>
<td>≤ 3%</td>
<td>EN ISO 5077:2008 (or equivalent)</td>
</tr>
<tr>
<td>1.8.</td>
<td>Wash-resistance of dyeing</td>
<td>4</td>
<td>EN ISO 105-C06:2010 (or equivalent)</td>
</tr>
<tr>
<td>1.9.</td>
<td>Friction-resistance of dyeing</td>
<td>3-4</td>
<td>EN ISO 105-X12:2002 (or equivalent)</td>
</tr>
<tr>
<td>1.10.</td>
<td>Sweat-resistance of dyeing</td>
<td>4</td>
<td>EN ISO 105-E04:2013 (or equivalent)</td>
</tr>
<tr>
<td>1.11.</td>
<td>Resistance of dyeing to artificial light</td>
<td>4</td>
<td>EN ISO 105-B02:2013 (or equivalent)</td>
</tr>
<tr>
<td>1.12.</td>
<td>Resistance to surface moistening</td>
<td>≥ 90</td>
<td>EN ISO 4920:2012 (or equivalent)</td>
</tr>
<tr>
<td>1.13.</td>
<td>Resistance to oil</td>
<td>-</td>
<td>The tests according to the valid legal acts</td>
</tr>
<tr>
<td>2.</td>
<td>The retroreflective stripe should be of the width of 5 cm and of silver colour, flexible. It should meet the requirements of standard LST ISO 20471:2013 or equivalent. The protocols of requested test results should be submitted.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.1.</td>
<td>Composition: cotton/polyester</td>
<td>≥ 35% / ≤ 65%</td>
<td>-</td>
</tr>
<tr>
<td>2.2.</td>
<td>Abrasion</td>
<td>RA &gt; 100</td>
<td>LST EN 530:2010 (or equivalent) method 2, the samples are measured after 5,000 cycles</td>
</tr>
<tr>
<td>2.3.</td>
<td>Flexing</td>
<td>RA &gt; 100</td>
<td>LST EN ISO 7854 (or equivalent) method A, the samples are measured after 7,500 cycles</td>
</tr>
<tr>
<td>2.4.</td>
<td>Bending (-20 °C)</td>
<td>RA &gt; 100</td>
<td>ISO 4675 (or equivalent)</td>
</tr>
<tr>
<td>2.5.</td>
<td>Temperature variations:</td>
<td>RA &gt; 100</td>
<td>LST EN ISO 20471:2013 (or equivalent)</td>
</tr>
<tr>
<td>2.6.</td>
<td>12 h (50 ± 2 °C), 20 h (-30 ± 2 °C)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.7.</td>
<td>Washing (60 °C – 50 cycles)</td>
<td>RA &gt; 100</td>
<td>LST EN ISO 6330 (or equivalent), method 2</td>
</tr>
<tr>
<td>2.8.</td>
<td>Soaking, due to rain</td>
<td>RA &gt; 400</td>
<td>LST EN ISO 20471:2013 (or equivalent)</td>
</tr>
<tr>
<td>3.</td>
<td>The lining should be durable, air-permeable, dark, matching the dark-blue colour of the fabric.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
3.1. Weight, g/m² | 80 - 110 | -
3.2. Composition – polyester | 100 % | -
4. Insulation – sintepon
4.1. Composition: polyester | 100 % | -
4.2. Surface density, g/m²:
   for braces insulation of the semi-overall | 100 ± 10 | -
   140 ± 10 | -
5. Zipper of the width of 5.6-6.2 mm suitable for wearing outdoors, with two sliders for zipping the semi-overall. The zipper of the length of 40 cm for zipping the legs. The zippers should be of dark colour matching the dark-blue colour of fabric.
6. Press-fasteners of stainless steel Ø15 mm (±2 mm) | - | -
7. Ø15 mm (±2 mm) buttons | - | -
8. Contact strap of the width of 20 mm | - | -
9. Elastic stripe of the width of 3 cm and 8 cm | - | -

### 3.3. ADDITIONAL REQUIREMENTS FOR INSULATED WORKING COSTUME (11 04 04)
3.3.1. Insulated working costume (hereinafter referred to as the working costume) consists of insulated jacket (11 04 05) (hereinafter referred to as the jacket, see Fig. 4) and insulated semi-overall (11 04 06) (hereinafter referred to as the insulated semi-overall, see Fig. 5). The working costume is made of dark-blue fabric.
3.3.2. The insulated jacket should be elongated, of straight silhouette and with set-in sleeves. The collar should be of the stick-up form. The insulated jacket should be zipped with a zipper with 2 (two) sliders, which should be covered with a placket part closing the insulated jacket with metal press-fasteners up to the neck. The string should be fitted on the waist part to regulate the waist of insulated jacket by using the fixers. The retroreflective stripe of the width of 25 mm should be arranged horizontally on the back part of shoulders and the front part above the pockets as well as on the sleeves 10 cm below the elbow. All retroreflective stripes should be sewn with a single hemstitch. The press-fasteners of the insulated jacket should be made of stainless steel.

**Insulated jacket (11 04 05)**
3.3.3. 4 patch pockets of the size of 16 x 17 cm should be fitted on the front of insulated jacket – 2 upper and 2 lower pockets. The lower and right upper pockets should be with the flaps of the size of 16 x 6 cm and should be closed with 2 contact tapes of the size of 4 x 2 cm in the flap angles. The left front part of the upper pocket is made into two parts (7 and 9 cm in width), the pocket of the width of 7 cm is covered with a flap, whereas the remaining part of the pocket remains open. All pockets should be sewn with a double hemstitch.

3.3.4. The strap should be fitted at the bottom of the sleeves, which helps the contact tapes to regulate the width of the bottom of the sleeve. The strap of 12 x 4.5 cm with a contact tape of 7.5 x 2 cm should be sewn from the good side of the sleeve and the contact tape of 12 x 2 cm should be fitted on the sleeve.

3.3.5. The insulation of jacket should be removable (zip-off). The back and front parts of insulation to the waist part should be made of dark-coloured fleece (matching the dark-blue fabric of the jacket), the lower part and the sleeves – of the lining fabric tacked every 10 cm with 140 ± 10 g/m² sintepon. The sintepon should be tacked with the parts made of fleece. The insulation at the height of chest should be fitted with 2 internal inlaid pockets with a frame made of dark-blue top fabric of the jacket. The cuffs of insulation sleeves should be made of 5-7 cm elastic knitted fabric of the colour of lining. The cuffs of insulation should be attachable to the jacket cuffs with the buttons.

The placket and the collar should be insulated with 100 ± 10 g/m² sintepon.

3.3.6. The string with tips matching the dark-blue colour of the fabric should be used for the stretching of insulated jacket. The ends of the string should be fixed with plastic fixers.

3.3.7. The hanging loop should be of the length of 7 cm and sewn between the linen and the stand.

3.3.8. When stitching the insulated jacket with a double hemstitch, the first hemstitch should be within a distance of 0.1-0.2 cm from the edge. Two finishing hemstitches should be used to stitch the areas of attachment of shoulders, sleeves, yoke, placket, collar, pocket flaps, front and back connection place along the perimeter of the insulated jacket. The place of bartacking – on the top of all pockets.

3.3.9. The company’s logo and the mark of the year of manufacture under the logo should be placed on the back of the insulated jacket by using the silk-screen printing. The sketch of the company’s logo and the year of manufacture are provided in the general requirements (see Fig. 1).

3.3.10. The requirements for the materials of the insulated jacket are listed below.

<table>
<thead>
<tr>
<th>Item No</th>
<th>Requirements</th>
<th>Value of index</th>
<th>Test methods</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>The dark-blue fabric should be with water-repelling finishing, resistant to oil products, creasing, fading and stable. The protocols of requested test results should be submitted.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.1.</td>
<td>Weight, g/m²</td>
<td>240 ± 265 ± 5 %</td>
<td>-</td>
</tr>
<tr>
<td>1.2.</td>
<td>Composition: cotton/polyester</td>
<td>≥ 30 % / ≤ 70 %</td>
<td>-</td>
</tr>
<tr>
<td>1.3.</td>
<td>Breaking toughness of warp, weft</td>
<td>≥ 1,200 N</td>
<td>EN ISO 13934-1:2013 (or equivalent)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>≥ 850 N</td>
<td></td>
</tr>
<tr>
<td>1.4.</td>
<td>Tearing toughness of warp, weft</td>
<td>≥ 45 N</td>
<td>EN ISO 13937-2:2000 (or equivalent)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>≥ 35 N</td>
<td></td>
</tr>
<tr>
<td>1.5.</td>
<td>Abrasion resistance (12 kPa)</td>
<td>≥ 50,000 cycles</td>
<td>ISO 12947 (or equivalent)</td>
</tr>
<tr>
<td>1.6.</td>
<td>Fuzzing resistance</td>
<td>3 - 4</td>
<td>EN ISO 12945-2:2000 (or equivalent)</td>
</tr>
<tr>
<td>1.7.</td>
<td>Change of dimensions after washing</td>
<td>≤ 3 %</td>
<td>EN ISO 5077:2008 (or equivalent)</td>
</tr>
</tbody>
</table>
1.8. Wash-resistance of dyeing  4  EN ISO 105-C06:2010 (or equivalent)
1.9. Friction-resistance of dyeing  3-4  EN ISO 105-X12:2002 (or equivalent)
1.10. Sweat-resistance of dyeing  4  EN ISO 105-E04:2013 (or equivalent)
1.11. Resistance of dyeing to artificial light  4  EN ISO 105-B02:2013 (or equivalent)
1.12. Resistance to surface moistening  ≥ 90  EN ISO 4920:2012 (or equivalent)
1.13. Resistance to oil  -  The tests according to the valid legal acts

2. The retroreflective stripe should be of the width of 2.5 cm and of silver colour, flexible. It should meet the requirements of standard LST ISO 20471:2013 or equivalent. The protocols of requested test results should be submitted.

2.1. Composition: cotton/polyester  ≥ 35 % / ≤ 65 %
2.2. Abrasion  RA > 100  LST EN 530:2010 (or equivalent) method 2, the samples are measured after 5,000 cycles
2.3. Flexing  RA > 100  LST EN ISO 7854 (or equivalent) method A, the samples are measured after 7,500 cycles
2.4. Bending (-20 °C)  RA > 100  ISO 4675 (or equivalent)
2.5. Temperature variations: 12 h (50 ± 2 °C), 20 h (-30 ± 2 °C)  RA > 100  LST EN ISO 20471:2013 (or equivalent)
2.6. Washing (60 °C – 50 cycles)  RA > 100  LST EN ISO 6330 (or equivalent), method 2
2.7. Soaking, due to rain  RA > 400  LST EN ISO 20471:2013 (or equivalent)

3. The lining should be durable, air-permeable, dark, matching the dark-blue colour of the fabric.

3.1. Weight, g/m²  80 - 110
3.2. Composition – polyester  100 %
3.3. Insulation – sintepon
4.1. Composition: polyester  100 %
4.2. Surface density, g/m²: 100 ± 10  140 ± 10

5.1. Composition: polyester  100 %
5.2. Surface density, g/m²: 350 ± 10

6. The finishing of cuffs (5-7 cm) and collar (at least 11 cm) – elastic knitted fabric of the jacket lining colour
6.1. Composition: wool/synthetic material  ≥ 50 % / ≤ 50 %

7. Zipper of the width of 5.6-6.2 mm suitable for wearing outdoors, with two sliders for zipping the jacket. Removable zipper for the attachment of insulation (length – subject to the size of jacket). The zippers should be of dark colour matching the dark-blue colour of fabric.
8. Press-fasteners of stainless steel  -
3.3.11. The insulated semi-overall should be straight, with braces, zipped at the front, the zipper covered with a placket part, closed with metal press-fastenings. The retroreflective stripe of the width of 25 cm should be arranged horizontally on the legs of insulated semi-overall (see Fig. 5).

Insulated semi-overall (11 04 06)

Fig. 5.

3.3.12. The insulated semi-overall should be zipped with a zipper of 2 sliders, the zipper should be covered with a placket part and closed with three metal press-fastenings.

3.3.13. The back part of the insulated semi-overall near the waist should be fitted with an elastic string throughout the entire width. 2 eyeholes for the belt of the width of 5 cm should be fitted on the external side at the waist area.

3.3.14. The elastic string of the width of 8 cm and the length of 4-5 cm should be fitted to the back upper part (at the level of shoulder-blade). The upper part of the elastic string should be sewn into the connection of the brace triangle. The braces should be overlapped and fixed with a triangle.

3.3.15. The width of braces should be from 8 cm and narrow down to 4 cm through at least 60 cm of the length. The area of brace at the shoulders should be insulated with 100 ± 10 g/m² sintepon.

3.3.16. The braces should be fastened with plastic clasps.

3.3.17. 2 patch pockets of the size of 21 x 10 cm should be made on the upper part of the insulated semi-overall with a double hemstitch: one pocket with a flap of 6 x 11 cm closed with a contact tape of 4 x 2 cm and the other one – open. The second pocket is divided with a seam of the width of 4 cm and is used for keeping the writing tools. Two inlaid pockets of transverse cutting and bartackings at the edges should be sewn symmetrically on the front part of the insulated semi-overall from the waist. The patch pocket of 21 x 19 cm with a flap of 6 x 19 cm should be sewn on the left side of the insulated semi-overall with a double hemstitch. The pocket should be closed with 2 contact tapes (4 x 2 cm) on the flap angles. The vertical patch pocket of 21 x 9 cm should be sewn on the right back part of insulated semi-overall, the top part of pocket should be transverse, the top of the pocket should be bartacked.
3.3.18. The patches should be fitted in the knee area of the semi-overall. The size of patches – 23 cm, width – subject to the width of legs. The edges of patches are sewn into the side seams. The place of patches varies by ± 2.8 cm subject to the change of heights and sizes.

3.3.19. The zippers of the length of 40 cm should be fitted on the bottom part of the legs.

3.3.20. The insulated semi-overall should be fitted with air-permeable lining and the 140 ± 10 g/m² sintepon should be used for insulation. The lining should be basted with sintepon and attached with Ø15 mm buttons – six buttons to the base of trousers at the waist and two buttons at the bottom of trousers. The insulation at the bottom of trousers is shrunk with 30 cm elastic string.

3.3.21. The company’s logo and the mark of the year of manufacture under the logo should be placed on the back of the insulated semi-overall by using the silk-screen printing (see Fig. 1). The sizes of company’s logo and the year of manufacture indicated in the general requirements can be reduced proportionally up to 2 times subject to the size of the clothing.

3.3.22. The requirements for the fabrics of the insulated semi-overall are listed below.

<table>
<thead>
<tr>
<th>Item No</th>
<th>Requirements</th>
<th>Value of index</th>
<th>Test methods</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>The dark-blue fabric should be with water-repelling finishing, resistant to oil products, creasing, fading and stable. The protocols of requested test results of each fabric should be submitted.</td>
<td>Weight, g/m²</td>
<td>240 ± 265 ± 5 %</td>
</tr>
<tr>
<td>1.1</td>
<td>Composition: cotton/polyester</td>
<td>≥ 30 % / ≤ 70 %</td>
<td>-</td>
</tr>
<tr>
<td>1.2</td>
<td>Breaking toughness of warp, weft</td>
<td>≥ 1,200 N</td>
<td>EN ISO 13934-1:2013 (or equivalent)</td>
</tr>
<tr>
<td>1.3</td>
<td>≥ 850 N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.4</td>
<td>Tearing toughness of warp, weft</td>
<td>≥ 45 N</td>
<td>EN ISO 13937-2:2000 (or equivalent)</td>
</tr>
<tr>
<td>1.5</td>
<td>≥ 35 N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.6</td>
<td>Abrasion resistance (12 kPa)</td>
<td>≥ 50,000 cycles</td>
<td>ISO 12947 (or equivalent)</td>
</tr>
<tr>
<td>1.7</td>
<td>Fuzzing resistance</td>
<td>3-4</td>
<td>EN ISO 12945-2:2000 (or equivalent)</td>
</tr>
<tr>
<td>1.8</td>
<td>Change of dimensions after washing</td>
<td>≤ 3 %</td>
<td>EN ISO 5077:2008 (or equivalent)</td>
</tr>
<tr>
<td>1.9</td>
<td>Wash-resistance of dyeing</td>
<td>4</td>
<td>EN ISO 105-C06:2010 (or equivalent)</td>
</tr>
<tr>
<td>1.10</td>
<td>Friction-resistance of dyeing</td>
<td>3 - 4</td>
<td>EN ISO 105-X12:2002 (or equivalent)</td>
</tr>
<tr>
<td>1.11</td>
<td>Sweat-resistance of dyeing</td>
<td>4</td>
<td>EN ISO 105-E04:2013 (or equivalent)</td>
</tr>
<tr>
<td>1.12</td>
<td>Resistance of dyeing to artificial light</td>
<td>4</td>
<td>EN ISO 105-B02:2013 (or equivalent)</td>
</tr>
<tr>
<td>1.13</td>
<td>Resistance to surface moistening</td>
<td>≥ 90</td>
<td>EN ISO 4920:2012 (or equivalent)</td>
</tr>
<tr>
<td>1.14</td>
<td>Resistance to oil</td>
<td>-</td>
<td>The tests according to the valid legal acts</td>
</tr>
</tbody>
</table>

2. The retroreflective stripe should be of the width of 2.5 cm and of silver colour, flexible. It should meet the requirements of standard LST ISO 20471:2013 or equivalent. The protocols of requested test results should be submitted.

2.1 Composition: cotton/polyester | ≥ 35 % / ≤ 65 % | - |
| 2.2 | Abrasion | RA > 100 | LST EN 530:2010 (or equivalent) method 2, the
samples are measured after 5,000 cycles

<table>
<thead>
<tr>
<th>2.3</th>
<th>Flexing</th>
<th>RA &gt; 100</th>
<th>LST EN ISO 7854 (or equivalent) method A, the samples are measured after 7,500 cycles</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.4</td>
<td>Bending (- 20 °C)</td>
<td>RA &gt; 100</td>
<td>ISO 4675 (or equivalent)</td>
</tr>
<tr>
<td>2.5</td>
<td>Temperature variations: 12 h (50 ± 2 °C), 20 h (- 30 ± 2 °C)</td>
<td>RA &gt; 100</td>
<td>LST EN ISO 20471:2013 (or equivalent)</td>
</tr>
<tr>
<td>2.6</td>
<td>Washing (60 °C – 50 cycles)</td>
<td>RA &gt; 100</td>
<td>LST EN ISO 6330 (or equivalent), method 2</td>
</tr>
<tr>
<td>2.7</td>
<td>Soaking, due to rain</td>
<td>RA &gt; 400</td>
<td>LST EN ISO 20471:2013 (or equivalent)</td>
</tr>
</tbody>
</table>

3. The lining should be durable, air-permeable, dark, matching the dark-blue colour of the fabric.

3.1 Weight, g/m² 80 - 110 -

3.3 Composition – polyester 100 % -

4. Insulation – sintepon

4.1 Composition: polyester 100 % -

4.3 Surface density, g/m²:

| for braces | 100 ± 10 |
| insulation of the semi-overall | 140 ± 10 |

5. Zipper of the width of 5.6-6.2 mm suitable for wearing outdoors, with two sliders for zipping the semi-overall. The zipper of the length of 40 cm for zipping the legs. The zippers should be of dark colour matching the dark-blue colour of fabric.

6. Press-fasteners of stainless steel Ø15 mm (±2 mm) - -

7. Ø15 mm (±2 mm) buttons - -

8. Contact tape of the width of 20 mm - -

9. The elastic stripe of dark-colour matching the dark-blue fabric of the width of 3 cm and 8 cm - -

3.4. ADDITIONAL REQUIREMENTS FOR WINTER CAPS

3.4.1. High visibility winter cap (01 02 04) (see Fig. 6), winter cap (01 02 05) (see Fig. 7), and signaller’s winter cap (01 02 10) (see Fig. 8) (hereinafter collectively referred to as the caps) are sewn with a hard peak and ear flaps, which are tied up on the top of the head with dark-colour strings. The laminated retroreflective stripe of 25 mm should be sewn over the peak.

3.4.1.1. The ear flaps should be insulated with dark-colour artificial fur and bent in a normal position, lifted (turned) and tied up with the strings on the top of the head and lowered in case of colder weather conditions and tied up under the chin.

3.4.1.2. The inside of the cap should be insulated with semi-wool bat or sintepon and covered with the sweat-absorbing lining. The lining with insulation should be tacked.

3.4.2. High visibility winter cap (01 02 04) (see Fig. 6) should be made of fluorescent orange-red fabric with a hard dark-blue colour peak.
3.4.3. Winter cap (01 02 05) (see Fig. 7) should be made of a dark-blue fabric.

3.4.4. Signaller’s winter cap (01 02 10) (see Fig. 8) should be made of a fluorescent yellow fabric with a hard dark-blue colour peak.

3.4.5. The requirements for the materials of winter caps are listed below.

<table>
<thead>
<tr>
<th>Item No</th>
<th>Requirements</th>
<th>Value of index</th>
<th>Test methods</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Fluorescent orange-red, fluorescent yellow and dark-blue fabrics should be with water-repelling finishing and resistant to oil products, creasing, fading and should be stable. The protocols of requested test results of each fabric should be submitted.</td>
<td>240 ± 265 ± 5 %</td>
<td>-</td>
</tr>
<tr>
<td>1.1.</td>
<td>Weight, g/m²</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
1.2. Composition: cotton/polyester  
≥ 30 % / ≤ 70 %  
EN ISO 13934-1:2013 (or equivalent)

1.3. Breaking toughness of warp, weft  
≥ 1,200 N  
≥ 850 N  
EN ISO 13937-2:2000 (or equivalent)

1.4. Tearing toughness of warp, weft  
≥ 45 N  
≥ 35 N  
EN ISO 13934-1:2013 (or equivalent)

1.5. Abrasion resistance (12 kPa)  
≥ 50,000 cycles  
ISO 12947 (or equivalent)

1.6. Fuzzing resistance  
3 - 4  
EN ISO 12945-2:2000 (or equivalent)

1.7. Change of dimensions after washing  
≤ 3 %  
EN ISO 5077:2008 (or equivalent)

1.8. Wash-resistance of dyeing  
4  
EN ISO 105-C06:2010 (or equivalent)

1.9. Friction-resistance of dyeing  
3-4  
EN ISO 105-X12:2002 (or equivalent)

1.10. Sweat-resistance of dyeing  
4  
EN ISO 105-E04:2013 (or equivalent)

1.11. Resistance of dyeing to artificial light  
4  
EN ISO 105-B02:2013 (or equivalent)

1.12. Resistance to surface moistening  
≥ 90  
EN ISO 4920:2012 (or equivalent)

1.13. Resistance to oil  
-  
The tests according to the valid legal acts

2. The retroreflective stripe should be of the width of 2.5 cm, laminated, flexible. It should meet the requirements of standard LST ISO 20471:2013 or equivalent. The protocols of requested test results should be submitted.

2.1. Composition: cotton/polyester  
≥ 35 % / ≤ 65 %  
LST EN 530:2010 (or equivalent) method 2, the samples are measured after 5,000 cycles

2.2. Abrasion  
RA > 100  
LST EN 530:2010 (or equivalent) method 2, the samples are measured after 5,000 cycles

2.3. Flexing  
RA > 100  
LST EN ISO 7854 (or equivalent) method A, the samples are measured after 7,500 cycles

2.4. Bending (-20 °C)  
RA > 100  
ISO 4675 (or equivalent)

2.5. Temperature variations:  
12 h (50 ± 2 °C), 20 h (-30 ± 2 °C)  
RA > 100  
LST EN ISO 20471:2013 (or equivalent)

2.6. Washing (60 °C – 25 cycles)  
RA > 100  
LST EN ISO 6330 (or equivalent), method 2

2.7. Soaking, due to rain  
RA > 400  
LST EN ISO 20471:2013 (or equivalent)

3. The lining should be durable, air-permeable, dark, matching the dark-blue colour of the fabric.

3.1. Weight, g/m²  
80 - 110  
- 

3.2. Composition – polyester  
100 %  
- 

4. DOCUMENTS REQUESTED TO BE SUBMITTED TOGETHER WITH THE TENDER FOR THE VALIDATION OF TECHNICAL CHARACTERISTICS AND QUALITY OF THE PROCUREMENT OBJECT

4.1. The samples of clothes of respective models should also be presented together with the tender. The label with inscription “REFERENCE” should be fitted to the samples of clothing models submitted by the tenderers. The label should indicate the name, family name and signature of the responsible person. The inscription should be approved by the company’s seal (if the use of
The seal is mandatory according to the valid legal acts of the Republic of Lithuania. The samples presented to the tendering procedure – “References” should be fully completed, i.e., when presenting the working costume, it is necessary to submit the jacket and semi-overall and not one of the parts of the working costume. In case of failure to present any constituent part of the sample, it should be considered that the sample “Reference” was not presented.

4.2. The samples of materials of respective clothing models should be submitted together with the tender (fabrics and retroreflective stripes); the fabrics should be of the size of at least 100 x 100 mm. The sample of model materials cannot be glued and should only be fixed to the sheet of paper at two upper edges and approved by the supplier’s signature and seal (if the seal is mandatory).

4.3. Together with the tender, the supplier must submit the following:

4.3.1. copies of the EC-type test certificates and their supplements approved by the manufacturer of clothing and certifying the respective certified clothing test performed by the European Community notified body and compliance of these PPMs with the requirements of the specific EU legal acts and Technical Regulation “Personal protection means”. The copies should have an inscription “True Copy” approved by the original signature and seal of the manufacturer (if the seal is mandatory) and the signature (with indication of the name and family name of the signatory) and company’s seal (if the seal is mandatory) of the supplier (authorised representative) submitting the tender;

4.3.2. EC declaration of conformity for the certified clothing prepared by the clothing manufacturer for the high-visibility insulated working costume (11 01 04) according to the form indicated in Annex VI of the Technical Regulation “Personal protection means” certifying that the submitted PPMs meet the type described in the EC-type test certificate according to the requirements of standard LST EN ISO 13688:2013 Protective clothing. General requirements (or equivalent), standard LST EN ISO 20471:2013 (or equivalent), other standards valid in the Republic of Lithuania and this technical specification;

4.3.3. the supplier should submit the manufacturer’s declaration of conformity for the insulated working costume (11 04 04), high visibility winter cap (01 02 04), winter cap (01 02 05), signaller’s winter cap (01 02 10) according to the form indicated in Annex VI of the Technical Regulation “Personal protection means” certifying that the submitted PPMs meet the requirements of standard LST EN ISO 13688:2013 Protective clothing. General requirements (or equivalent) and this technical specification;

4.3.4. approved copies of technical specifications, certificates and protocols of tests performed by the notified or accredited laboratories prepared by the manufacturers of materials (fabrics and retroreflective stripes) used for the tailoring of clothing. The copies submitted to the tendering procedure should have an inscription “True Copy” approved by the original signature and seal of the manufacturer (if the seal is mandatory by the legal acts of the Republic of Lithuania) and signature (with indication of the name and family name of the signatory) and company’s seal (if the seal is mandatory) of the supplier (authorised representative) submitting the tender. The authenticity of the translations of document to the Lithuanian language should be approved by the translation office or the supplier.