Joint Stock Company
Caspian Pipeline Consortium - R

APPROVED
General Director

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No R02-OD-HSE-018

REQUIREMENTS TO PROTECTIVE CLOTHING, SAFETY SHOES AND OTHER PERSONAL PROTECTIVE EQUIPMENT EFFECTIVE IN JSC CASPIAN PIPELINE CONSORTIUM-R.

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TABLE OF CONTENTS

1. PURPOSE

1.1. This Standard sets forth mandatory requirements to procure, distribution, use, storage and care for special clothes, special footwear and other means of individual protection (hereinafter - the personal protective equipment - PPE) for JSC CPC-R employees.

1.2. The Standard appoints persons responsible for timely provision of PPE to workers and procedures to monitor correct and timely use of PPE at the territory of JSC CPC-R facilities.

1.3. This Standard does not reject the order of supplying employees with PPE set forth in legislative and other normative legal acts effective in the Russian Federation.

2. SCOPE OF APPLICATION

2.1. The requirements of this document apply to all structural subdivisions of JSC CPC-R. Contractors and their subcontractors providing services at JSC CPC-R facilities in part of providing PPE should be guided by effective legislation of the Russian Federation.

2.2. Using PPE by the workers of JSC CPC-R not meeting the requirements set forth in this Standard is prohibited.

3. REGULATORY REFERENCES

This document makes use of the following regulatory documents:

Table 1. List of regulations

No.	Regulatory documents
1	**External**
1.1	The Labor Code of the Russian Federation No. 197-ФЗ (with changes introduced) dated December 30, 2001
1.2	Technical Regulations of the Customs Union TR CU 012/2011 On safe use of equipment operated in explosion hazardous environment (endorsed by decision of the Customs Union Committee No. 825, dated October 18, 2011);

No.	Regulatory documents
1.3	The technical regulations of the Customs union TR CU 017/2011 On safe properties of products made by the light industry (approved by decision of the Customs Union Committee No. 876 dated December 9, 2011)
1.4	Technical regulations of the Customs union TR CU 019/2011 On Safety of personal protection means (approved by decision of the Customs Union Committee No. 878 dated December 9, 2011)
1.5	Technical regulations of the Customs union TR CU 032/2013 On safe use of equipment operating under excess pressure (approved by decision of the Council of the Eurasian Economic Committee No 41, dated July 2, 2013)
1.6	Federal Law No. 123-FZ Technical Regulations on fire safety requirements, dated July 22, 2008.
1.7	The order of the Ministry of Health and social development of the Russian Federation No 290n On Approving Intra-industrial rules to provide workers with special clothes, special footwear and other means of individual protection, dated June 1, 2009
1.8	The order of the Ministry of Health and social development of the Russian Federation No 970n on approving Standard norms of free distribution of special clothes, special footwear and other personal protective equipment among employees of the oil industry, engaged in harmful and/or hazardous labor as well as to workers exposed to special temperature conditions or working in polluted areas, dated December 9, 2009
1.9	The Order Ministry of Labor of Russia No 997n On Approving model rules of free distribution of special clothes, special footwear and other personal protective equipment among employees of cross-industry professions occupying any economic position and engaged in work under harmful and/or hazardous conditions, as well as in work made under special temperature conditions or dealing with elevated pollution, dated December 9, 2014
1.10	The order of the Ministry of Health and social development of the Russian Federation No 1122n On Approving model rules of free distribution among employees of washing and/or decontaminating means and enacting safety standard Distributing washing and/or decontaminating means among employees, dated December 17, 2010
1.11	The Order Ministry of Labor Russia No 155n On Approving the Rules on labor protection for work at height, dated March 28, 2014
1.1	The order of the Ministry of Labor and Social Protection No 470n On Approving professional standard for Doctor of ophthalmology practice, dated June 5, 2017
1.2	The order of the Ministry of Health of the Russian Federation No 1181n "On Approving procedures to appoint and prescribe medical products, as well as prescription forms for medical products and the order of their registration and storage, dated December 20, 2012
1.3	The Order of the Ministry of social development of Russia No 169n On Approving requirements to supply medical products to complete first aid kits for workers, dated March 5, 2011
1.4	Guidelines for applying and testing protection means used in electric installations (SO 153-34.03.603-2003). Approved by order of the Ministry of Energy of the Russian Federation No. 261 as of June 30, 2003.
1.5	GOST R 12.4.234-2012 The system of labor safety standards. Special clothing to protect against the risk of exposure to thermal electric arc. General technical requirements and testing methods
1.6	GOST R 12.4.236-2011 The system of labor safety standards. Special clothing to protect from effects of low temperature. Technical requirements
1.7	GOST R 12.4.288-2013 The system of labor safety standards. Special clothing to protect against water. Technical requirements

No.	Regulatory documents
1.8	GOST R 12.4.295-2013 (EN ISO 20344:2011) The system of labor safety standards. Personal equipment for protecting feet. Testing methods (with Correction)
1.9	GOST R 12.4.296-2013 The system of labor safety standards. Special clothing protecting from harmful biological factors (insects and spiders). General technical requirements. Test methods
1.10	GOST R 12.4.297-2013 The system of labor safety standards. Special clothing protecting from effects of high temperature thermal radiation, from convective, from splashes of molten metal, from contact with hot surfaces, and from short-term exposure to flame. Technical requirements and testing methods
1.11	GOST R 353-2-2007 The system of labor safety standards. Personal protection means from falling from height having sliding type fixed to a flexible anchor line. Part 2. General technical requirements. Test methods
1.12	GOST R 354-2010 The system of labor safety standards. Personal protection equipment to prevent fall from height. Straps. General technical requirements. Test methods
1.13	GOST R EN 355-2008 The system of labor safety standards. Personal protection equipment to prevent fall from height. Shock absorbers. General technical requirements. Test methods
1.14	GOST R EN 358-2008 The system of labor safety standards. Personal protection equipment to prevent fall from height. Harnesses and straps to hold and position. General technical requirements. Test methods
1.15	GOST R EN 360-2008 The system of labor safety standards. Personal protection equipment to prevent fall from height. Protection means having retractor type. General technical requirements. Test methods
1.16	3GOST R EN 61-2008 The system of labor safety standards. Personal protection equipment to prevent fall from height. Safety harnesses. General technical requirements. Test methods
1.17	GOST EN 388-2012 The system of labor safety standards. Personal protective equipment for hands. Protective gloves against mechanical effects. The technical requirements; Test methods
1.18	GOST EN 397-2012 The system of labor safety standards. Safety hard hats. General technical requirements. Test methods
1.19	GOST EN 407-2012 The system of labor safety standards. Personal protective equipment for hands. Gloves protecting from effects of high temperature and fire. The technical requirements; Test methods
1.20	GOST EN 511-2012 The system of labor safety standards. Personal protective equipment for hands. Gloves protecting from cold. General technical requirements. Test methods
1.21	GOST EN 795-2014 The system of labor safety standards. Personal protection equipment to prevent fall from height. Anchor devices. General technical requirements. Test methods
1.22	GOST R EN 813-2008 The system of labor safety standards. Personal protection equipment to prevent fall from height. Harnesses to work in sitting position. General technical requirements. Test methods
1.23	GOST R EN 1149-5-2008 The system of labor safety standards. Special protective clothing. Electrostatic properties. Part 5. General technical requirements
1.24	GOST ISO 11612-2014 The system of the labor safety standards. Clothing to protect from effects of heat and flame. General requirements and performance characteristics
1.25	GOST R EN ISO 20345-2011 The system of labor safety standards. Personal equipment for protecting feet. Protective shoes. Technical requirements

No.	Regulatory documents
1.26	GOST R 51193-2009 Ophthalmic optics. Corrective glasses. General technical specifications
1.27	GOST R 53255-2009 Fire protection equipment. Breathing apparatus with compressed air having open respiration cycle. General technical requirements. Test methods
1.28	GOST R 53257-2009 Fire protection equipment. The facial part of the means of personal protecting respiratory organs. General technical requirements. Test methods
1.29	GOST R 53258-2009 Fire protection equipment. Small volume breathing cisterns and rebreathers filled with compressed air. General technical requirements. Test methods
1.30	GOST R 53261-2009 Fire protection equipment. Filtering rebreathers to protect people from toxic combustion products to evacuate from smoked areas during fire. General technical requirements. Test methods
1.31	GOST ISO 10993-1-2011 Medical products. Evaluating biological action of medical products. Part 1. Evaluation and testing
1.32	GOST ISO 11612-2014 The system of the labor safety standards. Clothing to protect from effects of heat and flame. General requirements and performance characteristics
1.33	GOST 12.4.010-75 The system of labor safety standards. Personal protection equipment. Special gloves. Technical specifications
1.34	GOST 12.4.023-84 The system of labor safety standards. Protective face shields. General technical requirements and testing methods
1.35	GOST 12.4.032-95 Special footwear having leather top to protect from effects of high temperatures. Technical specifications
1.36	GOST 12.4.041-2001 The system of labor safety standards. Individual filtering respiratory protecting equipment. General technical requirements
1.37	GOST 12.4.068-79 The system of labor safety standards. Dermatological individual protective equipment. General requirements and classification
1.38	GOST 12.4.072-79 The system of labor safety standards. Special rubber shaped boots protecting from water, lubricant oil and mechanical impact. Technical specifications
1.39	GOST 12.4.103-83 The system of labor safety standards. Special protective clothing; means to protect feet and hands. Classification
1.40	GOST 12.4.121-2015 The system of labor safety standards. Respiratory protective equipment. Filter gas masks. General technical specifications
1.41	GOST 12.4.124-83 The system of labor safety standards. Means of protection from static electricity. General technical requirements
1.42	GOST 12.4.131-83 The system of labor safety standards. Women coats. Technical specifications
1.43	GOST 12.4.132-83 The system of labor safety standards. Men's coats. Technical specifications
1.44	GOST 12.4.137-2001 Special footwear having leather top to protect from effect of oil, petroleum products, acids, alkalis, non-toxic and explosive dust. Technical specifications
1.45	GOST 12.4.162-85 The system of labor safety standards. Special shoes made of polymer materials to protect against mechanical effects. General technical requirements and testing methods
1.46	GOST 12.4.234-2012 The system of labor safety standards. Respiratory protective equipment. Filtering BPE having forced air supply used with a helmet or hood. General technical requirements. Test methods. Marking

No.	Regulatory documents
1.47	GOST 12.4.235-2012 The system of labor safety standards. Respiratory protective equipment. Gas and combined filters. General technical requirements. Test methods. Marking
1.48	GOST 12.4.236-2012 The system of labor safety standards. Respiratory protective equipment. Breathing apparatus having hose to supply pure air used with masks and respirators. General technical requirements. Test methods. Marking
1.49	GOST 12.4.244-2013 The system of labor safety standards. Respiratory protective equipment. Respirators and half respirators made of insulating materials. General technical specifications
1.50	GOST 12.4.246-2016 The system of labor safety standards. Respiratory protective equipment. Particle filters. General technical specifications
1.51	GOST 12.4.252-2013 The system of labor safety standards. Personal protective equipment for hands. Gloves. General technical requirements. Test methods
1.52	GOST 12.4.253-2013 The system of labor safety standards. Personal eye protection equipment. General technical requirements
1.53	GOST 12.4.255-2013 The system of labor safety standards. Protective caps. General technical requirements. Test methods
1.54	GOST 12.4.275-2014 The system of labor safety standards. Hearing protective equipment General technical requirements. Test methods
1.55	GOST 12.4.278-2014 The system of labor safety standards. Personal protective equipment for hands. Gloves protecting against chemicals and microorganisms. General technical requirements. Test methods
1.56	GOST 12.4.281-2014 The system of labor safety standards. Special clothing having high visibility. Technical requirements
1.57	GOST 12.4.293-2015 The system of labor safety standards. Respiratory protective equipment. Masks. General technical specifications
1.58	GOST 12.4.294-2015 The system of labor safety standards. Respiratory protective equipment. Filtering respirators to protect against aerosols. General technical specifications
1.59	GOST 12.4.296-2015 The system of labor safety standards. Respiratory protective equipment. Filtering respirators. General technical specifications
1.60	GOST 12.4.310-2016 The system of labor safety standards. Special clothing to protect employees from effects of petroleum and petroleum products. Technical requirements
1.61	GOST 4997-75 Dielectric pads made of rubber. Technical specifications
1.62	GOST 11209-2014 Fabrics to make special clothing. General technical requirements. Test methods
1.63	GOST 13385-78 Special dielectric footwear made of polymer materials. Technical specifications
1.64	GOST 28507-99 Special shoes having leather top to protect against mechanical effects. Technical specifications
1.65	GOST 28546-2002 Solid toilet soap. General technical specifications
1.66	GOST 30327-2013 Overall shirts. General technical specifications
1.67	GOST 31405-2009 Knit underwear items for women and girls. General technical specifications
1.68	GOST 31408-2009 Knit underwear items for men and boys. General technical specifications
1.69	GOST 31410-2009 Knit underwear items for men and boys. General technical specifications
1.70	GOST 31460-2012 Cosmetic creams. General technical specifications

No.	Regulatory documents
1.71	GOST 31679-2012 Liquid cosmetic products. General technical specifications
1.72	GOST 31696-2012 Hygienic cosmetic washing products. General technical specifications
1.73	DIN EN 136-1998 Respiratory protection devices. Masks covering whole face. Requirements, tests, marking
1.74	DIN EN 140-1998 Respiratory protection devices. Half and quarter masks. Requirements, tests, marking
1.75	DIN EN 149-2009 Respiratory protection devices. Filtering respirators to protect against aerosols. Requirements, tests, marking
1.76	DIN EN 166-2002 Individual eye protection equipment. Technical specifications
1.77	DIN EN 170-2003 Individual filters to protect eyes ultraviolet light. Requirements to transmission spectrum and recommendations on use
1.78	DIN EN 172-2002 Filters for individual eye protection from bright sunlight for industrial use
1.79	DIN EN 352-1-2003 Hearing protective equipment. Requirements to safety and test methods. Part 1. Ear muffles
1.80	DIN EN 352-2-2003 Hearing protective equipment. Requirements to safety and test methods. Part 2. Earplugs
1.81	DIN EN 374-2015 Gloves protecting from chemicals and microorganisms
1.82	DIN EN 388-2017 Gloves for protection against mechanical effects
1.83	DIN EN 407-2004 Gloves to protect from thermal effects (heat and/or fire)
1.84	DIN EN 420-2010 Protective gloves. General requirements and test methods.
1.85	DIN EN ISO 20471-2017 High visibility clothing. Testing methods and requirements
1.86	DIN EN 511-2006 Gloves to protect from cold
1.87	DIN EN 812-2012 Counter-impact hard hats for industrial use
1.88	DIN EN 943-2015 Clothing protecting against liquid and gaseous chemicals including aerosols and solid particles
1.89	DIN EN 1149-1-2006 Protective clothing. Electrostatic properties. Part 1. Test methods to measuring surface specific resistivity
1.90	DIN EN 1149-3-2004 Protective clothing. Electrostatic properties. Part 3. Test methods to measure decrease in charge
1.91	DIN EN 12492-2012 Mountaineering equipment. Hard hats for mountain climbers. The safety requirements and test methods
1.92	DIN EN 14605-2009 Protective clothing from liquid chemicals. The requirements to performance characteristics of clothes having waterproof (type 3) and spray-proof closures (type 4) including elements to protect parts of body (types RV[3] and RV[4])
1.93	DIN EN ISO 15025-2017 Protective clothing. Protection from flame. Test method for a limited flame propagation
1.94	DIN 55350-18-1987 Quality and statistics. Terms and definitions. Terms and definitions dealing with certification
1.95	BS EN 60903:2003 Work under high voltage. Gloves made from insulating material

No.	Regulatory documents
1.96	Oeko-Tex Standard 100 is the international system of testing and certification of products made of textile materials establishing restrictions on application of certain chemical substances
2	**Internal**
1.	The method of "Incoming inspection applied to the individual protection means"
2.	The method Industrial testing personal protection equipment
3.	PPE nomenclature handbook
4.	STP CPC R02-OD-HSE-036 "Procedure to provide CPC employees with special clothes, special footwear and other means of individual protection"

4. TERMS, DEFINITIONS AND ACCEPTED ABBREVIATIONS

Terms and abbreviations used in this standard are shown in Table 2:

Table 2. Terms and abbreviations

No.	Term / Abbreviation	Term definition / abbreviation meaning
1	**Terms**	
1.1	**Self contained breathing apparatus**	breathing apparatus in which the air source is carried by user
1.2	**Aggressive environment**	the medium having acidic, base or oxidative effect and causing destruction (or deterioration of parameters) of materials and/or items
1.3	**Acoustic efficiency (attenuating ability)**	the difference in the levels of sound pressure measured by microphone or by an acoustic testing device in specified sound field and under specified conditions without ear protector and with ear protector, in decibels
1.4	**Shock absorber**	a separate part or component in the safety system designed to dissipate the kinetic energy accumulated during falling from height
1.5	**Score of painting sustainability**	the result of testing the painting stability determined using the gray or blue scale
1.6	**Safe working conditions**	labor conditions under which the impact of harmful and/or hazardous industrial factors on workers is ruled out or the levels of impacts do not exceed effective norms
1.7	**Biological factor**	Microorganisms-producers, living cells and spores contained in bacterial medicines and their components, pathogenic microorganisms and viruses and pathogens causative agents of infectious diseases
1.8	**Vents**	holes in the housing to ensure air circulation inside protective hard hat
1.9	**Safe vertical clearance**	the vertical distance between the outer surface of the shock absorber and the inner surface of the hard hat
1.10	**Internals**	The overall design, designed to: a) hold the hard hat on the head, or b) absorb the kinetic energy produced by impact and distribute the force over the head surface
1.11	**Breathability, dm3/(m²·sec)**	ability to pass air

No.	Term / Abbreviation	Term definition / abbreviation meaning
1.12	**Harmful labor conditions**	they are characterized by presence of harmful factors having levels exceeding the hygienic standards which causes adverse effect on the body of employee and/or employee children
1.13	**Harmful industrial factor**	industrial factor exposure to which can cause a disease with exposed worker
1.14	**The time of protective action of filtering means to protect respiratory organs**	indicator depending on time to reach the rated breakthrough concentration of the test substance through the filter/filtering respirator under specified test conditions
1.15	**Hygroscopic capacity, %**	ability to absorb and give out water vapor and water
1.16	**Declaration of Conformity**	document certifying the conformity of the products entering turnover with requirements of technical regulations
1.17	**Breathing apparatus**	isolating means of personal respiratory protection that supplies air from the source not associate with the ambient air
1.18	**Closed protective glasses**	tight protective glasses applied to face along the whole body contour
1.19	**Safety hard hat**	headpiece designed for protection of the upper part of head from damage inflicted by falling objects, from effects of moisture, electric current, splashes of metal
1.20	**Protecting glass**	a design element of protective glasses designed to viewing and eye protection depending on the hazard type
1.21	**Protective dermatological means**	means used for skin protection from exposure to harmful and hazardous industrial factors
1.22	**Safety glasses**	individual protection to protect eyes from effects of harmful and hazardous industrial factors
1.23	**Protective shoe toe**	a design element of special footwear that provides protection from impact, crushing, as well as from other mechanical effects that can affect feet when workers are engaged in industrial operations
1.24	**The value of thermal effect**	amount of energy passing through material or a stack of materials having 50% probability of being adequate to cause a burn injury of the second degree in accordance with the Stoll curve expressed in kJ per square meter (kJ/m²), or kilowatt-seconds per square meter (kWs/m²), or in calories per square centimeter (cal/cm²)
1.25	**The carbine**	the belt part making strap that is used for direct fastening the strap to supports
1.26	**Ring gap**	the distance between the carrier belt and the inner surface of the housing. It is measured in front along the head axis of symmetry and on the side (in the middle between the front and the back sides of the head silhouette)
1.27	**Body**	upper part of protective hard hat, absorbing the blow
1.28	**Protection factor of respiratory personal protective equipment**	the multiplicity in reducing the concentration of harmful substances provided by means of personal protection of respiratory organs

No.	Term / Abbreviation	Term definition / abbreviation meaning
1.29	**The minimum set of PPE**	the minimum PPE set which should be used in operations area of facilities which includes a protective hard hat, special clothing made of flame retardant fabrics, special shoes with protective shoe toe and safety glasses
1.30	**The ear muffles, mounted on a protective hard hat**	counter-noise consisting of two soundproofing cups covering outer ears and attached using a special tool to protective hard hat
1.31	**Ear muffles with headband**	hearing protector consisting of two soundproofing cups covering outer ear interconnected by hard or soft clamping device (headband)
1.32	**Carrier tape**	an element of internal tooling, which completely or partially embraces the head above eyebrows in the area of the maximum horizontal head circumference
1.33	**The fire resistance of fabrics**	The ability of the fabric to extinguish burning under effect of open flame including the time when the source of flame is removed
1.34	**Hazardous working conditions**	they are characterized by levels of factors of working environment exposure to which during working shifts (or part of it) poses a threat to life and elevates the risk of developing acute professional diseases including severe disease development forms
1.35	**Hazardous industrial factor**	industrial factor exposure to which can bring about an injury to worker
1.36	**Open protective glasses**	tightly sitting protective glasses touching face by a part of the body contour
1.37	**Skin cleaners**	compositions intended to remove industrial contaminations (oil, paint, adhesive, lubricant, soot and other) with skin
1.38	**A list of distributing PPE**	The norms of free handing out special clothes, special footwear and other personal protective equipment to CPC employees engaged in detrimental and/or hazardous work conditions as well as engaged in work associated with pollution (Appendix 1, CPC STP 15*.05.2017). Norms of free distribution of washing and disinfecting means among JSC CPC-R employees (Appendix 2 to CPC STP 15*.05.2017)
1.39	**Surface density of fabric or piece goods**	the weight of fabric, canvas or a piece good having area of 1 m²
1.40	**Chin strap**	the, located under the chin improving fixing the hard hat on the head
1.41	**Contractor**	companies executed contract with JSC CPC-R or providing services on maintenance, repair, and other types of activities at JSC CPC-R sites. It is allowed to delegate authority on managing work at CPC-R facilities to subcontractors on agreement with JSC CPC-R
1.42	**Visitor**	the person paying a short-term visit to JSC CPC- R facilities on a single visit basis. Such an employee among others can be an administrative officer of JSC CPC-R from another region who should not regularly visit JSC CPC-R production facilities, as well as the other person not working at the site of JSC CPC-R under the contract

No.	Term / Abbreviation	Term definition / abbreviation meaning
1.43	**Continuous noise**	the noise having amplitude varying over 8-hour working day (shift) no more than 5 dBA when measured using a time characteristic of "slow" audio-noise meter
1.44	**Safety belt**	individual protection means mounted on the user's body and used independently or jointly with other tools to fix (retain) working position and protection of user in case of falling from height
1.45	**Industrial noise**	the noise in the workplace in the room or at the territory of the company generated by production processes and work of the sanitary equipment
1.46	**Soundproofing**	the means of individual protection of hearing used to reduce intensity of noise
1.47	**The soundproofing insert**	insert to be carried in the inner part of the ear canal or in external ear
1.48	**Explosive load**	the maximum force measured during testing the elementary sample on stretching up to the break
1.49	**Reparative means**	means contributing to skin regeneration applied after work
1.50	**Rebreather**	personal means to protect respiratory organs intended for evacuation from hazardous atmosphere
1.51	**Opinion on sanitary and epidemiology (SEO)**	a document issued by the federal bodies of executive power authorized to engage into federal state sanitary and epidemiological supervision and certifying the compliance with the process meeting the sanitary standards set forth for environment, conditions of economic activity of juristic persons, citizens, including individual entrepreneurs, as well as the use of territories allocated for economic activity, buildings, structures, constructions, premises, equipment, and vehicles
1.52	**Retroreflecting material**	the retro-reflective material having reflecting properties. It is allowed that the retroreflective material does not meet requirements to background materials
1.53	**Protective glasses light filter**	spectacle glass to reduce the intensity of harmful and hazardous radiation
1.54	**Compliance certificate**	document certifying compliance of the facility certified with requirements set forth in procedures, in provisions of standards or in contractual terms and conditions.
1.55	**Certification**	the format of compliance confirmation issued by certification authority that facilities comply with requirements of technical regulations, documents on the standardization and/or terms of contracts
1.56	**Shock absorbing or inner forehead band**	additional element which covers at least the inner surface of the carrier belt and improves the convenience of wearing protective hard hats
1.57	**Special shoes (footwear)**	footwear to protect the feet from certain kinds of hazardous impacts making use of specific protective materials and parts
1.58	**Special clothing**	clothing worn to replace the common cloths or put on top of it with the purpose of protect the worker from exposure to hazardous and harmful industrial factors of one or several kinds

No.	Term / Abbreviation	Term definition / abbreviation meaning
1.59	**Individual and collective protection means for workers**	technical means that are used to prevent or reduce the exposure of workers to harmful and hazardous industrial factors, as well as to protect from pollution
1.60	**Individual eye protection means**	form of eye protection device protecting, as a minimum, the eye area
1.61	**Individual respiratory protecting equipment (BPE)**	portable technical device protecting breathing organs from professional risk factors
1.62	**Resistance to abrasion**	the number of cycles of device head rotation the cloth withstands before destruction (forming a hole)
1.63	**Strap**	separate connecting part or component of the safety system
1.64	**Test substance**	chemical substance (aerosol) which is used to estimate parameters of personal respiratory protective equipment characterizing application effectiveness
1.65	**Mixed fabric**	cloth made of yarn containing cotton fiber with inclusion of no more than 50% of chemical fibers or threads
1.66	**Cotton fabric**	the cloth is made of yarn containing 100% cotton fiber or cotton fibers with addition of no more than 10% of viscose or high-modulus fiber viscose fiber
1.67	**The level of arc protection**	the value characterizing the protective properties of material, a package of materials or the clothing made thereof showing the effectiveness of protection of the thermal effects of electric arc which is determined by the value of the thermal effect expressed in calories per square centimeter (cal/cm²)
1.68	**The tissue shrinkage after washing or soaking in water**	changing linear dimensions after washing or soaking in water
1.69	**Labor conditions**	the total number of industrial factors and the labor process influencing the work efficiency and health of workers
1.70	**Stability of the painting coating**	ability of textile materials to stay colored under effects of various factors
1.71	**Filtration media for personal protection of respiratory organs**	respiratory personal protection means providing protection effect through letting the air through filters to remove detrimental substances exhaled by the user
1.72	**Noise absorber**	sound attenuating material contained in the ear muffle cup designed for sound absorption
1.73	**Ergonomics**	a scientific discipline studying human interaction with industrial environment; the area of activities and the type of work that is using the theory of optimization, its principles, the data and methods of planning to ensure convenience and safety of labor and improve the performance of production system
2	**Abbreviations**	

No.	Term / Abbreviation	Term definition / abbreviation meaning
2.1	**JSC CPC-R, CPC, Company**	Joint Stock Company Caspian Pipeline Consortium-R
2.2	**AXOB**	process chemically hazardous substances
2.3	**BO**	Water-resistant finish
2.4	**SPE**	Skin personal protection means
2.5	**ETP**	engineering and technical personnel
2.6	**APG**	acid protective glove
2.7	**C**	cattle
2.8	**OPR**	oil and petrol resistant
2.9	**OWRF**	oil and water repelling finishing
2.10	**OPWEF**	oil, petrol and water repelling finishing
2.11	**PS**	pump station
2.12	**Procurement department**	procurement support
2.13	**HSE**	labor protection, industrial safety and environmental protection
2.14	**PVC**	polyvinyl chloride
2.15	**MAC**	maximum allowable concentration
2.16	**MAL**	maximum allowable level
2.17	**PT**	production testing
2.18	**PU**	polyurethane
2.19	**MT/TF**	Marine Terminal and tank farm;
2.20	**RF**	The Russian Federation
2.21	**PPE**	personal protection equipment
2.22	**BPE**	individual respiratory protective equipment
2.23	**CLL**	cooling and lubricating liquid
2.24	**SAWC**	special assessment of working conditions
2.25	**LC**	The Labor Code
2.26	**TPU**	thermoplastic polyurethane
2.27	**UV**	ultraviolet light

5. GENERAL PROVISIONS

5.1. Personal Protection Means provide for spatial separation of employee bodies from adverse factors of production environment; they are intended for using in cases where the safety of a worker cannot be ensured by engineering means (design of equipment, technology, the sequence of production processes, by architectural and planning decisions and by collective protective means).

5.2. The employer should ensure the timely handing out special clothes, special footwear and other personal protective equipment (article 221 of the Labor Code of the Russian Federation) at own expense and in line with established standards.

5.3. In case working conditions imply contacting harmful and/or hazardous media, as well as when the work is carried out under non-standard temperatures or in dirty areas the employees obtain free special clothes, special footwear and other personal protective equipment that passed the compulsory certification or has declaration of compliance with the safety standards as well as washing and/or neutralizing means in accordance with the standard rules (Article 221 of the Labor Code of the Russian Federation).

5.4. Taking to account the standpoint of elected body of the primary trade union organization or the other representative body of workers and accounting for the current financial and economic situation the employer has the right to set up standards of free giving out special clothes, special footwear and other personal protective equipment to employees that have better properties if compared with the model standards in protecting workers from existing harmful and/or hazardous factors present at the workplace, as well as from specific temperature conditions or pollution (Article 221 of the Labor Code of the Russian Federation).

5.5. These norms are approved by the employer based on results of the special work conditions evaluation study taking into account the opinion of trade unions.

5.6. Providing employees with PPE is made in accordance with the Intra-industrial rules to provide workers with special clothes, special footwear and other personal protection equipment (Instruction No. 290h of June 1, 2009).

5.7. Taking into account the standpoint of elected body of the primary trade union organization or another representative body authorized by employees the employer has the right to replace one type of PPE as provided for by the standard norms by a similar PPE providing the equivalent protection from hazardous and harmful industrial factors.

5.8. Employer at own expense should provide for taking care of PPE and their storage, engage in timely dry cleaning, washing, degassing, decontamination, disinfection, detoxification, de-dusting, drying PPE, as well as repair and replacement of PPE.

5.9. For these purposes employer has the right to provide employees with 2 sets of appropriate PPE having twice as long wearing time.

5.10. To inform employees about PPE they are entitled to have during safety induction. Norms of giving out of washing and/or detoxifying compositions meeting the conditions in the workplace are specified in the employment contract of an employee.

5.11. When a worker is undergoing safety orientation the worker is familiarized with inter-industrial guidelines on providing workers with special clothes, special footwear and other means of individual protection, with the instruction of the Ministry of Health and Social Development On approving standard norms to hand out washing and/or decontaminating means to employees and with the safe work practice standard Providing employees with washing and/or decontaminating means, with the standard herein, and with the standard norms of providing PPE relevant to the worker’s profession.

5.12. Purchased personal protection equipment should be capable of the following:

- the choice should be made accounting for the safety associated with this process or the type of work, with requirements of labor protection, as well as with results of the special work conditions evaluation study in the scope and in amount required for effective protection of the worker on mandatory agreement with JSC CPC-R HSE function;

- to undergo obligatory preliminary tests in accordance with the method "Industrial testing personal protection means" under operating conditions resulting in getting a positive testing report generated by regional HSE functions which were involved in the testing sessions (at least 3 facilities);

- to retain protective properties after washing, dry cleaning and disinfection.

5.13. It is prohibited to hand out PPE not passing mandatory testing without prior consent of HSE function of JSC CPC-R.

5.14. The choice of necessary PPE is made by the regional HSE function to be agreed with HSE department of JSC CPC-R.

5.15. In case a worker is not equipped with PPE in accordance with Standard industrial norms the head of department does not have the right to require the employee complying with the labor duties, and the employer is obliged to pay the downtime occurring for this reason in accordance with effective legislation of the Russian Federation.

5.16. Handing out over PPE to employees including PPE produced by foreign companies, as well as handing out special clothing located at employer's premises for temporary use under lease contract should be permitted only in case a certificate or declaration of conformity is available confirming the conformity of the issued PPE to safety requirements set out by effective legislation.

5.17. Procuring (including using under lease contract) PPE having no declaration of conformity and/or the certificate of conformity or having a declaration of conformity and/or the certificate of conformity that have expired term is not allowed.

5.18. Purchasing PPE for the Company employees is the responsibility hinged with the procurement function in line with requests submitted by departments to be agreed with specialists from the region and Moscow office HSE.

5.19. It is not allowed to use PPE not meeting the requirements set forth in this standard by JSC CPC-R employees. Any inconsistency in meeting requirements of the standard should be agreed with HSE regional function and with HSE department of JSC CPC-R.

6. GENERAL REQUIREMENTS TO THE INDIVIDUAL PROTECTION EQUIPMENT

6.1. The general safety requirements to be met by PPE should comply with those listed in Items 4.1, 4.2 TS TS 019/2011 "On PPE safety", Articles 4, 5, 6, 7 TR CU 017/2011 "On safe practice of making products in light industry".

6.2. PPE should retain protective properties as expected by the manufacturer under conditions of use.

6.3. PPE having adjustment systems should prevent unexpected change in settings during use.

6.4. If PPE is equipped with an emergency alarm signal, the signal emitted to indicate downgraded protection level (for example, when a battery is discharged) should be discernible by user under operating conditions for this PPE type.

6.5. PPE, including components, adjustable or changeable by user individually should be such that they can be adjusted, mounted and dismantled without using tools.

6.6. PPE handed out to employees should comply to their gender, height, size, as well as with the nature and conditions of the work.

6.7. PPE should meet the requirements of technical aesthetics and ergonomics.

6.8. The supplier should meet the requirements to PPE marking in accordance with Items 4.10-4.13 of TR CU 019/2011 "On PPE Safety", Article 9 of TR CU 017/2011 "On safe making products in light industry".

6.9. Procured PPE should have the guidelines (passport) indicating designation, the product lifetime, the rules of its operations, recommendations on safe storage and maintenance, on use, transport and disposal and/or the label (the sticker on the packaging) indicating the date the product was manufactured, the information about the document in accordance with PPE was made.

6.10. An account should be taken for the warranty periods to store PPE or recommendations given in operations manual in calculating PPE demand. PPE having expired warranty period of storage and operation are written off.

6.11. The convenience to use should be ensured through regulatory systems and fixation as well as through selection of proper PPE size.

6.12. The personal protective equipment intended for use in explosive conditions should be made from fabrics and materials having flame retardant anti-electrostatic properties in accordance with Item 8 of the Comments to Appendix to Instruction of the Ministry of Labor Russia No 997n dated December 9, 2014.

7. RESPONSIBILITIES ON USING PPE

7.1. GENERAL REQUIREMENTS TO USE PPE

7.1.1. Employees of JSC CPC-R, employees of contract/subcontract companies working at production sites are obliged to apply the following minimum set of PPE if the policy in place at these facilities does not provide for exceptions from these rules:

- hard hat;
- protective glasses;
- safety footwear;
- special clothes.

7.1.2. All PPE are handed out to staff ensure safe operations at the time of work within the scope of job description and industrial guidelines.

7.1.3. All PPE handed out in CPC-R are considered to be the property of CPC-R; they should be only used for production needs and only for work at CPC-R production facilities.

7.1.4. Flame retardant overalls are used JSC CPC-R for additional protection from injuries in event of immediate inflammation. Wearing flame retardant uniforms is a mandatory requirement for all employees of JSC CPC-R, for employees of contract/subcontract companies, for visitors and representatives of regulatory bodies when they visit production sites marked as Red Zone production areas where restrictions are applied to use mobile phones and open fire. Fire resistant protecting clothing should cover the body completely (from the neck up to the ankles and from shoulder to wrist). It is prohibited to shorten (cut, roll) sleeves of special fire resistant closing.

7.1.5. Fire resistant clothing should always be used as outer clothes except when it is required to wear protective clothing of the other type. For example: chemical protection overalls, waterproof cloak, and disposable protective suit. Flame retardant overalls do not provide for fire protection and do not substitute firefighting equipment.

7.1.6. The requirements to visitors to the industrial are on wearing PPE are similar to requirements to be met by all JSC CPC-R employees and contractors. The visitors coming to the Company facilities, including employees of the Company coming on a business trip from other facilities whilst present at production facility zone shall apply their own PPE (if they meet the requirements set forth in CPC-R and the effective requirements of the Russian Federation) or are provided with a minimum set of PPE on decision of responsible managers.

7.1.7. The head of the facility should indicate the need for additional PPE (ear protectors, safety harness etc.) depending on the hazardous industrial factor that may have an impact on the visitors attending the production facility.

7.1.8. On-duty PPE are handed out to employees only for the time of visiting the facility or make the work for which PPE is intended or PPE are allocated to certain working places, sites and are handed out from one shift to another. In these situations the facility managers should appoint persons responsible in shifts having duty of monitoring the number, composition, checking the operational status, timely recharging and replacing spare parts, as well as compliance with proper and timely use of duty PPE.

7.1.9. Persons on duty in shifts when they engage in monitoring the status of PPE are obligated to follow guidelines on PPE use issued by manufacturers.

7.1.10. Visitors can have car tours to familiarize with facilities coming out only to enter office/administrative or other areas where wearing PPE is not required. In this case the relevant manager can decide not to apply all PPE or some kinds of PPE.

7.1.11. The individual life jackets should be used when employees are engaged in works, providing services or escorting visitors in marine or river water area or in proximity thereof. Life jacket should be handed out to each employee, contractor, and visitor on board the vessel.

7.1.12. In accordance with the minimum standard requirements to PPE it is required to wear safety hard hat permanently anywhere during production operation or under likely risk of objects falling from the height, as well as in areas marked with signs prescribing mandatory PPE application.

7.1.13. The use of protection glasses is obligatory when workers stay inside the industrial area of facilities, during operations having risk of injuring eye or when a worker is entering the area of similar work.

7.1.14. Employees having poor eyesight engaged in operations should be provided with protective glasses having correcting lenses as specified in GOST R 51193-2009, or with protecting glasses allowing using correcting glasses (when put over the medical glasses). Protective correcting glasses should be available upon presenting a prescription form under the instruction of the Ministry of Health in the Russian Federation No. 1181n dated December 20, 2012 (with changes and additions) (Form No. 2-MI). Replacing is made only in case of documented requirement to change the prescription for glasses or in case of losing consumer properties (excessive wear).

7.1.15. It is permitted the use contact lenses, but they are not purchased by the Company. In this case, the additional eye protection is required.

7.2. RESPONSIBILITIES OF WORKERS ON USING PPE

7.2.1. Each employee is obliged to:

- obtain protective clothing, protection footwear and other PPE in established manner as prescribed by the Standard Regulations on equipping with Company owned PPE and other PPE per the List of providing with PPE;
- obliged to use correctly clothing, footwear and other PPE at the workplace in accordance with requirements of this standard in order to reduce the impact of hazardous and harmful industrial factors of the working environment that cannot be controlled through administrative and engineering and/or technical methods;
- take care of distributed PPE;
- keep and store PPE in accordance with the company policy and the operations guidelines;
- provide for proper storage and handing out from one shift to the other duty PPE of common use (dielectric overshoes, dielectric gloves, etc.);
- checking PPE before using. It is prohibited to use defective and unfit for purpose PPE;
- take timely measures to repair PPE including replacing kits beyond repair;

- comply with the washing regime and recommended treatment of special clothes;
- bear liability in event PPE are stolen, lost or damaged because of negligence.

7.2.2. Employees who are not applying PPE handed out to them should be suspended from work and can be brought to justice in accordance with effective law.

7.2.3. It is prohibited to take PPE outside the territory of the company. In some cases, when the conditions of the work do not allow meeting this approach the responsibility for the safety of PPE lies with the workers.

7.2.4. It is prohibited to use PPE after hours and not as intended.

7.3. RESPONSIBILITIES OF ENGINEERS AND LINE MANAGERS

7.3.1. PS (MT) manager and other direct supervisors of the work are obliged:

- obtain protective clothing, protection footwear and other PPE in established manner as prescribed by the Model Regulations on equipping with Company owned PPE and other PPE per the List of providing with PPE;
- It is required to use special clothing, footwear and other PPE provided for by approved Standard norm to distribute Company PPE when visiting facilities;
- engage in training to apply correctly PPE and to run the simplest checking the operational status of such means as filtering respirators, gas masks, safety strap and others during all kinds of safety briefings as well as carry out regular, at least once in three months, training of their application; the training can be combined with educational and training sessions on activities of localizing and responding to accident implications and regular briefings at the workplace;
- to monitor compliance with norms on using PPE as set forth in JSC CPC-R, including use as designated, timely washing, dry cleaning, inspecting, testing, storing and keeping in good conditions;
- monitor the status and ensure timely handing out protection clothing, footwear and other PPE to employees in accordance with the nature and conditions of work and according to established standards; PPE should have having correct size, height and gender design;
- to organize obtaining, storing and handing out duty PPE for temporary application;
- check the presence of workers' PPE before starting the work;
- not allow engaging into work (to dismiss from work) workers if they have broken or soiled PPE, as well as if PPE have expired operations life or if the workers do not have PPE;
- stop work in case workers do not have required PPE or PPE is not fully operational;
- report to the head of department on facts of non-using PPE, intentional damage of PPE or their faulty status.

7.4. PROCUREMENT SPECIALIST, WAREHOUSEMAN:

- ensure obtaining and proper storage of PPE in accordance with manufacturer recommendations and with regulatory requirements;
- set up for handing out PPE to employees in accordance with requirements set forth in this document and entering into the company PPE register all information pertinent to the distributed PPE;
- accounting for all PPE broken down into types, assortment, size and making record of PPE relocation;

- to ensure periodic checking the stock level, conditions and allowed storage time;
- organize a annual stock taking of PPE inventory;
- to submit to the contract holder on supply of PPE reporting on consumption, the balance and terms of storing PPE.

7.5. PROCUREMENT MANAGER (OWNER OF THE CONTRACT TO SUPPLY PPE):

- ensure purchasing PPE in accordance with requirements of this Standard and with technical requirements set forth in CPC;
- consolidate orders of forecasted demand in PPE from all relevant departments and ensure supply contracts are awarded;
- ensure contract administrator provide the samples and certificates on PPE compliance to HSE authorized representative to carry out incoming inspection on compliance with technical requirements set forth by CPC-R;
- ensure contract administrators provide PPE suppliers with results of evaluations made by CPC personnel and to issue recommendations for fixing the non-compliances identified.

7.6. RESPONSIBILITIES OF REGIONAL MANAGERS

- ensure a qualitative and quantitative risk assessment is performed for workplaces in order to determine the criteria to protect workers using PPE;
- ensure that workers are familiar with what kind of protective clothing, footwear and other PPE should be handed out to them confirming this information by putting signature;
- ensure induction for employees is conducted on the guidelines of using and ways to test PPE operational status, as well as carry out training on their application; if necessary this training can involve representatives of PPE manufacturers and suppliers;
- monitor the status and ensure timely handing out protection clothing, footwear and other PPE of employees in accordance with the nature and conditions of the work and according to established standards; PPE should have correct size, height and gender design;
- control timely PPE obtaining by employees in established manner;
- provide specially equipped premises (dressing rooms) to store PPE meeting the relevant requirements of sanitary norms;
- ensure an appropriate arrangements are performed for washing and dry cleaning special clothing. Washing and dry cleaning services should be provided by the employer at a time when workers are not engaged in performing labor duties (at weekends) or between shifts;
- ensure replacing special clothing and footwear loosing protecting effect until expiry for reasons beyond the control of a worker on the basis of generating a relative certificate. In case of PPE loss or damage in designated storage areas for reasons beyond employee control, the employee should be given new PPE;
- organize regular, in accordance with established timetable, testing insulating respiratory systems, dielectric gloves and overshoes, inspection of operating status of safety harness;
- not allow visitors without appropriate PPE (hard hat, BPE, ear muffles, safety glasses, etc.) accessing the production areas featuring hazardous and/or harmful industrial factors, having contamination exceeding MAC (MAL);

- require that heads of contractors meet the established guidelines and norms on using PPE when engaged in work at the territory of the division;
- in case a new design of PPE is available it is required to organize, if necessary, training for managers to correct PPE use requesting representatives of suppliers or manufacturers of PPE, specialists from HSE region to take part in the training sessions;
- take actions against employees violating requirements of labor protection and industrial safety in part of non-using or misusing PPE;
- it is prohibited to allow accessing CPC industrial area, facilities and job sites to visitors and inspectors of supervising companies without PPE.
- to set up a relevant stock of special clothing, footwear and PPE appointing facilities' managers (managers of PS, TF and MT) responsible for equipping JSC CPC-R visitors with PPE when they are presence at the territory of production sites;
- oblige contractors to comply with the requirements set forth in the labor law of the Russian Federation on procedures of providing and using PPE at the fire explosive facility to confirm the scope and specifications of special assessment of working conditions.

7.7. GENERAL HSE MANAGER:

- ensure Technical PPE Standard and PPE issuing norms are developed in compliance with RF legislation and international requirement
- ensure participation of HSE Specialists in the tender evaluation process and incoming control to verify PPE compliance with international standards, with regulatory requirements effective in the Russian Federation
- ensure verification and approval of regional PPE orders;
- ensure regular inspection and monitoring of compliance with this Standard;

8. THE PROCEDURE TO EQUIP EMPLOYEES WITH PERSONAL PROTECTIVE EQUIPMENT

8.1. Distributing individual protection means among workers as well as washing and/or decontaminating means should be made according to STP CPC R02-OD-HSE-036.

8.2. A committee is set up on instruction issued by the Regional manager for writing off PPE that became unfit for use before the end of the lifetime for reasons beyond control of the worker, as well as in case of loss or damage inflicted to personal protective equipment in designated storage areas for reasons beyond control of the worker as well as PPE issued with the life "wear until worn out". On the written statement of employee (Appendix 8) the Committee is considering the need to write-off broken PPE; if a decision is made to write-off PPE a certificate on writing-off low-value and quickly worn out items is compiled (Appendix 9). The identification of unsuitability of PPE and decision are taken by the inventory Committee established by General Director Order. The certificate should be signed by all members of the Committee.

9. INCOMING INSPECTION OF PPE

9.1. According to the instruction (resolution) issued by the Regional Manager a Committee is established to engage an incoming inspection control of personal protective equipment to test PPE quality and assess the conformity of PPE technical characteristics with requirements set forth in the standard "Requirements to clothing, footwear and other personal protection equipment to be used by JSC Caspian Pipeline Consortium-R employees.

9.2. The Committee should obligatory contain representatives of the Procurement and HSE regional functions.

9.3. The Chairman of the Committee on carrying out the incoming inspection of PPE is setting up the work of the Committee in obtaining information about the non-compliances identified during acceptance.

9.4. The incoming inspection is carried out in accordance with the method of "Incoming inspection applied to personal protection equipment".

10. SERVICE TESTS OF PPE

10.1. Service tests (ST) of special clothing, shoes, gloves and other personal protective equipment for JSC CPC-R in the absence of experience of their use in JSC CPC-R are mandatory.

10.2. STs are carried out in accordance with the Methodology of "Operational tests of personal protective equipment".

10.3. Tests at enterprises are carried out twice a year: in winter (December-February) and summer (June-August) to determine operational capabilities of PPE under different temperature regimes of the environment.

10.4. The PPE service test certificate can be included in the set of documents submitted by suppliers for participation in bidding.

10.5. The initial characteristics of the PPE for the test shall be in accordance with the technical descriptions. In the event of deviation from the approved technical description, the supplier shall indicate these deviations before the tests begin to pay special attention to them during the tests.

10.6. Service testing of PPE is conducted in at least 3 regions of JSC CPC-R. Specific regions are defined in the decision. Samples for testing are sent to the addresses specified in the decision.

10.7. The duration of the tests (taking into account the drawing up of the certificate) is from 1 to 4 months depending on the type of PPE (the duration of the ST of each type of PPE is set in the decision to conduct the ST). The number of supplied samples required for testing is determined depending on the type of PPE (the number of each type of PPE is established in the decision to conduct the ST).

10.8. According to the test results, an act is drawn up, which is sent to the supplier.

10.9. The cost of PPE samples transferred for service testing, as well as the costs of their delivery to the supplier is not compensated, samples cannot be returned.

11. PROCEDURE FOR THE USE OF PERSONAL PROTECTIVE EQUIPMENT

11.1. During work, employees are required to use and correctly apply the PPE issued to them. The immediate manager of the employees ensures that employees use the PPE issued during their work. Workers are not allowed to work without the PPE provided, or using defective, untested and contaminated PPE.

11.2. Workers should treat carefully the PPE issued for use. The terms of PPE use are calculated from the date of their actual issuance to employees. Time of wearing warm special clothes and special shoes, includes the time of its storage in the warm season.

11.3. Storage of duty PPE is carried out in the places established by the responsible employee, appointed by the order of the Regional Manager.

12. TRANSPORTATION AND STORAGE OF PERSONAL PROTECTIVE EQUIPMENT

12.1. PPE should be stored and transported in conditions that ensure their serviceability and suitability for use, they should be protected from mechanical damage, contamination and moistening.

12.2. Special clothes, special footwear and other PPE that have arrived at the warehouse should be stored in heated separate dry rooms on racks, brackets or in boxes, isolated from any other objects and materials. PPE should be protected from direct sunlight and atmospheric influences. A sign with the indication of the type and size of the product is displayed for each type of PPE.

12.3. Duty sets of overalls, special footwear and other PPE should be stored in the places specified by the directive (instruction) of the Regional Manager.

13. PROCEDURE FOR WASHING AND CHEMICAL CLEANING OVERALLS

13.1. The use of contaminated or damaged clothing is not allowed, because of its loss of protective properties in accordance with the requirements of the manufacturer's instructions.

13.2. Laundry, chemical cleaning, repair and maintenance are carried out in accordance with the manufacturer's recommendations indicated on the product label.

13.3. When chemical cleaning, washing, or detoxifying of protective clothing is conducted, preservation of its protective properties should be ensured.

13.4. Care of PPE and its storage, the procedure for dry cleaning, washing, decontamination, disinfection, neutralization, dust removal, drying PPE, as well as repair and replacement are carried out in the order established by the enterprise.

13.5. Wearing of work clothing, as well as repair of overalls, should be carried out economically, using a specially equipped room (laundry) and trained personnel.

13.6. The organization and implementation of washing and dry cleaning of overalls is determined by the Regional Manager.

13.7. Issuing of clothing to workers after dry cleaning, washing, detoxification and dust removal in faulty condition is not permitted.

13.8. In the event of loss or deterioration of the product during dry cleaning or hygienic processing, the responsibility is borne by the immediate contractor and his supervisor. Responsibility of the specialized organization should be stipulated in the contract for the provision of services.

14. GENERAL REQUIREMENTS FOR SPECIAL CLOTHING

14.1. Overalls is an individual means of protecting the body, upper and lower extremities from harmful and dangerous factors, the main of which are: general industrial processes, thermal risks (thermal radiation, electric arc), and combinations of these and other factors.

14.2. For the manufacture of corporate special clothing fabrics should be used, the protective properties of which are preserved after 25 cycles of washing special clothes, subject to the conditions of care in accordance with the regulatory documentation of the manufacturer (supplier) of the fabric.

14.3. At the request of the customer, the garment company should provide confirmation of the shipment of the fabric chosen for sewing work clothing.

14.4. Overalls should meet the requirements of safety and protection of the employee against hazardous and harmful production factors throughout the life of the service, as established by the Model Norms for the free issue of PPE.

14.5. Dry-cleaning and washing of special clothes should be carried out with the frequency determined by the production conditions, the materials from which it is made, and also the requirements of the corresponding sanitary regulations or other regulatory documents. Dry-cleaning or washing of clothing should be carried out in accordance with the manufacturer's recommendations for the care of the product.

14.6. The size of the special clothing should correspond to the anthropometric size of the worker. Overalls should be comfortable and safe to operate.

14.7. Logotypes and retroreflective bands should not lose their consumer properties (the integrity of the logo and the bands that reflect the characteristics of the bands) with a minimum of 25 washings at 40° C

14.8. The design of corporate special clothing, the colors, and the design of special clothing models, the location of symbols and reflective bands and symbols should comply with the requirements of the "Album of corporate clothes for employees of JSC Caspian Pipeline Consortium-R". Size-body height series of special clothing should match typical male and female figures. The form, size, color gamut and location of the CPC brand (logo) should comply with the requirements of the "Guide to the corporate style of the CPC".

14.9. Among the complex of properties that special clothes for employees of JSC CPC-R should possess are protective properties. The marking on the protective properties of special clothing is given in Appendix 1.

15. SUMMER SPECIAL CLOTHING FOR PROTECTION FROM OIL AND PETROLEUM PRODUCTS, FIRE RESISTANT

15.1. SUMMER SUIT MADE FROM FIRE RESISTANT FABRICS

15.1.1. Technical description

The suit consists of jacket and trousers (semi-overalls) and demi-season jacket. 15.1.2. Fabrics and materials

Fabric composition:	100% aramid, antistatic thread or blended fabric with aramid, polyamide, antistatic thread	Cotton fabric with synthetic fiber, no more than 12%, antistatic thread
Minimal fabric density:	250 g/m²	200 g/m²

Fabric finishing:	Fire protection finishing + Petroleum-oil-and-water repellent finishing (POWRF)	Fire protection finishing + Petroleum-oil-and-water repellent finishing (POWRF)
Petroleum repellency, points, no less than: - in the original form - after five washes (chemical cleaning)	 5 4	 5 4
Oil repellency, points, no less than: - in the original form - after five washes (chemical cleaning)	5 4	5 4
Water repellency, arbitrary units, no less than: - in the original form - after five washes (chemical cleaning)	 90 80	 90 80
Fabric tear strength (base/ weft):	Minimal tear strength for base: 900 N Minimal tear strength for weft: 600 N	Minimal tear strength for base: 650 N Minimal tear strength for weft: 500 N
Resistance of fabric against tear load (base/weft):	Minimal tear strength for base: 60 N Minimal tear strength for weft: 70 N	Minimal tear strength for base: 30 N Minimal tear strength for weft: 30 N
Stability of color for washing, score, no less than:	4/4	4/4
Color stability to sunlight points, no less than:	5	5
Resistance to abrasion, cycles, no less than:	5000	3000
Change of linear dimensions (shrinkage) of the product after 5 washes, no more than:	Change of linear dimensions (shrinkage) of the product after 5 washes, no more:	2 % (weft), 3.5 % (base)
Fire resistance:	Does not burn, does not smolder	Does not burn, does not smolder
Specific surface electrical resistance before and after 50 washes, Ohm, no more than:	10^{7}or deceleration period t50 less than 4 s/shielding coefficient S more than 0.2	10^{7} or deceleration period t50 less than 4 s/shielding coefficient S more than 0.2

Mandatory match of the fabric to:	GOST 11209-2014, GOST R 12.4.297-2013 or GOST ISO 11612-2014	GOST 11209-2014, GOST R 12.4.297-2013 or GOST ISO 11612-2014
Threads:	Fireproof	Fireproof

15.1.3. Requirements for fireproof retroreflective materials are given in Appendix 2.

15.1.4. Requirements for heat-resistant fittings are given in Appendix 3.

15.1.5. Mandatory certification for compliance with: TR CU 019/2011.

15.1.6. Mandatory correspondence to: GOST 12.4.281310-2016),GOST R 12.4.297-2013 or GOST ISO 11612-2014, GOST 12.4.124-83 or GOST R EN 1149-5-2008..

15.1.7. Designation

Technological operations with technological equipment and tools, where direct contact with oil and petroleum products is possible, protection against short-term exposure to a flame.

15.2. DEMI-SEASON JACKET, FIREPROOF

15.2.1 Technical description

The demi-season jacket should be made on a lining fabric with a detachable hood. The finishing of the collar and hood of the jacket should be made with fireproof fleece. The jacket lining should provide short-term protection from an open flame and include aramid, para-aramid fibers.

15.2.2. Fabrics and materials

Fabric composition:	100% aramid, antistatic thread or blended fabric with aramid, polyamide, antistatic thread	100% cotton, antistatic thread	Cotton fabric with synthetic fiber, no more than 12 %, antistatic thread
Minimal fabric density:	180 g/m²	250 g/m²	200 g/m²
Fabric finishing:	Petroleum-oil –water repellent finishing (POWRF)	Fire protection finishing + Petroleum-oil -water repellent finishing (POWRF)	Fire protection finishing + Petroleum-oil-water repellent finishing (POWRF)
Oil repellency, points, no less than: - in the original form - after five washes (chemical cleaning)	 5 4	 5 4	 5 4
Water repellency, arbitrary units, no less than: - in the original form - after five washes (chemical cleaning)	 5 4	 90 80	 90 80

Fabric tear strength (base/weft):	Minimal tear strength for base: 900 N Minimal tear strength for weft: 600 N	Minimal tear strength for base: 600 N Minimal tear strength for weft: 400 N	Minimal tear strength for base 650 N The minimum breaking load for weft: 500 N
Resistance of fabric against tear loads (base/weft):	Minimal tear strength for base: 60 N Minimal tear strength for weft: 70 N	Minimal tear strength for base: 20 N Minimal tear strength for weft: 25 N	Minimal tear strength for base 30 N Minimal tear strength for base 30 N
load on filling: 30 N	4/4	4/4	4/4
Color stability to sunlight points, no less than:	5	5	5
Resistance to abrasion, cycles, no less than:	5000	2,500	3000
Change of linear dimensions (shrinkage) of the product after 5 washes, no more than:	Change of linear dimensions (shrinkage) of the product after 5 washes, no more:	2 % (weft), 3.5% (base)	2 % (weft), 3.5% (base)
Fire resistance:	Does not burn, does not smolder	Does not burn, does not smolder	Does not burn, does not smolder
Specific surface electrical resistance before and after 50 washes, Ohm, no more than:	10^7 or deceleration period t50 less than 4 s/shielding coefficient S more than 0.2	10^7 or deceleration period t50 less than 4 s/shielding coefficient S more than 0.2	10^7 or deceleration period t50 less than 4 s/shielding coefficient S more than 0.2
Mandatory match of the fabric to:	GOST 11209-2014, GOST R 12.4.297-2013 or GOST ISO 11612-2014	GOST 11209-2014, GOST R 12.4.297-2013 or GOST ISO 11612-2014	GOST 11209-2014, GOST R 12.4.297-2013 or GOST ISO 11612-2014
Threads:	Fireproof	Fireproof	Fireproof

Requirements for fireproof retroreflective materials are given in Appendix 2.

15.2.4 Requirements for heat-resistant fittings are given in Appendix 3.

15.2.5 Mandatory certification for compliance with: TR CU 019/2011.

15.2.6 Mandatory correspondence to: GOST 12.4.310-2016, GOST R 12.4.297-2013 or GOST ISO 11612-2014, GOST 12.4.124-83 or GOST R EN 1149-5-2008.

15.2.7 Designation

To provide protection during technological operations in the demi-season with technological equipment and tools, where direct contact with oil and petroleum products is possible, also protection against short-term exposure to the flame.

16. SPECIAL CLOTHING FOR PROTECTION AGAINST GENERAL INDUSTRIAL POLLUTION, MADE FROM FIRE-RESISTANT ANTI-ELECTROSTATIC FABRICS

16.1 ANTIENCEPHALITHIC SUIT MADE FROM FIREPROOF FABRIC

16.1.1. Technical description

The suit consists of a jacket with a hood, mosquito net, and trousers.

On the forearms, legs, chest and back, and also in the collar zone of the suit there should be special traps, into which ticks fall.

Fabrics and materials

Fabric composition:	100% cotton, antistatic thread	Cotton-containing fabric with synthetic fiber, no more than 12 %, antistatic thread
Minimal fabric density:	250 g/m²	200 g/m²
Fabric finishing:	Fire protection finishing + Petroleum-oil-water repellent finishing (PWORF)	Fire protection finishing + Petroleum-oil-water repellent finishing (PWORF)
Oil repellency, points, no less than: - in the original form - after five washes (chemical cleaning)	 5 4	 5 4
Water repellency, arbitrary units, no less than: - in the original form - after five washes (chemical cleaning)	 90 80	 90 80
Fabric tear strength (base/weft):	Minimal tear strength for base: 600 N Minimal tear strength for weft: 400 N	Minimal tear strength for base: 650 N Minimal tear strength for weft: 500 N
Resistance of fabric against tear loads (base/weft):	Minimal tear strength for base: 20 N Minimal tear strength for weft: 25 N	Minimal tear strength for base: 30 N Minimal tear strength for weft: 30 N
Stability of color for washing, score, no less than:	4/4	4/4
Color stability to sunlight points, no less than:	5	5

Resistance to abrasion, cycles, no less than:	2,500	3000
Change of linear dimensions (shrinkage) of the product after 5 washes, no more than:	Change of linear dimensions (shrinkage) of the product after 5 washes, no more than:	2 % (weft), 3.5 % (base)
Fire resistance:	Does not burn, does not smolder	Does not burn, does not smolder
Specific surface electrical resistance before and after 50 washes, Ohm, no more than:	10^7 or deceleration period t50 less than 4 s/shielding coefficient S more than 0.2	10^7 or deceleration period t50 less than 4 s/shielding coefficient S more than 0.2
Mandatory match of the fabric to:	GOST 11209-2014, GOST R 12.4.297-2013 or GOST ISO 11612-2014	GOST 11209-2014, GOST R 12.4.297-2013 or GOST ISO 11612-2014
Threads:	Fireproof	Fireproof

16.1.3. Requirements to fireproof retroreflective materials are given in Appendix 2.

16.1.4. Requirements to heat-resistant fittings are given in Appendix 3.

16.1.5. Mandatory certification for compliance with: TR CU 019/2011.

16.1.6. Mandatory correspondence to: GOST R 12.4.296-2013, GOST R 12.4.297-2013 or GOST ISO 11612-2014, GOST 12.4.124-83 or GOST R EN 1149-5-2008.

16.1.7. Designation

Protection against gnats, bloodsucking insects and ticks during work in explosive and fire hazardous conditions.

16.2 SHIRT FROM FIREPROOF FABRIC

16.2.1 Technical description

Shirt with a long sleeve, button closure, and a turndown collar.

16.2.2 Fabrics and materials

Fabric composition:	Cotton fabric with synthetic fiber no more than 12%, antistatic thread or 100% aramid, antistatic thread or blended fabric with aramid, polyamide, antistatic thread
Minimal fabric density:	180 g/m²
Fabric finishing:	Fire protection finishing + Petroleum-oil-water repellent finishing (PWORF)
Oil repellency, points, no less than: - in the original form - after five washes (chemical cleaning)	 5 4
Water repellency, arbitrary units, no less than: - in the original form - after five washes (chemical cleaning)	 90 80

Fabric tear strength (base/weft):	Minimal tear strength for base: 650 N Minimal tear strength for weft: 500 N
Resistance of fabric against tear loads (base/weft):	Minimal tear strength for base: 30 N Minimal tear strength for weft: 30 N
Stability of color for washing, score, no less than:	4/4
Color fastness to sunlight, points, no less than:	5
Resistance to abrasion, cycles, no less than:	3000
Change of linear dimensions (shrinkage) of the product after 5 washes, no more than:	2 % (weft), 3, 5 % (base)
Fire resistance:	Does not burn, does not smolder
Specific surface electrical resistance before and after 50 washes, Ohm, no more than:	10 7 or deceleration period t50 less than 4 s/shielding coefficient S more than 0.2
Mandatory match of the fabric to:	GOST 11209-2014, GOST R 12.4.297-2013 or GOST ISO 11612-2014
Threads:	Fireproof

16.2.3 Mandatory certification for compliance with: TR CU 019/2011.

16.2.4 Mandatory correspondence to: GOST 30327-2013, GOST R 12.4.297-2013 or GOST ISO 11612-2014, GOST 12.4.124-83 or GOST R EN 1149-5-2008.

16.2.5 Designation

Technological operations with equipment and technology, when work is performed in explosion and fire hazardous conditions.

17. SPECIAL CLOTHING FOR PROTECTION FROM GENERAL INDUSTRIAL POLLUTION AND MECHANICAL EFFECTS

17. 1. DRESSING GOWN FROM MIXED FABRICS

17.1.1. Fabrics and materials

Fabric composition:	Mixed with cotton content no less than 35 % and polyester no more than 65 %
Minimal fabric density:	160 g/m²
Fabric finishing:	Oil-water repellent finishing (PWORF)
Oil repellency, points, no less than: - in the original form - after five washes (chemical cleaning)	 5 4
Water repellency, arbitrary units, no less than: - in the original form - after five washes (chemical cleaning)	 90 80
Fabric tear strength (base/weft):	Minimal tear strength for base: 1000 N Minimal tear strength for weft: 700 N

Resistance of fabric against tear loads (base/weft):	Minimal tear strength for base: 40 N Minimal tear strength for weft: 40 N
Stability of color for washing, score, no less than:	4/4
Color fastness to sunlight, points, no less than:	5
Resistance to abrasion, cycles, no less than:	5000
Change of linear dimensions (shrinkage) of the product after 5 washes, no more than:	1.5 % (weft), 2 % (base)
Mandatory match of the fabric to:	GOST 11209-2014

17.2.1. Mandatory declaring for compliance with: TR CU 019/2011.

17.3.1. Mandatory correspondence to: GOST 12.4.132-83 (for men) or GOST 12.4.131-83 (for women).

17.1.4. Designation

Technological operations with technological equipment and tools, protection from general industrial pollution and mechanical influences.

17. 2. COTTON DRESSING GOWN

17.2.1. Fabrics and materials

Fabric composition:	100% cotton
Minimal fabric density:	160 g/m²
Fabric finishing:	Oil-water repellent finishing (PWORF)
Oil repellency, points, no less than: - in the original form - after five washes (chemical cleaning)	 5 4
Water repellency, arbitrary units, no less than: - in the original form - after five washes (chemical cleaning)	 90 80
Fabric tear strength (base/weft):	Minimal tear strength for base: 600 N Minimal tear strength for weft: 400 N
Resistance of fabric against tear loads (base/weft):	Minimal tear strength for base: 20 N Minimal tear strength for weft: 25 N
Stability of color to washing, score, no less than:	4/4
Color fastness to sunlight, points, no less than:	5
Resistance to abrasion, cycles, no less than:	2500
Change of linear dimensions (shrinkage) of the product after 5 washes, no more than:	2 % (weft), 3.5 % (base)
Mandatory match of the fabric to:	GOST 11209-2014

17.2.2. Mandatory declaring for compliance with: TR CU 019/2011.

17.2.3. Mandatory correspondence to: GOST 12.4.132-83 (for men) or GOST 12.4.131-83 (for women).

17.2.4. Designation

Implementation of technological operations with technological equipment and tools, protection from general industrial pollution and mechanical influences.

17.3. POLO WITH SHORT SLEEVES

17..3.1 Technical description

Clasp on buttons, collar turn-down.

17.3.2 Fabrics and materials

Fabric composition:	Cotton 100 %
Minimal fabric density:	180 g/m²

17.3.3. Mandatory declaring for compliance with: TR CU 017/2011.

18. SPECIAL CLOTHING FOR PROTECTION AGAINST LOW TEMPERATURES

18.1. WINTER SUIT FROM FIRE RESISTANT FABRICS

18.1.1. Technical description

The suit consists of heat-insulated jacket and trousers (semi-overalls).

18.1.2 Fabrics and materials

Fabric composition:	100% aramid, antistatic thread or blended fabric with aramid, polyamide, antistatic thread	Cotton-containing fabric with synthetic fibers no more than 12 %, antistatic thread
Minimal fabric density:	180 g/m²	200 g/m²
Fabric finishing:	Petroleum-oil-and-water repellent finishing (POWRF)	Fire protection finishing + Petroleum-oil-and-water repellent finishing (POWRF)
Petroleum repellency, points, no less than: - in the original form - after five washes (chemical cleaning)	 5 4	 5 4
Oil repellency, points, no less than: - in the original form - after five washes (chemical cleaning)	 5 4	 5 4
Water repellency, arbitrary units, no less than: - in the original form - after five washes (chemical cleaning)	 90 80	 90 80

Fabric tear strength (base/weft):	Minimal tear strength for base: 900 N Minimal tear strength for weft: 600 N	Minimal tear strength for base: 650 N Minimal tear strength for weft: 500 N
Stability of the fabric against tearing loads (base/weft):	Minimal tear strength for base: 60 N Minimal tear strength for weft: 70 N	Minimal tear strength for base: 30 N Minimal tear strength for weft: 30 N
Stability of color to washing, score, no less than:	4/4	4/4
Color stability to sunlight points, no less than:	5	5
Resistance to abrasion, cycles, no less than:	5000	3000
Change of linear dimensions (shrinkage) of the product after 5 washes, no more than:	2 % (weft), 2.5 % (base)	2 % (weft), 3.5 % (base)
Fire resistance:	Does not burn, does not smolder	Does not burn, does not smolder
Specific surface electrical resistance before and after 50 washes, Ohm, no more than:	10^7 or deceleration period t50 less than 4 s/shielding coefficient S more than 0.2	10^7 or deceleration period t50 less than 4 s/shielding coefficient S more than 0.2
Mandatory match of the fabric to:	GOST 11209-2014, GOST R 12.4.297-2013 or GOST ISO 11612-2014	GOST 11209-2014, GOST R 12.4.297-2013 or GOST ISO 11612-2014
Threads:	Fireproof	Fireproof

18.1.3. Requirements for fireproof retroreflective materials are given in Appendix 2.

18.1.4. Requirements for heat-resistant fittings are given in Appendix 3.

18.1.5. Required certification for compliance: TR TS 019/2011.

18.1.5. Requirements for fireproof insulation materials are given in Appendix 4.

18.1.6. The values of thermal insulation of the suit for the I - II climatic zone with air permeability of the top material are not more than 40 $dm^3/(m^2 \cdot sec)$: no less than 0,5 28 $m^2 \cdot ºC/W$. no less than 0.528

18.1.7. The values of thermal insulation of the suit for the III climatic zone with air permeability of the top material are not more than 40 $dm^3/(m^2 \cdot sec)$: no less than 0.569 $m^2 \cdot ºC/W$.

18.1.8. The number of layers of the heat-shielding pad in the suit is selected depending on the heat-protective properties of the package of materials of the product.

18.1.9. Mandatory certification for compliance with: TR CU 019/2011.

18.1.10. Mandatory correspondence to: GOST R 12.4.236-2011, GOST 12.4.310-2016, GOST R 12.4.297-2013 or GOST ISO 11612-2014, GOST 12.4.124-83 or GOST R EN 1149-5-2008.

18.1.11. Designation

Implementation of technological operations with technological equipment and tools, where direct contact with oil and petroleum products is possible, protection against short-term exposure to the flame during the cold season.

18.2. UNDERWEAR, INSULATED (THERMAL UNDERWEAR)

18.2.1 Technical description

The set consists of a sweatshirt and pants.

Underwear insulated is necessarily delivered in an individual package.

18.2.2. Fabrics and materials

Fabric composition:	Knitted fabric, wool content no less than 45%
Minimal fabric density:	230 g/m²

18.2.3. Mandatory certification for compliance with: TR CU 017/2011.

18.2.4. Mandatory correspondence to: GOST 31410-2009 or GOST 31408-2009 (for men), or GOST 31405-2009 (for women).

18.2.5. Designation

Used for hygienic purposes, it is worn under special clothing during the cold season.

19. SPECIAL CLOTHES FOR PROTECTION AGAINST WATER, DUST, AND SOLUTIONS OF AGGRESSIVE SUBSTANCES

19.1. OVERALLS FOR PROTECTION FROM TOXIC SUBSTANCES AND DUST FROM NONWOVEN MATERIALS

19.1.1. Overalls for protection against physical penetration of hazardous solid particles and liquid chemicals.

Overalls with a central clasp, hood, outer seams, safety valves over the zipper and elastic band along the line of the front notch, in the waist, wrists and ankles.

Fabrics and materials: non-woven material of thermosetted polyethylene fibers with a surface density of no more than 41.5 g/m². The material should have antistatic properties and biological protection against bacteria.

Material thickness:	No more than 140 microns
Weight of the overalls:	Not more than 180 g
Resistance to abrasion:	At the 100 cycle level
Tear strength:	No less than 68 N
Protection against the effect of solid particles:	At least 99.2 % of particles larger than 1 μm
Protection from exposure to liquid chemicals :	Water, oils, solutions of inorganic acids 40% and alkali 40%
Withstands water column pressure of:	No less than 120 cm in height
Resistance to low and high temperatures:	Keeps flexibility down to minus 73°C, melts above 135°C

19.1.2 Overalls for protection against physical penetration of hazardous solid particles and liquid chemicals in the form of solid and liquid aerosols.

Overall with taped seams sealed with a central buckle, a hood, and protective self-adhesive closures over the zipper and elastic ribbon along the line of the facial cutout in the wrists and ankles, and stitched in loops for fixing the thumbs. It is possible to modify the suit with sewn socks and double trouser cuffs.

Fabrics and materials: non-woven material of thermosetted polyethylene fibers with a surface density of no more than 41.5 g/m². The material should have antistatic properties and biological protection against bacteria.

Material thickness:	No more than 140 microns
Weight of the overalls:	No more than 250 g
Resistance to abrasion:	At the 100 cycle level
Tear strength:	No less than 68 N
Protection against the effect of solid particles:	At least 99.9 % of particles larger than 1 μm
Protection against the effects of liquid, solid, and aerosol chemicals:	Inorganic acids up to 40 % and alkali up to 40%
Withstands water column pressure of:	No less than 120 cm in height
Resistance to low and high temperatures:	Keeps flexibility down to minus 73°C, melts above 135°C

19.1.3 Overalls for protection against physical penetration of dangerous solid particles, dispersive fine hazardous dust and powders, concentrated inorganic acids, alkalis and salt solutions, resistance to splashes of liquids under pressure up to 2 atm.

Overalls with central clasp, hood, safety valves over the zipper and elastic band along the line of the front notch, in the area of wrists and ankles.

Fabrics and materials: non-woven material from thermosetted polyethylene fibers with a surface density of no more than 83 g/m² with additional external polymer coating. The material should have antistatic properties and 100 % protection against bacteria.

Material thickness:	No more than 180 microns
Weight of the overalls:	No more than 450 g
Resistance to abrasion:	At the 1500 cycle level
Tear strength:	No less than 150 N
Protection against the effect of solid particles:	At least 100 % of particles of any size
Protection from exposure to liquid chemicals:	Inorganic acids with a concentration of up to 80 % and alkali with concentrations of up to 40 %
Withstands water column pressure of:	No less than 300 cm in height
Resistance to low and high temperatures:	Keeps flexibility down to minus 73°C, melts above 98°C

19.1.4 Overalls for the protection from physical penetration hazardous solids dispersion hazardous dust and fine powders of concentrated inorganic acids, alkali and salt solutions, organic chemicals, resistance to splashes of fluids under pressure up to 5 atm.

Overalls with a central zipper, hood, protective self-adhesive valves and elastic band along the front notch, in the wrist and ankle area.

Fabrics and materials: non-woven fabric with a surface density of not more than 120 g/m², manufactured by laminating a non-woven material from thermally bonded polyethylene onto a barrier film having a polymer coating. The material should have antistatic properties and 100 % protection against bacteria.

Material thickness:	No more than 210 microns
Weight of the overalls:	No more than 500 g
Resistance to abrasion:	At the 2000 cycle level
Tear strength:	Not less than 240 N
Protection against the effect of solid particles:	At least 100 % of particles of any size
Protection from exposure to liquid chemicals:	Inorganic and organic acids and alkali
Withstands water column pressure of:	No less than 300 cm in height
Resistance to low and high temperatures:	Keeps flexibility down to minus 73°C, melts above 98°C

19.1.5. Mandatory certification for compliance with: TR CU 019/2011.

19.1.6. Designation

To protect against physical penetration of hazardous solid particles and liquid chemicals.

19.2. INSULATING SUIT FOR PROTECTION AGAINST TOXIC AND AGGRESSIVE MATERIALS FROM SYNTHETIC FABRICS

19.2.1 Technical description

Insulated suit of encapsulated (closed) type or uncapsulated (open) type, equipped with adjustable forced ventilation system with air flow up to 120 l/min, for protection from hazardous chemicals in any form. It is used with respiratory protective equipment of an insulating type. Made of synthetic fabric with a multilayer coating of a combination of rubber and polymers.

The suit should be designed for a user's height in the range of 150 to 210 cm.

The delivery set should include:

- suit insulating with gas-tight zipper, encapsulated or not encapsulated;
- removable boots made of nitrile rubber with a heat-resistant anti-piercing sole and reinforced toe cap;
- set of gloves, consisting of internal cotton gloves; resistant to chemicals gloves with a protection class of at least the class of protection suit; external gloves to protect against mechanical damage from polyamide fabrics;
- Gloves should be attached to the suit with gas-tight elastic cuffs located on the sleeves;
- means for care of gas-tight zipper;
- accessories for storage, transportation of suits;
- repair kits for simple repairs by the user.

higher security class costume (6 permeability chemical class classification EN 943) should have an increased resistance to thermal radiation and open flame, as well as direct contact with liquefied gases having low boiling point.

When storing, protective properties of insulating suit materials may be kept for at least 15 years from the date of production.

19.2.2. Mandatory certification for compliance with: TR CU 019/2011.

19.2.3 Designation

To protect against oil and petroleum products, chemically hazardous substances in gaseous, liquid form and in the form of aerosols, personnel of firefighters, gas rescue services and technological divisions when carrying out work to eliminate the consequences of accidents at industrial facilities.

19.3. Suit for protection from water made from synthetic fabrics with film coating

19.3.1 Technical description

The suit consists of a jacket and semi-overalls (or trousers with an elevated waist).

The suit should be made using high-frequency welding technology.

19.3.2 Fabrics and materials

Fabric composition:	100% polyester knitted fabric with PVC coating
Overall fabric density, no less than:	270 g/m²
Water resistance, no less than:	10,000 mm of water column

19.3.3 The requirements for retroreflective materials are given in Appendix 2.

19.3.4 Requirements for fittings are given in Appendix 3.

19.3.5 Mandatory declaring for compliance with: TR CU 019/2011.

19.3.6 Mandatory correspondence to: GOST R 12.4.288-2013.

19.3.7 Designation

Protection of the operator from atmospheric precipitation during operations with technological equipment and tools.

19.4. RAINCOAT FOR PROTECTION FROM WATER

19.4.1 Technical description

Raincoat of a direct silhouette type with a central side clasp on fasteners with a hood. Pockets with valves.

Raincoat should be made using high-frequency welding technology.

19.4.2 Fabrics and materials

Fabric composition:	100% polyester knitted fabric with PVC coating
Overall fabric density, no less than:	270 g/m²
Water resistance, no less than:	10,000 mm of water column

19.4.3 The requirements for retroreflective materials are given in Appendix 2.

19.4.4. Mandatory declaring for compliance with: TR CU 019/2011.

19.2.5. Mandatory correspondence to: GOST R 12.4.288-2013.

19.4.6 Designation

Protection of the operator from atmospheric precipitation during operations with technological equipment and tools.

20. SPECIAL CLOTHING WITH INCREASED VISIBILITY

20.1. High visibility jacket having 2 class protection made of fireproof fabrics

20.1.1. Technical description

A vest of direct silhouette with a central button or zipper closure.

20.1.2. Fabrics and materials

Fabric	Fire-resistant fluorescent fabric, antistatic thread
Minimal fabric density:	220 g/m²
Minimum area of signal elements from background materials, no less than:	0.5 m²
Minimum area of signal elements made of retroreflective materials, no less than:	0.13 m²
Change of linear dimensions (shrinkage) of the product after 5 washes, no more than:	3 %
Fire resistance:	Does not burn, does not smolder
Specific surface electrical resistance before and after 50 washes, Ohm, no more than:	10^7 or deceleration period t50 less than 4 s/shielding coefficient S more than 0.2

20.1.3. Requirements for fireproof retroreflective materials are given in Appendix 2.

20.1.4. The values of the minimum coefficient of retroreflection are given in Appendix 2.

20.1.5. Mandatory certification for compliance with: TR CU 019/2011.

20.1.6. Mandatory correspondence to: GOST 12.4.2813102),GOST R 12.4.297-2013 or GOST ISO 11612-2014, GOST 12.4.124-83 or GOST R EN 1149-5-2008..

20.1.7. Designation

To ensure visibility of the employee during the day and night.

21. SPECIAL CLOTHING FOR PROTECTION FROM ELECTRIC ARC

21.1. SUIT FOR PROTECTION FROM ELECTRIC ARC MADE FROM FIRE-RESISTANT FABRICS

21.1.1. Technical description

Summer suit for protection from risk of exposure to thermal effect of electric arc consists of a jacket, trousers or semi-overalls.

Summer suit for protection against thermal hazards of electric arc is used only in conjunction with heat-resistant balaclavas, gloves, heat-resistant, heat-resistant linen or cotton, heat-resistant helmet with a protective face shield with a heat-resistant piping, heat resistant shoes on MBS sole.

In addition, to increase the level of protection of the kit, as well as to increase operational comfort, a summer suit to protect against risk of exposure to thermal effect of electric arc can be completed with a

jacket, a jacket, a sweater. To prevent wetting of the heat-resistant set in conditions of high humidity and atmospheric precipitation, a heat-resistant raincoat can be issued.

To ensure the claimed level of protection, the front of the suit and sleeves can be made of two or more layers of upper fabric.

In a heat-resistant suit, there should be no fly-away coats or ventilation holes.

Summer suit to protect against risk of exposure to thermal effect of electric arc should be used in a clean condition. The fabric of the suit should withstand at least 50 cycles of washing, while the performance of physical and mechanical characteristics should not decrease by more than 20 %. The level of protection against risk of exposure to thermal effect of electric arc after 50 washings should not decrease by more than 5 % relative to the initial value determined after 5 washes.

Warranted period for manufacturing quality: 12 months from the time of delivery.

Shelf life: no less than 3 years, including the period of wearing.

In service time: No less than 2 years.

Requirements to materials from which heat-resistant suits are made:

- do not support burning, do not melt or drip under the action of an open flame;
- to provide resistance to the effects of convective and radiant energy generated by electric arc;
- to provide resistance to a combination of thermal and mechanical risk factors caused by electric arc;
- should preserve heat-resistant properties for the entire life of the products;
- should comply with sanitary and epidemiological standards, should not cause allergies.

21.1.2 Fabrics and materials

Fabric composition:	Materials with permanent heat stable and antielectrostatic properties: 100 % chemical heat stable fibers or fibers of mixed composition
Minimal fabric density: - 100 % chemical heat resistant fibers - mixed composition	 180 g/m² 250 g/m²
Fabric finishing:	Oil-water repellent finishing (PWORF)
Oil repellency, points, no less than: - in the original form - after five washes (chemical cleaning)	 5 4
Water repellency, arbitrary units, no less than: - in the original form - after five washes (chemical cleaning)	 90 80
Tensile strength, no less than:	800 N
Tear strength, no less than:	40 N
Resistance to abrasion, cycles, no less than:	4000
Air permeability, $dm^3/(m^2 \cdot sec)$, no less than:	40

Hygroscopicity, %, no less than:	5
Specific surface electrical resistance before and after 50 washes, Ohm, no more than:	10^7or deceleration period t50 less than 4 s/shielding coefficient S more than 0.2
Fire resistance after 5 and 50 washings: - time of residual combustion or smoldering, sec, not more than - Length of the charred section, mm, not more than	 2 100
Index of transmission of thermal radiation after 5 and 50 washes, sec, no less than:	8
Index of flame transfer after 5 and 50 washes, sec, no less than:	3
Tensile strength of seams, no less than, N:	250

Fasteners used for the manufacture of garments of special protective from the risk of exposure to thermal effect of electric arc, should be designed so as not to allow their spontaneous opening during thermal exposure to the electric arc, and also to maintain functionality. The fittings can be heat-resistant or should be covered with layers of heat-resistant material.

21.1.3 Requirements to fireproof retroreflective materials are listed in Appendix 2.

21.1.4 Requirements to heat stable fittings are listed in Appendix 3.

21.1.5 The suitability of the suit (set) to the thermal factors of the electric arc (ATPV) should be:

- 1st level - no less than 5 cal/cm²;
- 2nd level - no less than 10 cal/cm²;
- 3rd level - no less than 20 cal/cm².

21.1.6 The level of protection for a suit (kit) is calculated based on the parameters of a particular electrical installation.

21.1.7 Mandatory certification for compliance with: TR CU 019/2011.

21.1.8 Mandatory correspondence to: GOST R 12.4.234-2012, GOST ISO 11612-2014, GOST 12.4.124-83 or GOST REN 1149-5-2008.

21.1.9 Designation

Protection of the worker from thermal action of electric arc during maintenance and repair of electrical equipment and other works under conditions of increased danger of arcing.

21.2. SUIT FOR PROTECTION FROM THE IMPACT OF ELECTRIC ARC FROM FIRE-RESISTANT FABRICS ON A HEAT-INSULATING LINING

21.2.1 Technical description

Winter suit for protection against risk of exposure to thermal effect of electric arc from heat-resistant materials with permanent protective properties consists of a jacket, trousers with an overstated belt or semi-overalls. The suit can be completed with an insulated waistcoat.

Additionally, to increase the level of protection of the kit, as well as to enhance comfort during use, winter suit for protection against thermal risks of arcing can be applied to the summer suit, jacket, shirt, sweater, sweatshirts, and heat resistant sheets of underwear or cotton.

Winter set can be made from several layers of fabric uppers. The suit should use heat-resistant heat insulation and fire-resistant lining fabric.

Winter suit to protect against risk of exposure to thermal effect of electric arc is made on a loose or detachable lining under the climate climates, for the application in which it is intended.

Winter suit for protection against thermal hazards of electric arc is used only in conjunction with heat-resistant balaclavas, linen cotton, or a heat-resistant, heat-resistant gloves, heat-resistant helmet with a protective face shield with a heat-resistant piping, heat resistant shoes on MBS sole with insulation made of natural fur.

The thermal insulation of the winter kit should ensure the time of a continuous stay of an employee working in the open area for at least 2 hours in the appropriate climatic zone, taking into account the performance of works of medium gravity.

Winter suit for protection against risk of exposure to thermal effect of electric arc should be used in a clean condition. The fabric of the suit should withstand at least 50 cycles of washing, while the performance of physical and mechanical characteristics should not decrease by more than 20 %. The level of protection against risk of exposure to thermal effect of electric arc after 50 washings should not decrease by more than 5 %, relative to the initial, determined after 5 washes.

Warranted period for manufacturing quality: 12 months from the time of delivery.

Shelf life: no less than 3 years, including the period of wearing.

In service time: No less than 2 years.

Requirements to materials from which heat-resistant suits are made:

- do not support burning, do not melt or drip under the action of an open flame;
- to provide resistance to the effects of convective and radiant energy generated by electric arc;
- to provide resistance to a combination of thermal and mechanical risk factors caused by electric arc;
- should preserve heat-resistant properties for the entire life of the products;
- should comply with sanitary and epidemiological standards, should not cause allergies.

21.2.2 Fabrics and materials

Fabric composition:	Materials with permanent heat-stable and antielectrostatic properties: 100 % chemical heat stable fibers or mixed composition
Minimal fabric density: - 100 % chemical heat resistant fibers - mixed composition	 180 g/m² 250 g/m²
Fabric finishing:	Oil-water repellent finishing (PWORF)
Oil repellency, points, no less than: - in the original form - after five washes (chemical cleaning)	 5 4
Water repellency, arbitrary units, no less than: - in the original form - after five washes (chemical cleaning)	 90 80

Tensile strength, no less than:	800 N
Tear strength, no less than:	40 N
Resistance to abrasion, cycles, no less than:	4000
Air permeability of the package of materials, $dm^3/(m^2 \cdot sec)$, not more than:	40
Hygroscopicity, %, no less than:	5
Specific surface electrical resistance before and after 50 washes, Ohm, no more than:	10^7 or deceleration period t50 less than 4 s/shielding coefficient S more than 0.2
Fire resistance after 5 and 50 washings: - time of residual combustion or smoldering, sec, not more than - Length of the charred section, mm, not more than	 2 100
Index of transmission of thermal radiation after 5 and 50 washes, sec, no less than:	8
Index of flame transfer after 5 and 50 washes, sec, no less than:	3
Tensile strength of seams, no less than, N:	250

Fasteners used for the manufacture of garments of special protective from the risk of exposure to thermal effect of electric arc, should be designed so as not to allow their spontaneous opening during thermal exposure to the electric arc, and also to maintain functionality. The fittings can be heat-resistant or should be covered with layers of heat-resistant material.

21.2.3 Requirements to fireproof retroreflective materials are listed in Appendix 2.

21.2.4 Requirements to heat stable fittings are listed in Appendix 3.

21. 2.5 Requirements for fireproof insulation materials are given in Appendix 4.

21.2.6 The values of thermal insulation of the suit for the I - II climatic zone with air permeability of the top material are not more than 40 $dm^3/(m^2 \cdot sec)$: no less than 0,528 $m^2 \cdot ºC/W$.

21.2.7 The values of thermal insulation of the suit for the III climatic zone with air permeability of the top material are not more than 40 $dm^3/(m^2 \cdot sec)$: no less than 0.569 $m^2 \cdot ºC/W$.

21.2.8 The number of layers of the heat-shielding pad in the suit is selected depending on the heat-protective properties of the package of materials of the product.

21.2.9 The suitability of the suit (set) to the thermal factors of the electric arc (ATPV) should be:

- 1st level - no less than 5 cal/cm^2;
- 2 nd level - no less than 10 cal/cm^2;
- 3rd level - no less than 20 cal/cm^2.

21.2.10. The level of protection for a suit (kit) is calculated based on the parameters of a particular electrical installation.

The calculation of the probable energy of the electric arc is given in Table below:

Options	Work environment options

	PS	EPS	SH
Short-circuit current (kA)	26	12	4.7
Voltage (kV)	10	110	220
Time of arc action (sec.)	0.06	0.4	0.15
Distance to arc source (m)	0.6	1	2
Distance between electrodes (m)	0.22	1.65	2.05
Type of switchgear (closed or open)	ISG	OSG	OSG
Calculated arc energy (cal/cm2)	5.75	12.20	0.52
Required minimum level of protection:	Level 2	Level 2	Level 1

21.2.11. Mandatory certification for compliance with: TR CU 019/2011.

21.2.12. Mandatory correspondence to: GOST R 12.4.234-2012, GOST ISO 11612-2014, GOST R12.4.236-2011, GOST 12.4.124-83 or GOST R EN 1149-5-2008.

21.2.13. Designation

Protection of the working from the thermal impact of the electric arc in the performance of maintenance and repair of electrical equipment and other works in conditions of increased danger of arcing in the cold period of the year.

21.3. HEAT RESISTANT UNDERWEAR

21.3.1. Technical description

Men's/women's underwear consists of a sweatshirt and pants/long trousers.

Underwear is heat resistant, it is used in conjunction with summer or winter heat-resistant suits and serves to increase the level of protection of the kit, as well as to increase the comfort of operation in the off-season or winter time.

Underwear is heat resistant is not an independent means of protection against risk of exposure to thermal effect of electric arc.

21.3.2. Fabrics and materials

Fabric composition:	Materials with permanent heat-resistant properties: 100 % chemical heat-resistant fibers 100 % cotton with fire-resistant finish or mixed compound with fire-resistant finish
Minimal fabric density:	200 g/m²
Fire resistance after 5 washes: - time of residual combustion or smoldering, sec, not more than - Length of the charred section, mm, not more than	 2 100
Index of transmission of thermal radiation after 5 washes, sec, no less than:	8
Index of flame transfer after 5 and 50 washes, sec, no less than:	3

21.3.3. Mandatory certification for compliance with: TR CU 019/2011.

21.3.4. Mandatory correspondence to: GOST R 12.4.234-2012, GOST ISO 11612-2014.

21.3.5. Designation

Used as underwear under a suit (summer, winter) to protect against risk of exposure to thermal effect of electric arc in order to increase the level of protection of the suit, as well as for warming in the cold season.

22. GENERAL REQUIREMENTS FOR SPECIAL SHOES

22.1. The work shoes should meet the requirements of safety and protection of the employee against hazardous and harmful production factors throughout the life of the service, as established by the Model Norms for the free issue of PPE, and also carry two main functions: protective and reducing fatigue.

22.2. A reliable foot protection is needed for every worker in any part of the production. Punctures, cuts, falling heavy loads, slipping, extreme temperatures, moisture, and harmful substances - all this can cause an accident with an unpredictable outcome. Reducing fatigue helps to increase productivity and improve the quality of work performed. Comfortable shoes should have a wide shoe, light weight, flexible sole. .

22.3. All shoes, boots and boots, if required, in the Model Regulations for the free issue of PPE should have a hard protective toe cap (200 J) made of metal, polycarbonate or composite.

22.4. It is allowed to use special insoles with vibration-proof and shock-absorbing seals.

22.5. The sole should be made of oil-and-gasoline resistant material.

23. SPECIAL FOOTWEAR FOR PROTECTION AGAINST GENERAL INDUSTRIAL POLLUTION AND MECHANICAL INFLUENCES

23.1. LEATHER LOW BOOTS WITH A PROTECTIVE TOE CAP

23.1.1. Technical description

Leather shoes on laces with a protective toe cap.

Shoes should have: a soft pad under the tip, a profile of the sole, anti-slip, a blind valve to protect the foot from dust and dirt, a wide soft cuff.

At the request of the customer, shoes can have a special anti-puncture insole, which should provide a through-puncture resistance of at least 1,200 N.

At the request of the customer, the boots can have antistatic properties: the electrical resistance when measured in accordance with clause 5.10 of EN ISO 20344 should be > 100 kOhm ≤ 1000 MOhm.

23.1.2 Upper shoes

Natural embossed cattle leather with thickness of at least 1.8 mm.

The joints of the shoe parts, except for the connection of the bottom to the top, should have a tensile strength of at least 120 N/cm.

23.1.3. Sole

Sole material: PU/TPU or PU/TPU/TPU, or PU/nitrile, or nitrile.

Method of sole attachment - casting or hot vulcanization.

The material should retain its protective properties when in contact with surfaces:

- from minus 35° C to 120° C if the sole with a running layer of TPU;
- from minus 40° C to 300° C (within 60 seconds) if the sole with a nitrile bed.

The profile of the sole should be at least 4 mm.

The sole should have oil-and-gasoline resistant properties.

Coefficient of sliding friction along greased surfaces should be no less than 0.2.

The running gear of the sole should have a tensile strength of at least 180 N/cm and should not reduce it by more than 25 % for the entire service life.

The material of the sole of the shoe should have strength of at least 2 N/mm² and a hardness of not more than 70 Shore.

The strength of fastening the details of the bottom with the top of the shoe should be at least 58 N/cm for hot vulcanization and at least 70 N/cm for the casting method of fastening.

23.1.4. The toe cap

Polycarbonate, composite or metal with rubber sealer and anticorrosion treatment. The toe cap should withstand impact of 200 J.

The internal gap of safety of a protective shock at impact with energy in 200 J should be no less than 20 mm.

23.1.5. Mandatory certification for compliance with: TR CU 019/2011.

23.1.6. Mandatory correspondence to: GOST 28507-99, GOST 12.4.137-2001.

23.1.7. Recommended additional information: GOST R EN ISO 20345-2011.

23.1.8. Designation

For protection against oils and petroleum products, mechanical effects, general industrial pollution.

23.2. LEATHER BOOTS WITH PROTECTIVE TOE CAP

23.2.1 Technical description

Leather shoes with laces with a protective toe cap.

Shoes should have: a soft pad under the tip, a profile of the sole, anti-slip, a blind valve to protect the foot from dust and dirt, a wide soft cuff.

At the request of the customer, the boots can have antistatic properties: the electrical resistance when measured in accordance with clause 5.10 of EN ISO 20344 should be > 100 kOhm ≤ 1000 MOhm.

At the request of the customer, shoes can have a special anti-puncture insole, which should provide a through-puncture resistance of at least 1,200 N.

23.2.2. Upper shoes

Natural embossed cattle leather with thickness of at least 1.8 mm.

The joints of the shoe parts, except for the connection of the bottom to the top, should have a tensile strength of at least 120 N/cm.

23.2.3. Sole

Sole material: PU/TPU or PU/TPU/TPU, or PU/nitrile, or nitrile. Method of sole attachment is casting or hot vulcanization.

The material should retain its protective properties when in contact with surfaces:

- from minus 35° C to 120° C if the sole has a running layer of TPU;
- from minus 40° C to 300° C (within 60 seconds) if the sole has a nitrile bed.

The profile of the sole should be at least 4 mm.

The sole should have oil-and-gasoline resistant properties.

Coefficient of sliding friction along greased surfaces should be no less than 0.2.

The running gear of the sole should have a tensile strength of at least 180 N/cm and should not reduce it by more than 25 % for the entire service life.

The material of the sole of the shoe should have strength of at least 2 N/mm² and a hardness of not more than 70 Shore.

The strength of fastening the details of the bottom with the top of the shoe should be at least 58 N/cm for hot vulcanization and at least 70 N/cm for the casting method of fastening.

23.2.4. The toe cap

Polycarbonate, composite or metal with rubber seal, with anti-corrosion treatment. The toe cap should withstand a shock load of 200 J.

The internal gap of safety of a protective sock at impact with energy in 200 J should be no less than 20 mm.

23.2.5. Mandatory certification for compliance with: TR CU 019/2011.

23.2.6. Mandatory correspondence to: GOST 28507-99, GOST 12.4.137-2001.

23.2.7. Recommended additional information: GOST R EN ISO 20345-2011.

23.2.8. Designation

For protection against oils and petroleum products, mechanical effects, and general industrial pollution.

24. SPECIAL FOOTWEAR FOR PROTECTION AGAINST LOW TEMPERATURES, GENERAL INDUSTRIAL POLLUTION AND MECHANICAL INFLUENCES

24.1. LEATHER BOOTS, INSULATED WITH A PROTECTIVE TOE

24.1.1. Technical description

Leather high lace-up shoes with a protective toe cap.

Shoes should have: a soft pad under the tip, a profile of the sole, anti-slip, a blind valve to protect the foot from dust and dirt, a wide soft cuff.

At the request of the customer, the boots can have antistatic properties: the electrical resistance when measured in accordance with clause 5.10 of EN ISO 20344 should be > 100 kOhm ≤ 1000 MOhm.

At the request of the customer, shoes can have a special anti-puncture insole, which should provide a through-puncture resistance of at least 1,200 N.

24.1.2 Upper shoes

Genuine leather cattle with a thickness no less than 1.8 mm.

The joints of the shoe parts, except for the connection of the bottom to the top, should have a tensile strength of at least 120 N/cm.

24.1.3 Sole

Sole material: PU/TPU or PU/TPU/TPU, or PU/nitrile, or nitrile.

Method of sole attachment - casting or hot vulcanization.

The material should retain its protective properties when in contact with surfaces:

- from minus 35° C to 120° C if the sole with a running layer of TPU;
- from minus 40° C to 300° C (within 60 seconds) if the sole with a nitrile bed.

The profile of the sole should be at least 4 mm.

The sole should have oil-and-gasoline resistant properties.

Coefficient of sliding friction along greased surfaces should be no less than 0.2.

The running gear of the sole should have a tensile strength of at least 180 N/cm and should not reduce it by more than 25 % for the entire service life.

The material of the sole of the shoe should have strength of at least 2 N/mm² and a hardness of not more than 70 Shore.

The strength of fastening the details of the bottom with the top of the shoe should be at least 58 N/cm for hot vulcanization and at least 70 N/cm for the casting method of fastening.

24.1.4. The toe cap

Polycarbonate, composite or metal with rubber seal, with anti-corrosion treatment. The toe cap should withstand a shock load of 200 J.

The internal gap of safety of a protective sock at impact with energy in 200 J should be no less than 20 mm.

24.1.5. Neat retainer

Warm lining made of natural fur.

The value of thermal insulation in real conditions of use is no less than 0.332 m² ·°C/W for I-II climatic zone.

The value of thermal insulation in real conditions of use is no less than 0.422 m² ·°C/W for the III climatic zone.

24.1.6. Mandatory certification for compliance with: TR CU 019/2011.

24.1.7. Mandatory provision of test reports indicating the value of thermal insulation or a technical description of the manufacturer, certified by the manufacturer's sadness, recommending that the climatic zone should use shoes.

24.1.8. Mandatory correspondence to: GOST 28507-99, GOST 12.4.137-2001.

24.1.9. Recommended additional information: GOST R EN ISO 20345-2011.

24.1.10. Designation

For protection from oils and petroleum products, mechanical effects, general industrial pollution during the cold season.

24.2. LEATHER WARMED BOOTS WITH PROTECTIVE TOE CAP

24.2.1 Technical description

Leather boots with a protective toe cap.

Shoes should have: Boots should have: a soft pad under the toe, a profile of the sole, which prevents slipping. Boots can have an adjustable bootleg.

At the request of the customer, shoes can have a special anti-puncture insole, which should provide a through-puncture resistance of at least 1,200 N.

At the request of the customer, the boots can have antistatic properties: the electrical resistance when measured in accordance with clause 5.10 of EN ISO 20344 should be > 100 kOhm ≤ 1000 MOhm.

24.2.2. Upper shoes

Genuine cattle leather with a thickness of at least 1.8 mm for the main details of the top.

The joints of the shoe parts, except for the connection of the bottom to the top, should have a tensile strength of at least 120 N/cm.

24.2.3. Sole

Sole material: PU/TPU or PU/TPU /TPU, or PU/nitrile, or nitrile.

Method of sole attachment - casting or hot vulcanization.

The material should retain its protective properties when in contact with surfaces:

- from minus 35° C to 120° C if the sole with a running layer of TPU;
- from minus 40° C to 300° C (within 60 seconds) if the sole with a nitrile bed.

The profile of the sole should be at least 4 mm.

The sole should have oil-and-gasoline resistant properties.

Coefficient of sliding friction along greased surfaces should be no less than 0.2.

The running gear of the sole should have a tensile strength of at least 180 N/cm and should not reduce it by more than 25 % for the entire service life.

The material of the sole of the shoe should have strength of at least 2 N/mm² and a hardness of not more than 70 Shore.

The strength of fastening the details of the bottom with the top of the shoe should be at least 58 N/cm for hot vulcanization and at least 70 N/cm for the casting method of fastening.

24.2.4. The toe cap

Polycarbonate, composite or metal with rubber sealer and anticorrosion treatment. The toe cap should withstand shock impact of 200 J.

The internal gap of safety of a protective sock at impact with energy in 200 J should be no less than 20 mm.

24.2.5. Neat retainer

Warm lining made of natural fur, wool or other materials.

The value of thermal insulation in real conditions of use is no less than 0.332 m² ·°C/W for I-II climatic zone.

The value of thermal insulation in real conditions of use is no less than 0.422 m² ·°C/W for the III climatic zone.

24.2.6 Mandatory certification for compliance with: TR CU 019/2011.

24.2.7 Mandatory provision of test reports indicating the value of thermal insulation or a technical description of the manufacturer, certified by the manufacturer's sadness, recommending that the climatic zone should use shoes.

24.2.8 Mandatory correspondence to: GOST 28507-99, GOST 12.4.137-2001.

24.2.9 Recommended additional information: GOST R EN ISO 20345-2011.

24.2.10. Designation

For protection from oils and petroleum products, mechanical effects, general industrial pollution during the cold season.

24.3. ANTI-SLIPPERY MEANS FOR SHOES

24.3.1 Nozzle anti-skid for shoes 12 spikes (per pair), spikes in front

Removable rubber soles with small metal spikes (6 spikes each, 12 per pair).

Material: frost-resistant elastic rubber (down to minus 50° C).

Fastening on footwear by means of rubber loop locks - small on a sock, big on a heel.

12 steel galvanized spikes or studs with an aluminum alloy body, provided with a core of tungsten carbide alloy with cobalt.

The spikes are located at 6 in front of each nozzle.

Cross-grooved to increase bonding to the surface.

The universal size is from 36 to 45.

24.3.2 Nozzle anti-skid for shoes 20 spikes (per pair), studs all over the sole

Removable rubber soles with small metal spikes (10 spikes each, 20 per pair).

Material: frost-resistant elastic rubber (down to minus 50°C).

Fastening on footwear with the help of rubber locks, pulled on the toe and heel of shoes.

20 studs with inserts made of high-strength steel.

The spines are located 6 in the front part and 4 in the heel area on each nozzle.

Two size ranges: L (38-45 size), XL (42-50 size).

24.3.3 Neel attachment 10 spikes (per pair)

Material: thermoplastic elastomer (down to minus 50°C).

Presence of corrugation.

Fastening on footwear with the help of the lock from a belt tape (sling) with a fastener-Velcro. The fullness of the heel is regulated by removable locks.

10 spikes are made like automobile spikes with solid non-erectable inserts from tungsten carbide with cobalt.

The universal size is from 37 to 48.

24.3.4 Designation

They are worn on the sole of a warm special footwear in order to prevent industrial injuries in the conditions of ice and the anti-slip properties of winter footwear.

25. SPECIAL FOOTWEAR FOR PROTECTION FROM THERMAL RISKS OF ELECTRIC ARC

25.1. LEATHER BOOTS WITH A PROTECTIVE TOE CAP FOR PROTECTION FROM HIGH TEMPERATURES ON HEAT-RESISTANT OIL AND PETROL RESISTANT SOLES

25.1.1. Technical description

Leather shoes with laces with a protective toe cap.

Shoes should have: a soft pad under the tip, a profile of the sole, anti-slip, a blind valve to protect the foot from dust and dirt, a wide soft cuff.

Seams should be stitched with fire resistant threads.

Do not use metal fittings if the shoes are to be used to protect against risk of exposure to thermal effect of electric arc.

At the request of the customer, shoes can have a special anti-puncture insole, which should provide a through-puncture resistance of at least 1,200 N.

At the request of the customer, the boots can have antistatic properties: the electrical resistance when measured in accordance with clause 5.10 of EN ISO 20344 should be > 100 kOhm ≤ 1000 MOhm.

25.1.2. Upper shoes

Natural leather, cattle, heat-resistant, no less than 1.8 mm.

The joints of the shoe parts, except for the connection of the bottom to the top, should have a tensile strength of at least 120 N/cm.

25.1.3. Sole

Sole material: PU/nitrile or nitrile. Method of attachment - casting or hot vulcanization.

The material should retain its protective properties when exposed to surfaces with reduced (up to -35°C) and elevated (up to 300°C for 60 sec) temperatures.

The profile of the sole should be at least 4 mm.

The sole should have oil-and-gasoline resistant properties.

Coefficient of sliding friction along greased surfaces should be no less than 0.2.

The running gear of the sole should have a tensile strength of at least 180 N/cm and should not reduce it by more than 25 % for the entire service life.

The material of the sole of the shoe should have strength of at least 2 N/mm² and a hardness of not more than 70 Shore.

The strength of fastening the details of the bottom with the top of the shoe should be at least 58 N/cm for hot vulcanization and at least 70 N/cm for the casting method of fastening.

25.1.4. The toe cap

Polycarbonate or composite. The toe cap should withstand a shock load of 200 J.

The internal gap of safety of a protective sock at impact with energy in 200 J should be no less than 20 mm.

25.1.5. Mandatory certification for compliance with: TR CU 019/2011.

25.1.6. Mandatory correspondence to: GOST 28507-99, GOST 12.4.137-2001, GOST 12.4.032-95.

25.1.7. Recommended additional information: GOST R EN ISO 20345-2011.

25.1.8. Designation

Performance of technological operations with technological equipment and tools in conditions of exposure to elevated temperatures, as well as the use with the kit to protect against risk of exposure to thermal effect of electric arc under conditions of risk of electric arc.

26. SPECIAL FOOTWEAR TO PROTECT AGAINST WATER AND SOLUTIONS OF AGGRESSIVE SUBSTANCES

26.1. THE BOOTS MADE OF POLYMER MATERIALS WITH PROTECTIVE SHOE TOE

26.1.1. Technical description

The boots made of PVS cast plasticate plastic compound injection molding polyvinyl should be made using pressure die casting technique and have a protective shoe toe.

The boots should consist of thick cuff on the rim, inner textile lining, ribbed soles and heels.

The boots can be completed with a heat insulating liner.

The height of the boots should be no less than 380 mm.

At the customer's request the boots can have a special insole to protect from punctures which should have a resistance to the throughout puncture at least 1,200 N.

26.1.2. Upper shoes

PVC plasticate should be used for casting collar; polyamide thread or polyester yarn should be used to make a tube acting as a footwear insole.

Boot top thickness:

- toe part of collar is no less than 5.5 mm;
- the front part of collar should be no less than 2.0 mm;
- back part of collar should be no less than 3.5 mm;
- the lower part of the collar is no shorter than 1.5 mm;
- the upper part of the collar is no less than 2.0 mm.

Physics and mechanical indicators should correspond to the following values:

- relative strength no less than 8.0 MPa;
- relative elongation is no less than 300 %;
- relative residual strain at the break conditions is no more than 30%;
- change in the volume after applying 20% sulfuric acid is +0,3%;
- change in the volume after applying 20% alkali solution is -0.03%;
- changing the volume of sample by 8% after exposure to standard mixture of isooctane and toluene in a ratio of 7:3;
- Shore hardness no more than 60 arb. units.

26.1.3. Sole

A PVC plasticate having oil and petrol resistant properties can be used to mold soles.

The thickness of the sole:

- the soleplate in the sole part with reef should be no less than 8.5 mm high;
- the height of the heel measured together with the soleplate and reef should be no less than 22.0 mm.

Physics and mechanical indicators should correspond to the following values:

- relative strength no less than 8.5 MPa;
- relative elongation is no less than 260 %;
- relative residual strain at the break conditions is no more than 30%;
- wearing capacity no more than 180 m^3/TJ.
- change in the volume after applying 20% sulfuric acid is +0,3%;
- change in the volume after applying 20% alkali solution is -0.03%;
- changing the volume of sample by 7% after exposure to standard mixture of isooctane and toluene in a ratio of 7:3.
- Shore hardness no more than 80 arb. units.

26.1.4. The toe

Composite or metal. The toe cap should withstand an impact having 200 J load.

The internal safety clearance of the protective toe under an impact of 200 J should be no less than 20 mm.

26.1.5. Mandatory compliance certification: TR CU 019/2011.

26.1.6. Mandatory conformity: GOST 12.4.162-85, GOST 12.4.072-79.

26.1.7. Designation

Making process operations using process equipment and tools under the conditions of water effect, protection from the general industrial contamination and mechanical effects, as well as from solutions of inorganic acids having concentration up to 20% and alkalis (concentration up to 20%).

26.2. BOOTS MADE OF POLYURETHANE AND THERMOPLASTIC POLYURETHANE WITH PROTECTIVE SHOE TOE

26.2.1. Technical description

The boots of polyurethane and thermoplastic polyurethane should be made using a high-pressure casting technique having lining and ribbed reinforcements in the front part of collar and ankle, ribbed soles having a heel, shock shoe toe and insole protecting from punctures which should have resistance to the puncture equal to at least 1,200 N.

The boots can have a heat insulating liner made of nonwoven foil-clad linen, synthetic insulation, delaine fur (protecting from cold temperatures down to minus 30°C), or have insoles.

The height of the boots should be no less than 400 mm.

26.2.2. Upper shoes

The top of the boot should be made of polyurethane; it should have inner textile lining with polyurethane reinforcement.

Boot top thickness:

- upper part no less than 3 mm;
- lower part no thinner than 4 mm;
- toe part is no less than 5 mm.

Physics and mechanical indicators should correspond to the following values:

- relative strength no less than 5.0 MPa;

- relative elongation is no less than 500 %;
- relative residual deformation after tearing is no more than 30%;
- Shore hardness no higher than 55A;
- wearing capacity no more than 110 cm^3/kWh;
- changing the sample volume after keeping in liquid medium at 20±2°C during 24 hours, %:
- in 50% NaOH solution, no more than 3;
- in 50% of H2SO4 solution, no more than 2;
- changing the volume of sample by 10% after exposure to standard mixture of isooctane and toluene in a ratio of 7:3.

26.2.3. Sole

The sole should be cast from thermoplastic polyurethane.

Thickness:

- no less than 12 mm in the toe part together with the reef;
- the heel together with the sole and reef should be no thinner than 25mm.

Physics and mechanical indicators should correspond to the following values:

- relative strength no less than 25.0 MPa;
- relative elongation is no less than 700 %;
- relative residual deformation after tearing is no more than 60%;
- Shore hardness no higher than 70A;
- tearing capacity is no more than 80 cm^3/kWh.
- changing the volume of a sample by 8% after exposure to standard mixture of isooctane and toluene in a ratio of 7:3.

26.2.4. The toe should be made of polycarbonate or composite material. The toe cap should withstand an impact having 200 J load.

The internal safety clearance of the protective toe under an impact of 200 J should be no less than 20 mm.

26.2.5. Mandatory compliance certification: TR CU 019/2011.

26.2.6. Mandatory conformity: GOST 12.4.162-85

26.2.7. Designation

Making process operations using process equipment and tools under the conditions of water effect, protection from the general industrial contamination and mechanical effects, as well as from solutions of inorganic acids having concentration up to 50% and alkalis (concentration up to 40%).

27. PERSONAL HEAD PROTECTION EQUIPMENT. PROTECTIVE HARD HATS

27.1. GENERAL REQUIREMENTS

27.1.1. Falling objects are the cause of the inflicting head injuries In majority of cases. The protective hard hats are the most common mean of protecting the head and cervical vertebrae.

27.1.2. Along with the main function, i.e. protection of the head from impact, the hard hat should protect employees from mechanical effects, from burns, splashes of molten materials or chemicals, as well as from electrocution in event of accidental touching energized parts.

27.1.3. It is prohibited to engage in any kind of work with process equipment or using hand tools as well as to stay close to the area of making these works without wearing hard hats.

27.1.4. The following is prohibited when working in hard hats:

- use hard hats having expired warranty date;
- use hard hats without internals;
- modify the outer shell or internal fittings in the hard hat;
- carry any objects inside hard hats;
- paint hard hats or remove the marking stickers;
- drop and throw hard hats, use them as support or use hard hats not as intended;
- use metal hard hats and sports hard hats instead of protective hard hats;
- wear safety hard hat visor facing back.

27.1.5. Each protective hard hat should have indelible sign applied (engraving, embossing, etc.) showing the temperature range in which the hard hat can be used, as well as the level of eclectic insulating properties.

27.2. PROTECTIVE HARD HAT

27.2.1. Technical description

The body is made of high-strength material. Headband made from textile or plastic bands having 4-6 mounting points. Smooth (having increment no more than 5 mm) adjustment to the head ranging from size 51 to 62.

27.2.2. The hard hat should have:

- adjustable chin strap having width no less than 10 mm for proper fixing on the head;
- sweat absorbing insert in the front part of the headband;
- pockets for accommodating ear muffles, and shields;
- adequate space for ventilation above the head (vertical safe clearance should be no less than 25 mm);
- vents having the total area of which should be no less than 150 mm^2;
- marking is applied to the hard hat according to TR CU 019/2011.

Hard hat can have glasses attachment option with glasses sliding under the hard hat.

27.2.3. Main characteristics:

- resistance to punching having energy less than 30 J without visible changes on the hard hat surface;
- impact absorbing force that is transferred onto head should not exceed 5 kN under vertical impact having energy no less than 50 J applied to the hard hat body;
- electric conductivity - less than 1.2 mA at applied voltage of 1,200 V;

- Protection from short-term contact with electric conductors under voltage of 440 V;
- temperature range for applying hard hats is from minus 30°C to 50°C.

The white color is applied to hard hats worn by the Company employees permanently working at facilities and for visitors, including the Company employees temporarily arrived at the facilities. The duty hard hats should have inscription "Visitor".

27.2.4. Mandatory compliance certification: TR CU 019/2011.

27.2.5. Mandatory conformity: GOST EN 397-2012.

27.2.6. Designation

- work in areas having sign "Mandatory wearing hard hats";
- maintenance of process equipment;
- weight lifting work and movement of goods;
- repair and construction works;
- if there is a risk of head contacting hanging structure elements;
- when staying inside areas hosting operating electric power equipment, inside wells, chambers, canals and tunnels.

27.3. HEAT PROTECTING HARD HAT

27.3.1. Technical description

The body is made of heat-resistant high strength material. The internal fitting is made of heat-resistant materials having 6 mounting points. Smooth (having increment no more than 5 mm) adjustment to the head ranging from size 51 to 62.

27.3.2. The hard hat should have:

- adjustable chin strap having width no less than 10 mm for proper fixing on the head;
- seat absorbing leather inserts on the frontal part of the headband;
- pockets for accommodating ear muffles, and shields;
- adequate space for ventilation above the head (vertical safe clearance should be no less than 25 mm);
- marking is applied to the hard hat according to TR CU 019/2011.

Hard hat can have glasses attachment option with glasses sliding under the hard hat.

27.3.3. Main characteristics:

- resistance to effects of sparks and splashes of molten metal;
- resistivity to short-term effects of high temperatures and flame;
- resistivity to perforating action having energy no lower than 30 J without visible changes on the hard hat outer surface;
- impact absorbing force that is transferred onto head should not exceed 5 kN under vertical impact having energy no less than 50 J applied to the hard hat body;
- electric conductivity - less than 1.2 mA at applied voltage of 1,200 V;
- protection from a short-term contact with electric conductors energized with 1000 V;

- retaining the properties declared over the temperature range from minus 50°C to 150°C.

27.3.4. Mandatory compliance certification: TR CU 019/2011.

27.3.5. Mandatory conformity: GOST EN 397-2012.

27.3.6. Designation

Work under conditions of high temperatures, under exposure to splashes of molten metal, as well as work in area of possible contact of head with electric wiring.

27.4. THERMO RESISTANT HARD HAT WITH FACE PROTECTIVE VISOR HAVING HEAT RESISTANT TRIMMING

27.4.1. Technical description

The body is made of heat-resistant high strength material. The internal fitting is made of heat-resistant materials having 6 mounting points. Smooth (having increment no more than 5 mm) adjustment to the head ranging from size 51 to 62.

27.4.2. The hard hat should have:

- adjustable chin strap having width no less than 10 mm for proper fixing on the head;
- seat absorbing leather inserts on the frontal part of the headband;
- pockets for accommodating ear muffles, and shields;
- adequate space for ventilation above the head (vertical safe clearance should be no less than 25 mm);
- markings on the hard hat according to TR CU 019/2011.

Hard hat can have glasses attachment option with glasses sliding under the hard hat.

27.4.3. Main characteristics:

- resistivity to short-term effects of high temperatures and flame;
- resistivity to perforating action having energy no lower than 30 J without visible changes on the hard hat outer surface;
- impact absorbing force that is transferred onto head should not exceed 5 kN under vertical impact having energy no less than 50 J applied to the hard hat body;
- electric conductivity - less than 1.2 mA at applied voltage of 1,200 V;
- protection from a short-term contact with electric conductors energized with 1000 V;
- retaining the properties declared over the temperature range from minus 50°C to 150°C.

Hard hat should be put on a heat-resistant hardhat liner.

27.4.4. The heat-resistant protective screen (protective shield)

The shield should be made of polycarbonate with thickness no less than 1.4 mm; it should have a mandatory presence of a heat-resistant reinforcement skirting made of electric insulating material. The shield should not have metal parts. The shield should be resistant to mechanical impacts having kinetic energy no less than 5.9 J (the average power blow). The shield should be resistant to effect of short circuit arc (mark 8 on the lens). The shield should be transparent, dimming is not allowed. The sight-glass should not have an optical effect causing deterioration of visual perception.

The shield should have the mounting compatible with the hard hat in accordance with the manufacturer recommendations.

27.4.5. Mandatory compliance certification: TR CU 019/2011.

27.4.6. Mandatory conformity: GOST EN 397-2012.

27.4.7. Designation

Protection of a worker from thermal effects of electric arc when engaged in the maintenance and repair of electric equipment and under elevated risk of developing electric arc.

27.5. HARD HATS FOR WORK AT HEIGHT

27.5.1. Technical description

The body is made of high-strength material. Headband should be made of textile straps having 6 mounting points. Adjusting the head size should be made using ratchet mechanism.

The internal tooling should be removable and have a device for mounting to hard hats.

27.5.2. The hard hat should have:

- short visor;
- adjustable chin strap having width no less than 10 mm and 4 mounting points for proper mounting on head;
- chin strap with quickly fastening and adjustable buckle;
- knitted insert in the front, back of the head and top of the head areas as well as on the chin strap;
- temperature range for applying hard hats is from minus 40°C to 50°C.

27.5.3. Hard hat can have:

- the option for securing the shield, ear muffles, and the light;
- vents should be protected by special plugs.

27.5.4. Mandatory compliance certification: TR CU 019/2011.

27.5.5. Mandatory conformity: GOST EN 397-2012.

27.5.6. Recommended to make additional compliance certification: EN 12492.

27.5.7. Designation

For protecting head when engaged in work at height from injuries caused by shifting hard hats, falling objects or hits against objects and structures.

27.6. PROTECTIVE CAP

27.6.1. Technical description

Protective cap consists of a plastic insert with a shock absorbing layer of foamed material. Top - textile.

Bump hat can have an adjustable head strap for proper mounting on the head, its width should be no less than 10 mm and mounting arrangements should collapse under a load no less than 150 N and no higher than 250 N.

27.6.2. Protective cap should:

- should have vents next to the plastic inserts;
- ensuring natural ventilation of the internal space;

- have the option of applying the company logo using thermal application or embroidery method.

27.6.3. Main characteristics:

The bump hat should deliver absorbed maximum force on the head no higher than 10 kN when the energy impact is no less than 12.5 J; in case of contacting sharp objects there should be no contact between sharp objects and the head for impact energy no less than 2.5 J.

Visor length 50-75 mm.

27.6.4. Mandatory conformance declaration: TR CU 019/2011.

27.6.5. Mandatory conformity: GOST 12.4.255-2013

27.6.6. Recommended additional certification: EN 812.

27.6.7. Designation

For protecting head from hitting hard and immobile objects.

27.7. SUMMER HELMET LINER MADE OF FIRE-RESISTANT MATERIALS

27.7.1. Fabric and materials

The material composition:	Materials having permanent heat-resistant properties: 100% chemical heat-resistant fibers or 100% cotton with flame-retarding finish or mixed composition featuring the flame-retarding finish
Surface density, g/m², no lower than:	200
Fire resistance after 5 washing cycles: - time of residual burning or smoldering, sec, no more than - the length of charred section, mm, no more than	 2 100
The flame transfer index after 5 and 50 washing cycles, sec, no less than:	3

27.7.2. Mandatory compliance certification: TR CU 019/2011.

27.7.3. Mandatory conformity: GOST R 12.4.234-2012, GOST ISO 11612-2014.

27.7.4. Designation

Heat resistant hardhat liner should be put underneath a heat-resistant hard hat to protect the head, neck and upper part of the collar zone from burns in the event electric arc develops. It is also used by the staff servicing highly flammable facilities in accordance with requirements set forth in instruction of the Ministry of Health and Social Development of the Russian Federation No 997n dated December 9, 2014.

27.8. WINTER HELMET LINER MADE OF FIRE-RESISTANT MATERIALS

27.8.1. Technical description

Hardhat liner made of fire resistant knitted fabric.

27.8.2. Fabric and materials

The material composition:	Materials having permanent heat-resistant properties: 100% chemical heat-resistant fibers or 100% cotton with flame-retarding finish or mixed composition featuring the flame-retarding finish
Surface density, g/m², no lower than:	200
Fire resistance after 5 washing cycles: - time of residual burning or smoldering, sec, no more than - the length of charred section, mm, no more than	 2 100
The flame transfer index after 5 and 50 washing cycles, sec, no less than:	3

27.8.3. Mandatory compliance certification: TR CU 019/2011.

27.8.4. Mandatory conformity: GOST R 12.4.234-2012, GOST ISO 11612-2014.

27.8.5. Designation

The heat insulating liner is worn underneath the a heat-resistant hard hat to protect the head, neck and upper part of the collar zone from burns in event of a potential development of electric arc in the cold season. It is also used by the staff servicing highly flammable facilities in accordance with requirements set forth in instruction of the Ministry of Health and Social Development of the Russian Federation No 997n dated December 9, 2014.

27.9. THE KNITTED HAT

27.9.1. Technical description

Headpiece of the sports model made of knitted cloth with turn-up cuff. The inner part with heat insulation.

Material: knitted cloth, acrylic 100 %.

Thermal insulation: on the basis of heat insulating synthetic materials.

27.9.2. Mandatory conformance declaration: TR CU 017/2011 or TR CU 019/2011.

27.9.3. Designation

To protect head at cold temperature. It is allowed to be worn under the hard hat during cold season.

27.10. WINTER FUR CAP WITH HARD HAT MOUNTING

27.10.1. Technical description

The top material: 100% polyamide or polyester, membrane fabric, density is no lower than 145 g/m².

Heat insulation: based on synthetic insulating materials with density no less than 150 g/m².

Lining: fleece or flannel, sheep wool.

27.10.2. Mandatory conformance declaration: TR CU 017/2011 or TR CU 019/2011.

27.10.3. Designation

To protect head at cold temperature. It is allowed to be worn under the hard hat during cold season.

28. PERSONAL PROTECTIVE EQUIPMENT FOR HANDS. PROTECTIVE GLOVES

28.1. GENERAL REQUIREMENTS

28.1.1. Hand PPE is intended to protect the palms of hands or part of palms from external effects.

28.1.2. PPE protecting hands are used to protect hands from potentially hazardous factors and substances, for example, against mechanical impacts, from low temperatures, from thermal risks of electric arc, from contact with oil and oil products, from chemicals, and their solutions, and so on.

28.1.3. General requirements to PPE should comply with GOST 12.4.252-2013 or EN 420:

- PPE protecting hands should comply with its intended purpose;
- PPE protecting hands should not be harmful to the workers' health. Design, materials used or any damage inflicted to the gloves when operating under normal conditions should not be hazardous to the health and hygiene of PPE owners. The material to make PPE protecting hands should contain no substances that can cause allergic reactions;
- seams available on hand worn PPE should not interfere with making working operations;
- specific requirements to storage should be provided for each type of PPE to protect hands;
- Hand protecting PPE should be consistent in size using Classification contained in regulatory documentation for a relevant type of PPE;
- the user guidelines should contain detailed outline on using the product, information about possible allergic reactions and the type of packaging.

28.1.4. PPE should be labeled in compliance with TR CU 019/2011. Marking is applied directly on the product and on its packaging.

28.1.5. If the marking cannot be applied directly onto the product, it is applied to a hard-to-remove sticker attached to the product. In case it is not possible to apply marking in full scope directly on the product it is allowed skipping the application of a part of information in the marking provided that the information required is indicated on the product individual packaging and on a label which is attached to the product and is hard to remove.

28.1.6. Marking applied directly to the product or to the hard-to-remove sticker attached to the product, should contain the following:

- the product name and/or the name of the model, code and number (if available).
- the name of the manufacturer and/or its trademark (if available).
- protective properties;
- the size (if available).
- designation TR CU 019/2011 specifying requirements to be met by an personal protection equipment;
- unified sign of turnover at the market of the Customs union member states;
- the date (month, year) of manufacturing or the date of expiry operating lifetime if it is established;
- information about the document which was followed in manufacturing the individual protection equipment;
- other information in accordance with the manufacturer's documentation.

28.1.7. Marking applied to the packaging of the product, should contain the following:

- the product name and/or the name of the model, code and number (if available).
- the country of manufacturing;
- the name, legal address and brand (if available) of the manufacturer;
- designation TR CU 019/2011 specifying requirements to be met by an personal protection equipment;
- the size (if available).
- product protective properties;
- the manufacture date and/or the date when the service life expires, if the dates are specified;
- unified sign of turnover at the market of the Customs union member states;
- information about the document which was followed in manufacturing the individual protection equipment;
- other information in accordance with the manufacturer's documentation.

28.1.8. The marking (Figure 1) should be legible over the period of using the gloves. It is prohibited to use of gloves without marking.

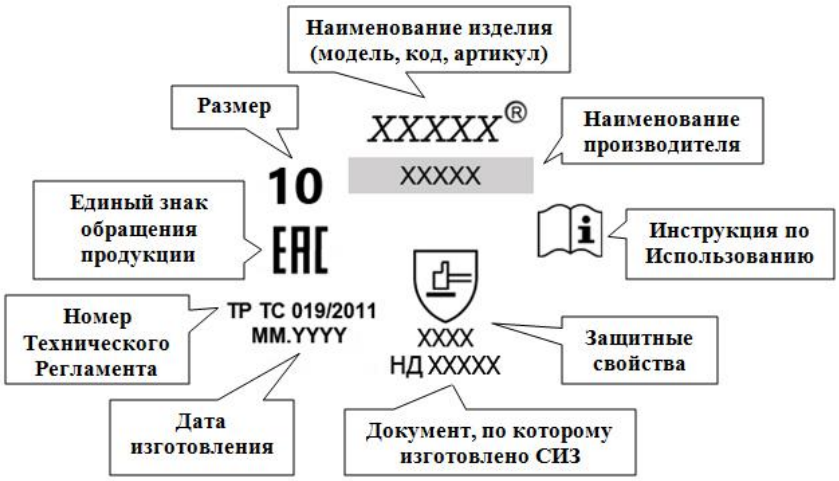


Figure 1. An example of applying marking

28.1.9. Examples of different icons indicating protective properties of gloves are given in Appendix 5.

28.1.10. The value of the digital index using example of GOST EN 388-2012:

- The 1-st digit indicates the abrasion resistance (from 0 to 4); the higher the number the higher the abrasion resistance;
- The 2-nd figure indicates the resistance to cutting (from 0 to 5); the higher the number the higher the cut resistance;
- the 3-d figure indicates the rip resistance (from 0 to 4); the higher the number the higher force should be applied to rip the gloves;

- the 4th digit indicate resistance to puncture (from 0 to 4). It is determined using the maximum force required to puncture the glove.

28.1.11. The minimum requirements for each level

Testing	Level 1	Level 2	Level 3	Level 4	Level 5
Abrasion resistance (number of cycles).	100	500	2000	8000	
Cut resistance (index)	1.2	2.5	5.0	10.0	20.0
Rip resistance (N)	10	25	50	75	
Resistance to puncture (N)	20	60	100	150	

28.2. KNITTED GLOVES HAVING SPOT COATING

28.2.1. Technical description

Five-finger knitted gloves with knitted cuffs, bound with braid and having point polymer coating. The length of the gloves from 240 mm to 280 mm.

Base: cotton jersey or mixed fiber.

Cover layer - PVC.

Knitting class no lower than 10.

Gloves should comply with the following minimum specifications:

- resistance to abrasion - level 2;
- cut resistance - level 1;
- tear resistance - level 4.

Recommended operating temperature range: from minus 5°C to 30°C.

28.2.2. Mandatory conformance declaration: TR CU 019/2011.

28.2.3. Mandatory conformity: GOST EN 388-2012, GOST 12.4.252-2013.

28.2.4. Recommended to make additional compliance certification: EN 420, EN 388.

28.2.5. Designation

All kinds of light work with process equipment and hand tools (packaging, assembly, etc.).

28.3. THE GLOVES HAVING POLYMER COATING (FOR UNSKILLED WORK)

28.3.1. Technical description

Five-finger sawn gloves made of cotton knitted cloth having knotted cuffs or stitched collars and nitrile coating. Gloves should have oil and petrol resistant and antistatic properties. The length of the gloves from 230 mm to 320 mm.

Basis: knit cotton.

Coating - nitrile.

Gloves should comply with the following minimum specifications:

- resistance to abrasion - level 4;
- resistance of cut - level 2;

- rip resistance - level 2;
- resistance to puncture - level 1.

Recommended operating temperature range: from minus 10°C to 45°C.

Antistatic properties.

28.3.2. Mandatory compliance certification: TR CU 019/2011.

28.3.3. Mandatory conformity: GOST EN 388-2012, GOST 12.4.252-2013.

28.3.4. Recommended to make additional compliance certification: EN 420, EN 388.

28.3.5. Designation

All kinds of heavy work with the process equipment and with hand tools dealing with to contacting sharp, greased objects and abrasive materials.

28.4. THE GLOVES HAVING POLYMER COATING (NYLON, SEAMLESS)

28.4.1. Technical description

Five-finger nylon knitted seamless gloves having polymer coating. The length of the gloves from 200 mm to 275 mm.

Base: Nylon or nylon with spandex.

Coating: nitrile or foamed nitrile.

Knitting class no lower than 13.

Gloves should comply with the following minimum specifications:

– resistance to abrasion - level 3;
– cut resistance - level 1;
– rip resistance - level 2;
– resistance to puncture - level 1.

Recommended operating temperature range: from minus 10°C to 45°C.

28.4.2. Mandatory compliance certification: TR CU 019/2011.

28.4.3. Mandatory conformity: GOST EN 388-2012, GOST 12.4.252-2013.

28.4.4. Recommended to make additional compliance certification: EN 420, EN 388.

28.4.5. Designation

All kinds of light precision work with process equipment and with hand tools (light assembly work, warehouse operations, etc.).

28.5. THE GLOVES HAVING POLYMER COATING (TO PROTECT FROM CUTS)

28.5.1. Technical description

Five-finger knitted seamless gloves made of nylon having polymeric coating and knitted cuff. The length of the gloves from 200 mm to 270 mm.

The base: nylon, cut-resistant polyethylene fibers or mixed cut-resistant fibers.

Coating: nitrile or polyurethane.

Gloves should comply with the following minimum specifications:

- resistance to abrasion - level 4;

- cut resistance - level 3;
- rip resistance - level 4;
- Resistance to puncture - level 2.

Recommended operating temperature range: from minus 10°C to 45°C.

Antistatic properties.

28.5.2. Mandatory compliance certification: TR CU 019/2011.

28.5.3. Mandatory conformity: GOST EN 388-2012, GOST 12.4.252-2013.

28.5.4. Recommended to make additional compliance certification: EN 420, EN 388.

28.5.5. Designation

All types of medium heavy work involving process equipment and hand tools (the work with the parts having sharp edges, assembling metal parts and components, etc.).

28.6. LEATHER GLOVES

28.6.1. Technical description

The five-finger gloves sawn made of natural leather (having thickness no less than 1.1 mm).

28.6.2. Mandatory compliance certification: TR CU 019/2011.

28.6.3. Mandatory conformity: GOST EN 388-2012, GOST 12.4.252-2013.

28.6.4. Recommended to make additional compliance certification: EN 420, EN 388.

28.6.5. Designation

All types of works with the process equipment and hand tools.

28.7. THE GLOVES HAVING POLYMER COATING OIL AND COLD RESISTANT

28.7.1. Technical description

Five-finger gloves having heat protecting basis, with knitted cuffs or with short rigid gauntlet having oil and frost resistant properties. The gloves should have anti-static properties. The length of gloves should be no smaller than 265 mm.

Basis: knit cotton.

Coating: polyvinyl chloride

Gloves should comply with the following minimum specifications:

- resistance to abrasion - level 3;
- cut resistance - level 1;
- rip resistance - level 2;
- resistance to puncture - level 1;
- resistance to convective cold - level 1;
- resistance to the contact with cold - level 1.

Recommended operating temperature range: from minus 40°C to 0°C.

It is used with heat insulating inserted gloves made of synthetic or woolen fibers.

28.7.2. Mandatory compliance certification: TR CU 019/2011.

28.7.3. Mandatory conformity: GOST EN 388-2012, GOST EN 511-2012, GOST 12.4.252-2013.

28.7.4. Recommended to make additional compliance certification: EN 420, EN 388, and EN 511.

28.7.5. Designation

All kinds of work with heavily contaminated equipment and with hand tools, protection from moisture and oil during the cold season.

28.8. WOOLEN GLOVES (INSERTS)

28.8.1. Technical description

Knitted five-finger knitted gloves made of wool (no less than 70%) and synthetic fibers (acrylic or polyester) no more than 30%.

28.8.2. Mandatory conformance declaration: TR CU 017/2011.

28.8.3. Designation

Hand protection from lower temperatures during cold season. They can be used as a heat insulating inserts for the gloves having polymer coating to be used below freezing.

28.9. HEAT-RESISTANT GLOVES

28.9.1. Technical description

Heat-resistant gloves, knitted, five-fingered. The length of the gloves from 220 mm to 280 mm.

Knitting class no lower than 7.

Composition of material: fiber made of high-strength heat-resistant aramid.

Gloves should comply with the following minimum specifications:

- resistance to abrasion - level 2;
- cut resistance - level 5;
- rip resistance - level 4;
- resistance to contact heat - level 1.

28.9.2. Mandatory compliance certification: TR CU 019/2011.

28.9.3. Mandatory conformity: GOST EN 388-2012, GOST EN 407-2012, GOST 12.4.252-2013.

28.9.4. Recommended to make additional compliance certification: EN 420, EN 388, and EN 407.

28.9.5. Designation

For use with the kit protecting from electric arc.

28.10. LATEX GLOVES

28.10.1. Technical description

Elongated five-finger rubber gloves having inside cotton sputtering and ribbed palm surface.

The thickness of material is no less than 0.75 mm. The length of gloves should be no smaller than 300 mm.

Material: 100% latex (natural rubber).

Sputtered with the following: cotton fiber

Gloves should comply with the following minimum specifications:

- cut resistance - level 1;
- rip resistance - level 2;
- resistance to puncture - level 1;
- AQL: 0.65.

Recommended operating temperature range: from 0°C to 30°C.

28.10.2. The obligatory presence of AQL mark indicating chemical resistance class.

28.10.3. Mandatory compliance certification: TR CU 019/2011.

28.10.4. Mandatory conformity: GOST 12.4.278-2014, GOST EN 388-2012, GOST 12.4.252-2013.

28.10.5. Recommended to make additional compliance certification: EN 420, EN 374, and EN 388.

28.10.6. Designation

For work with process equipment containing acids having concentrations up to 70% and alkalis with concentration up to 40 %, inorganic solvents, alcohols and toxic substances.

28.11. GLOVES MADE FROM POLYMER MATERIALS, CHEMICALLY RESISTANT (NITRILEBUTADYENE)

28.11.1. Technical description

Elongated five-finger gloves with cotton sputtering from inside or having the base made of synthetic materials with ribbing or having textured surface on the palm part.

The thickness of material is no less than 0.38 mm. The length of gloves should be no smaller than 305 mm.

Material: nitrile.

Base: synthetic, cotton materials or cotton sputtering.

Gloves should comply with the following minimum specifications:

- resistance to abrasion - level 4;
- cut resistance - level 1;
- rip resistance - level 0;
- resistance to puncture - level 1.

Recommended operating temperature range: from minus 15°C to 40°C.

28.11.2. The obligatory presence of JKL mark indicating chemical resistance class.

28.11.3. Mandatory compliance certification: TR CU 019/2011.

28.11.4. Mandatory conformity: GOST 12.4.278-2014, GOST EN 388-2012, GOST 12.4.252-2013.

28.11.5. Recommended to make additional compliance certification: EN 420, EN 374, and EN 388.

28.11.6. Designation

To work with the equipment in the presence of acids having concentration up to 80% and alkalis with concentrations up to 40 %, inorganic and organic solvents, having oil-and-petrol resistant properties.

28.12. DISPOSABLE GLOVES FOR LABORATORY WORK (LATEX)

28.12.1. Technical description

Five-finger film gloves.

Material thickness of material is no less than 0.10 mm. The length of gloves should be no smaller than 240 mm.

Material: 100% latex (natural rubber).

The cuff: having thick ring

28.12.2. Mandatory compliance certification: TR CU 019/2011.

28.12.3. Mandatory conformity: GOST 12.4.278-2014, GOST 12.4.252-2013.

28.12.4. Recommended to make additional compliance certification: EN 420, EN 374.

28.12.5. Designation

To work in laboratories having equipment operating with acids and alkali of up to 30% concentration.

28.13. DISPOSABLE GLOVES FOR LABORATORY WORK (MADE OF NEOPRENE)

28.13.1. Technical description

Five-finger gloves having surface ribbing on the finger part.

The thickness of material is no less than 0.13 mm. The length of gloves should be no smaller than 240 mm.

Material: neoprene (isoprene rubber).

The cuff: having thick ring

28.13.2. Mandatory compliance certification: TR CU 019/2011.

28.13.3. Mandatory conformity: GOST 12.4.278-2014, GOST 12.4.252-2013.

28.13.4. Recommended to make additional compliance certification: EN 420, EN 374.

28.13.5. Designation

To work in laboratories having equipment operating with acids and alkali of up to 30% concentration.

28.14. DISPOSABLE GLOVES FOR LABORATORY WORK (MADE OF NITRILE)

28.14.1. Technical description

Five-finger gloves having surface ribbing on the finger part.

Material thickness of material is no less than 0.10 mm. The length of gloves should be no smaller than 240 mm.

Material: nitrile.

The cuff: having thick ring

28.14.2. Mandatory compliance certification: TR CU 019/2011.

28.14.3. Mandatory conformity: GOST 12.4.278-2014, GOST 12.4.252-2013.

28.14.4. Recommended to make additional compliance certification: EN 420, EN 374.

28.14.5. Designation

To work in laboratories having equipment operating with acids and alkali of up to 30% concentration.

28.15. DISPOSABLE OVER SLEEVES MADE OF POLYMER MATERIALS

28.15.1. Technical description

Over sleeves protecting hands from the wrists to the elbow area having cylindrical shape and an elastic ribbon at the lower and the upper edge. The length of over sleeves should be no less than 460 mm, the thickness no less than 0.2 mm. Protective sleeves having side stitches.

Material: polyvinyl chloride.

28.15.2. Designation

Work with heavily contaminated process equipment, protection against acids and alkalis, oil-and-petrol resistant.

29. PERSONAL SKIN PROTECTION EQUIPMENT; CRÈMES AND PASTES

29.1. GENERAL REQUIREMENTS

29.1.1. Rules, procedures and conditions for having over soap, protective hand creams, cleaning paste and regenerating revitalizing hand cream are approved by Instruction of the Ministry of Health and Social Development in Russia No. 1122n.

29.1.2. SPE should comply with the following requirements: TP CU 019/2011, of this standard. It is recommended to have voluntary certificates to confirm compliance with GOST 12.4.068-79, GOST 31460-2012, GOST 31696-2012, and GOST 31679-2012.

29.1.3. The products should have reports available on results of microbiological tests, tests for clinical and laboratory safety, toxic safety and the level of toxic compounds in accordance with Item 4.14, Sub-clause 2 of TP CU 019/2011.

29.1.4. SPE should not have general toxic, skin-resorptive, or sensitizing effect which should be confirmed by reports of research tests and expert opinions made by accredited laboratories as provided in requirements set forth in TR CU 019/2011 Item 4.14, Sub-Item 13. The presence of the safety passports for the products.

29.1.5. In accordance requirements set forth in Item 4.14 Sub-Item 1 of CU 019/2011, SPE should have articulated efficiency to protect from harmful industrial factor to be confirmed by research reports or expert opinion generated by an accredited company.

29.1.6. SPE from exposure to low temperatures (creams applied to hands and face to protect from frostbite) should be resistant to low temperatures and they should withstand no less than 6 cycles of freezing and thawing (from minus 20°C to 20°C) to be confirmed by relevant reports of laboratory tests, carried out in accordance with requirement set forth in Item 4.14, Sub-Item 7 of TR CU 019/2011.

29.1.7. The presence of control for the first opening the tube to avoid the risk of unauthorized opening as well as the presence of the "Flip-top" cover to simplify using it by one hand.

29.2. REQUIREMENTS TO SPE COMPOSITION.

29.2.1. The composition of protective and regenerating creams should not contain silicones and silicone components. Composition of protective and regenerating creams should include components providing nutrition, hydration and regeneration of skin cells (for example, such as: panthenol, allantoin, extract aloe vera, vitamin E and others).

29.2.2. Storage life should be no less than 30 months from the product manufacturing date.

29.2.3. The following preservatives are allowed to minimize the risk of allergic diseases in creams, emulsions and pasts: sodium benzoate, potassium sorbate, sorbic acid, and phenoxyethanol.

29.2.4. Cleaning pastes should not contain soap, solvents, silicone and silicone containing components. It is permitted to have natural, not irritating the skin, abrasive components (bioscrubs) included into composition that underwent antibiotic treatment. It is not allowed in to contain abrasive substances of synthetic origin in paste recipe to minimize the risk of skin micro injuries.

29.2.5. Creams, emulsions, cleaning pastes, purified abrasive matter should comply with norms of microbiological purity: they should contain no more than 100 reproductive organisms per gram of the product to be confirmed by the protocols of research into microbiological purity.

29.2.6. To avoid the risk of allergic diseases and irritating effect on skin it is not allowed to have the following components in recipes of creams, emulsions and pastes: 2-bromo-2-nitropropane-1,3 methylisothiasolinone and methylchloroisothiazolinon (having risk of developing allergic reactions); sodium alkyl sulfate C12-18 (C11-18); cocoamidopropyl betaine; prabenes; triethanol amine and natural abrasives not passed through antibiotic treatment.

29.2.7. Liquid detergents are not allowed containing solvents and abrasive substances.

29.3. REQUIREMENTS TO LABELING

29.3.1. SPE marking should be applied in Russian in legible and easily to read letters.

29.3.2. The information should be displayed it convenient for reading locations on consumer packaging, on label, on the cover or in leaflet.

29.3.3. The marking should be resistant to external effects when storing, transporting, supplying and using products for their intended purpose.

29.3.4. The marking should include:

- SPE name;
- Designation of SPE
- name of the manufacturer and its location;
- the name of the country and/or the place of origin of the product;
- the manufacturer’s trademark (if available).
- the number (pieces), the net mass (kg), volume (ml, L, cm^3);
- the composition of the product in Russian; it is permitted at discretion of the manufacturer, in accordance with the international nomenclature of cosmetic ingredients (INCI) using the Latin letters;
- storage conditions (for products requiring special storage conditions);
- shelf life;
- the regulatory or technical document (TR CU) which is followed to make SPE;
- unified sign of turnover at the market of the Customs union member states;
- information on application and warnings.

29.3.5. Every individual package should bear in obligatory manner a batch number of the product, as well as information on expiry date. The phrase "Fit to purpose (to be used) until (month, year)" or phrase "Lifetime... (months, years) should be used to specify BPE expiry date. The manufacturing date (month, year)", in accordance with requirements set forth in Item 4.15 CU 019/2011.

29.4. THE REQUIREMENTS TO THE DOCUMENTS CONFIRMING THE QUALITY OF THE PRODUCT

29.4.1. All suppliers SPE protecting skin from harmful factors under industrial conditions should provide with the products a mandatory certificate of compliance with TR CU 019/2011, expert opinions of accredited centers confirming efficiency of SPE, expert opinions of accredited laboratories on absence of skin-resorptive effects according to requirements set forth in TP 019/2011 TC P 4.14 Sub-Item 1 and Sub-Item 13.

29.4.2. SPE production should be certified to ISO 9001 for facilities making cosmetics, as well as ISO 14001 and comply with GMP. Certification of SPE production should comply with international quality standards ISO 9001.

29.5. PROTECTIVE CREAM

29.5.1. Technical description

The cream should develop a protective barrier on the skin and have a caring effect; it can contain panthenol and glycerin and vitamin E - tocopheryl acetate and natural components. It should be easy to apply, quick to soak into skin, it should leave moisturizing feeling, and have high protective properties at minimum consumption.

Protective creams should have specific efficiency as required by TR CU 019/2011 Item 4.14 Sub-Item 1 to be confirmed by reports of testing carried out in accredited laboratories or in accredited research centers.

In accordance with requirements set forth in TR CU 019/2011 Item 4.14 Sub-Item 2 the safety in protective creams is caused by meeting a combination of requirements to the composition, by microbiological indicators, by the level of content of toxic elements, toxicological and clinical and laboratory safety.

Protective creams should not have skin-resorptive, irritating or sensitizing effect according to requirements set forth in TR CU 019/2011 Item 4.14, Sub-Item 13 which should be confirmed by reports of test made by accredited laboratories.

The following ingredients are not allowed to be contained in protective creams compositions to avoid the risk of allergic reactions and skin irritating effects:

- silicone and its derivatives;
- mineral abrasives.
- organic solvents;
- tri-ethanol amine;
- methylchloroisothiazolinone and methylisothiasolinone;
- toxic compounds;
- petroleum jelly;
- 3-(dodeconail amine) propyl (dimethyl) amino acetate.

The effectiveness and good tolerability of creams and emulsions by skin, and their microbiological purity should be confirmed by independent experts, as well as by tests and compatibility studies to be conducted for the products contacting human skin.

The following preservatives are allowed: sodium benzoate, potassium sorbate, sorbic acid, and phenoxyethanol to minimize the risk of developing allergic diseases.

Microbiological purity of creams and emulsions: no more than 100 reproductive microorganisms per gram of the product.

Shelf life: no less than 30 months.

29.5.2. Mandatory compliance certification: TR CU 019/2011, GOST 31460-2012.

29.5.3. Mandatory conformity: GOST 12.4.068-79

29.5.4. Designation

- hydrophilic creams protecting hand and face skin and facilitating cleaning from oil and water insoluble materials (oil, paint, varnish, glue, resin, graphite, metal and coal dust, soot, fuel oil, machining fluid) and organic solvents (gasoline, lacquer and rubbing varnish thinners, distillation substances, promoters and cleaners);
- hydrophobic creams (emulsions) protecting hand and face skin in any areas where protection from water-soluble substances and solutions is required (work with water-based machining fluid according to processes charts and processing metal, glass, ceramics; work with cleaning and disinfecting agents, cement, lime, fertilizers, work in the laboratory with the following substances: chemical solutions of acids, alkalis, salts, etc.), as well as top provide additional protection of hands and prevent perspiration under gloves (having no natural lining) and while working in closed footwear;
- combined action creams protecting skin in changing work conditions provide for protection from both water insoluble (soot, metal dust, glue, organic solvents, lubricant oils) and from water-soluble process materials (water, aqueous solutions of acids, alkalis, salts, lime, cement, and fertilizers).

29.6. MEANS TO PROTECT SKIN FROM NEGATIVE EFFECTS OF ENVIRONMENT (FROM SKIN IRRITATION AND DAMAGE)

29.6.1. Technical description

Light protection cream having wide protection spectrum should ensure protection of the areas of the body from UV-radiation (having protection factor SPF-30 to be confirmed by a report form an independent laboratory); it should also have the property of smooth application to the surface of the skin, it should have pronounced water-repellent properties.

In accordance with requirements set forth in TR CU 019/2011 Item 4.14 Sub-Item 2 the safety in protective creams is caused by a combination of requirements to be met by composition, microbiological indicators, level of content of toxic elements, toxicological and clinical and laboratory safety.

Protective creams should not have skin-resorptive, irritating or sensitizing effect according to requirements set forth in TR CU 019/2011 Item 4.14, Sub-Item 13 which should be confirmed by reports of test made by accredited laboratories.

The cream should have a protective factor no lower than 30.

The cream should have a wide range of protective action providing protection against UV radiation and range A (320-400 nm), B (280-320 nm) and C (under intensive welding work).

The cream should contain light filters.

The following ingredients are not allowed to be contained in protective creams compositions to avoid the risk of allergic reactions and skin irritating effects:

- silicone and its derivatives in amount of more than 10% of the total recipe volume;
- parabens;
- mineral abrasives.

- organic solvents;
- tri-ethanol amine;
- methylchloroisothiazolinone and methylisothiasolinone;
- toxic compounds;
- petroleum jelly;
- 3-(dodeconail amine) propyl (dimethyl) amino acetate.

In addition to protective properties it should have a caring effect. Should contain components such as: extract of aloe vera, panthenol, glycerin, allantoin, and others.

The following preservatives are allowed: sodium benzoate, potassium sorbate, sorbic acid, and phenoxyethanol to minimize the risk of developing allergic diseases.

Microbiological purity of creams and emulsions: no more than 100 reproductive microorganisms per gram of the product.

Shelf life: no less than 30 months.

29.6.2. Mandatory compliance certification: TR CU 019/2011, GOST 31460-2012.

29.6.3. Mandatory conformity: GOST 12.4.068-79

29.6.4. Designation

The cream should provide effective protection from UV rays at exposure to intensive solar radiation, for example, when the work is conducted in open air the cream applied should not inflict damage to the skin (cause erythemas) and should not cause deferred consequences (result in premature aging of skin, trigger the development of skin cancer).

29.7. MEANS TO PROTECT FROM HARMFUL BIOLOGICAL FACTORS (HAVING DISINFECTING PROPERTIES)

29.7.1. Technical description

The disinfectant with caring and moisturizing compounds.

The degree of microbial disinfection of composition should correspond to degree that can be reached during hygienic hand disinfection by through rubbing the sanitizing composition into the hand skin.

The composition can contain denatured ethyl alcohol, isopropyl alcohol or chlorhexidine bigluconate as an active disinfecting component.

The composition should have caring and moisturizing effect, and it should be composed of caring components. It can contain active components (e.g., extract of aloe vera, chamomile extract, winterbloom extract, panthenol, glycerin, etc.).

Disinfectants should have a focused efficiency according to requirements set forth in TR CU 019/2011 Item 4.14 Sub-Item 1 to be confirmed by reports of testing carried out in accredited laboratories or in accredited research centers.

In accordance with requirements set forth in TR CU 019/2011 Item 4.14 Sub-Item 2 the safety in protective creams is caused by a combination of requirements to be met by composition, microbiological indicators, level of content of toxic elements, toxicological and clinical and laboratory safety. Obligatory presence of certificate confirming antibacterial properties.

Protective compositions should not have skin-resorptive, irritating and sensitizing effects according to the requirements set forth in TR CU 019/2011 Item 4.14, Sub-Item 13 which should be confirmed by reports of testing obtained in accredited laboratories.

Shelf life: no less than 30 months.

29.7.2. Mandatory compliance certification: TR CU 019/2011, GOST 31679-2012.

29.7.3. Mandatory conformity: GOST 12.4.068-79

29.7.4. Designation

For hand hygiene without using water.

29.8. MEANS PROTECTING FROM HARMFUL BIOLOGICAL FACTORS (FROM THE BITES OF ARTHROPODS)

29.8.1. Technical description

Means protecting against bites of insects and mites in the form of spray and/or cream.

In accordance with requirements set forth in TR CU 019/2011 Item 4.14 Sub-Item 2 the safety of creams protecting from insect bites is caused by a combination of meeting requirements to composition, by microbiological indicators, by the content of toxic elements, by results of toxicological, clinical and laboratory safety.

Protective compositions should not have skin-resorptive, irritating and sensitizing effects according to the requirements set forth in TR CU 019/2011 Item 4.14, Sub-Item 13 which should be confirmed by reports of testing obtained in accredited laboratories.

The requirements to the protective properties and effectiveness:

- active substance - N,N-diethyltoluamide (no less than 29.9%, but no more than 35%) or ethyl-butyl-acetyl-amino-propionate (IR®3535) (no less than 29%), emulsifiers, auxiliary components, water; it can contain isopropyl alcohol;
- versatility - protection against a broad spectrum of insects (midge, horse fly, mosquitoes, biting midges, fleas) and ixodic ticks;
- the option of applying to treat skin and clothing (in the form of spray);
- protective life:
  - а) from insects when applied to the skin: no less than 4 hours.
  - б) from insects when applied to clothes - up to 30 days (for spray) (provided that the clothing impregnated with repellent is stored in a sealed plastic bag);
  - в) from ticks when applied to clothes - up to 5 days (provided that the clothing impregnated with the repellent is stored in a sealed plastic bag).

Storage life should be no less than 30 months from the product manufacturing date.

29.8.2. Mandatory compliance certification: TR CU 019/2011.

29.8.3. Designation

Used during the external works during the period of activity of blood-sucking and stinging insects and spiders.

29.9. CLEANING CREAM, GEL AND PASTE

29.9.1. Technical description

The effectiveness and skin friendly properties of skin cleaning pastes and the microbiological purity should be confirmed by independent experts, as well as tests by tests proving that the products are tolerant to human skin.

Cleaning pastes, creams, and gels should have focused efficiency according to requirements set forth in TR CU 019/2011 Item 4.14 Sub-Item 1 to be confirmed by reports of testing carried out in accredited laboratories or in accredited research centers.

In accordance with requirements set forth in TR CU 019/2011 Item 4.14 Sub-Item 2 the safety in protective creams is caused by a combination of requirements to be met by composition, microbiological indicators, the level of content of toxic elements, toxicological and clinical and laboratory safety.

Cleaning pastes, creams, gels should not have skin-resorptive, irritating or sensitizing effect according to requirements set forth in TR CU 019/2011 Item 4.14, Sub-Item 13 which should be confirmed by reports of test made by accredited laboratories.

The pastes should not contain soap, solvents, and abrasive means of mineral or synthetic origin, dyes, and natural allergens.

In addition to cleaning the compound should have a caring effect.

On the whole it is allowed to use the cleaning pastes containing abrasive substances of natural origin that underwent the necessary processing to minimize the risk of body exposure to harmful substances.

Purified and clarified abrasive substance should comply with the norms of microbiological purity: it should not contain more than 100 reproductive organisms per gram of the product.

The following preservatives are allowed: sodium benzoate, potassium sorbate, sorbic acid, and phenoxyethanol to minimize the risk of developing allergic diseases.

Microbiological purity of creams and emulsions: no more than 100 reproductive microorganisms per gram of the product.

The following ingredients are not allowed to be present in the content of paste to avoid the risk of skin allergic reactions and irritating effects:

- silicone and its derivatives;
- parabens;
- 2-bromine-2-nitropropanediol-1,3 (the risk of allergic reaction and irritation);
- methylchloroisothiazolinone and methylisothiazolinone (risk of allergic reactions).
- sodium alkyl sulphate C12-18 (poor skin tolerance);
- cocoamidopropyl betaine (risk of developing allergic reaction);
- tri-ethanol amine (risk of skin irritation and containing toxic substances);
- non-purified and non-clarified natural abrasive substance (the risk of skin infections due to microorganisms);
- petroleum jelly;
- 3-(dodecanoyl-amino) propyl (dimethyl) amino acetate.

Shelf life: no less than 30 months.

29.9.2. Mandatory compliance certification: TR CU 019/2011, GOST 31696-2012.

29.9.3. Mandatory conformity: GOST 12.4.068-79

29.9.4. Designation

For cleaning hands from hard-to-remove, detergent resistant stain (oil, grease, soot, graphite, metal dust, lubricants).

29.10. REGENERATING AND REJUVENATING CREAM, EMULSION

29.10.1. Technical description

The cream should not contain silicones, dyes and natural allergens; the cream should be easy to apply, quick to soak and it should not leave fat film.

Regenerating creams should have a focused efficiency according to the requirements set forth in TR CU 019/2011 Item 4.14 Sub-Item 1 to be confirmed by reports of testing carried out in accredited laboratories or in accredited research centers.

In accordance with requirements set forth in TR CU 019/2011 Item 4.14 Sub-Item 2 the safe character of regenerating (recovering) creams is associated with a combination of requirements met by composition, microbiological indicators, by the content of toxic elements, and by results of toxicological and clinical and laboratory safety tests.

Regenerating creams should not have skin-resorptive, irritating or sensitizing effect according to requirements set forth in TR CU 019/2011 Item 4.14, Sub-Item 13 which should be confirmed by reports of test made by accredited laboratories.

Renewing creams should contain active renewing (regenerating) substances (for example, such as: panthenol, lanolin or allantoin, and / or other moisturizing and nutrients). The presence of methylchloroisothiazolinone and methylisothiasolinone in cream composition is not allowed.

The effectiveness and good tolerability of creams and emulsions by skin, and their microbiological purity should be confirmed by independent experts, as well as by tests and compatibility studies to be conducted for the products contacting human skin.

The following preservatives are allowed: sodium benzoate, potassium sorbate, sorbic acid, and phenoxyethanol to minimize the risk of developing allergic diseases.

Microbiological purity of creams and emulsions: no more than 100 reproductive microorganisms per gram of the product.

Shelf life: no less than 30 months.

29.10.2. Mandatory compliance certification: TR CU 019/2011, GOST 31460-2012.

29.10.3. Mandatory conformity: GOST 12.4.068-79

29.10.4. Designation

To care for the skin of hands and face exposed occupational stress and environmental effects.

29.11. CREAM TO PROTECT FROM FROST BITE

29.11.1. Technical description

Oil emulsion having high content of lipids should contain glycerin, allantoin, panthenol or magnesium sulfate.

It should not freeze and it should be easily applied at low temperatures. It should not contain silicone and petroleum jelly. It is not allowed to have parabens, methylchloroisothiazolinon and methylisothiasolinone, petroleum jelly, 3-(dodecanoyl-amino) propyl (dimethyl) amino acetate in composition due to the risk of developing allergic reactions, tri ethanol amine should be also absent as it

can provoke skin irritations; introducing toxic substances into composition is not allowed. The emulsion should be rapidly absorbed not leaving on skin unpleasant sticky and grease sensation.

Creams from frostbite should have focused efficiency according to the requirements set forth in TR CU 019/2011 Item 4.14 Sub-Item 1 to be confirmed by reports of testing carried out in accredited laboratories or in accredited research centers.

In accordance with requirements set forth in TR CU 019/2011 Item 4.14 Sub-Item 2 non-aggressive feature of creams protecting from low temperatures is associated with a combination of requirements met by composition, microbiological indicators, by the content of toxic elements, and by results of toxicological and clinical and laboratory safety tests.

According to TR CU 019/2011 Item 4.14 Sub-Item 7 dermatological compounds protecting from exposure to low temperatures (hands and face creams resisting frostbite) should be resistant to low temperatures and withstand no less than 3 cycles of freezing and thawing (from minus 20°C to 20°C); they should stay consistent and they should not modify their organoleptic and physics and chemical properties.

Protective creams from frostbite should not have skin-resorptive, irritating or sensitizing effect according to requirements set forth in TR CU 019/2011 Item 4.14, Sub-Item 13 which should be confirmed by reports of test made by accredited laboratories.

Microbiological purity of creams and emulsions: no more than 100 reproductive microorganisms per gram of the product.

Shelf life: no less than 30 months.

29.11.2. Mandatory compliance certification: TR CU 019/2011, GOST 31460-2012.

29.11.3. Mandatory conformity: GOST 12.4.068-79

29.11.4. Designation

For effective protection from weather-beating under adverse weather conditions (high wind).

29.12. TOILET SOAP

29.12.1. Technical description

Hard toilet soap should consist of sodium salts of natural or synthetic fatty acids with additives (or without additives).

Composition should contain fatty acids in amount no less than 74%.

Release form - pieces having different nominal mass.

29.12.2. Mandatory compliance certification: GOST 28546-2002.

29.13. LIQUID SOAP

29.13.1. Technical description

In accordance with requirements set forth in TR CU 019/2011 Item 4.14 Sub-Item 2 safe use of cleaning agents comes from a combination of requirements to the composition, microbiological indicators, the level of content of toxic elements, by toxicological, clinical and laboratory safety standards.

SPE should not have skin-resorptive, irritating or sensitizing effect according to requirements set forth in TR CU 019/2011 Item 4.14, Sub-Item 13 which should be confirmed by reports of test made by accredited laboratories.

29.13.2. Mandatory conformance declaration: TR CU 019/2011, GOST 31696-2012.

29.13.3. Mandatory conformity: GOST 12.4.068-79

29.13.4. Designation

For gentle cleansing skin of any type with moisturizing effect.

30. HEARING PROTECTIVE EQUIPMENT

30.1. GENERAL REQUIREMENTS

30.1.1. High noise level at workplace - harmful industrial factor. Its effects destroy a complex regulating function of nerve centers which control a series of vital body functions (vision, respiration, digestion, motor functions).

30.1.2. The main purpose of PPE protecting hearing deals with blocking the most sensitive to the noise canal, i.e. the human ear. The most common PPE to protect hearing are ear protectors and ear muffles.

30.1.3. All personnel is required to use PPE to protect hearing regardless of the duration of the stay on the site in areas where hearing PPE should be mandatorily used (as indicated by signs). In accordance with GOST 34183-2017 "Transporting crude oil and petroleum products using trunk pipelines. The centrifugal oil pumps" with obligatory to use personal hearing protection the main units are operated.

30.1.4. Using hearing protection PPE is also mandatory in the areas featuring the noise above 80 dB, for example, in the shops hosting operating machines, on sites having operations involving jackhammer, electric saw, operations associated with hammering iron inside workshops, grinding, etc.

30.1.5. The stock of hearing PPE should be available directly at locations to enter the areas having the policy of mandatory use of hearing PPE as well as next to other areas where the need to carry out work having elevated noise level can be present.

30.2. EAR PROTECTION INSERTS

30.2.1. Technical description

Inserts made of polyurethane foam, PVC or monoprene and other elastomers. Should easily take the shape of the ear canal.

The materials used in insert parts and contacting skin should meet the following requirements:

- materials should not irritate skin, cause allergies or provide any negative effect on the health of a worker during the period of using the inserts;
- when the pads are contacting sweat, ear wax or other substances that can be present in the ear canal the material from which pads are made should not undergo changes within the life of using pads so that the properties of the pads remain practically the same.

In cases where inserts can be used several times a suitable packaging should be used providing for hygienic storage between application sessions.

The acoustic efficiency (SNR) should be no less than 20 dB, up to 38 dB.

30.2.2. Mandatory conformance declaration: TR CU 019/2011.

30.2.3. Mandatory conformity: GOST 12.4.275-2014

30.2.4. Recommended to make additional compliance certification: EN 352-2.

30.2.5. Designation

It is used for hearing protection under intensive noise conditions (in excess of 80 dB), as well as for work in the area where using hearing protection is mandatory (as indicated by signs).

30.3. PROTECTING EAR MUFFLES

30.3.1. Technical description

Ear muffles made of impact-resistant plastic.

Requirements to design and materials:

- all the parts of an ear muffle which come into contact with the skin should be soft, non-metallic, flexible and should not cause irritation, allergic reactions and other adverse reactions that affect health;
- design and materials should allow hygienic treatment;
- all the parts of an ear muffle should be rounded, polished and should not have piercing and cutting edges;
- none of the ear muffle parts should burn or smolder after contacting a hot rod.

The ear muffle design should ensure the following:

- fastening ear muffles onto hard hat;
- tight fitting (the ear muffle down force should be no less than 8 N and no higher than 14 N);
- should not apply pressure to the head (the pressure of shock absorber should not exceed 4,500 Pa);
- adjustment of pads in ear muffles;
- the maximum space for the auricles;
- distinction of human speech;
- Acoustic efficiency (SNR) should be no less than 24 dB, up to 37 dB;
- the option of replacing noise absorbers and shock absorbers.
- have two point mounting of the cup to the headband.

The ear muffle on the hard hat should have a working and idling position to provide protective properties for a long time.

30.3.2. Mandatory conformance declaration: TR CU 019/2011.

30.3.3. Mandatory conformity: GOST 12.4.275-2014

30.3.4. Recommended to make additional compliance certification: EN 352-1.

30.3.5. Designation

It is used for hearing protection under intensive noise conditions (in excess of 80 dB), as well as for work in the area where using hearing protection is mandatory (as indicated by signs).

30.4. PROTECTING EAR MUFFLES HAVING THE ACTIVE PROTECTION FUNCTION

30.4.1. Technical description

These ear muffles use electronic noise protection system that cuts off the noise having hazardously high level. Protection function is activated when the sound is reaching 82 dB of the maximum permissible level. At the same time the system allows user hearing normal sounds (conversation, alerts) due to built-in active external microphones. Switches off automatically after two hours of idling to prevent power supply discharge.

Power supply: 2 alkaline battery (1.5V) or rechargeable batteries.

The possible modifications of ear muffles:

- ear muffles having automatic adjustment of external sound volume, two stereo microphones and mounting on the hard hat. The weight is no more than 330 g. The acoustic efficiency is at least 26 dB. Application temperature range from minus 20 ° C to 55 ° C;
- ear muffles having automatic adjustment of external sound volume, two stereo microphones and mounting on the hard hat. The weight is no more than 380 g. The acoustic efficiency is at least 32 dB. Automatic switch-off mode. Application temperature range from minus 20 ° C to 55 ° C;
- ear muffles with automatic adjusting external sounds having an equalizer (to adjust the sound band and balance), two stereo microphones, fastened to hard hat. The weight is no more than 450 g. The acoustic efficiency is at least 30 dB. Automatic switch-off mode. Application temperature range from minus 20 ° C to 55 ° C;
- ear muffles with automatic adjusting external sounds having an equalizer (to adjust the sound band and balance), two stereo microphones, fastened to hard hat. To connect to the radio. The weight is no higher than 440 g. The acoustic efficiency is at least 30 dB. Automatic switch-off mode. Application temperature range from minus 20 ° C to 55 ° C;
- ear muffles with automatic adjusting external sounds having an equalizer (to adjust the sound band and balance), two stereo microphones, fastened to hard hat. Explosion-proof (ATEX). The weight is no higher than 440 g. The acoustic efficiency is at least 30 dB. Automatic switch-off mode. Application temperature range from minus 20 ° C to 55 ° C;
- ear muffles with automatic adjusting external sounds having an equalizer (to adjust the sound band and balance), two stereo microphones, fastened to hard hat. To connect to the radio. Explosion-proof (ATEX). The weight is no higher than 440 g. The acoustic efficiency is at least 30 dB. Automatic switch-off mode. Application temperature range from minus 20 ° C to 55 ° C;
- ear muffles having built-in radio mounted on the hard hat. PMR 446 MHz. The voice activation function (VOX). The sound menu. The distance of work is no less than 2 km away in an open area. The weight is no more than 440 g. The acoustic efficiency is no less than 33 dB. Automatic switch-off mode. Application temperature range from minus 20 ° C to 55 ° C;
- ear muffles having a built-in radio with automatic adjustment of external sound volume mounted on the hard hat. PMR 446 MHz. The voice activation function (VOX). The sound menu. The distance of work is no less than 2 km away in an open area. The weight is no more than 470 g. The acoustic efficiency is no less than 33 dB. Automatic switch-off mode. Application temperature range from minus 20 ° C to 55 ° C;
- ear muffles having a built-in radio with automatic adjustment of external sound volume mounted on the hard hat. PMR 403-470 MHz. The voice activation function (VOX). The sound menu. The distance of work is no less than 2 km away in an open area. Explosion-proof (ATEX). The weight is no more than 570 g. The acoustic efficiency is at least 30 dB. Automatic switch-off mode. The temperature application range from minus 20°C to 55°C.

30.4.2. Mandatory conformance declaration: TR CU 019/2011.

30.4.3. Mandatory conformity: GOST 12.4.275-2014

30.4.4. Recommended to make additional compliance certification: EN 352-1.

30.5. SELECTING HEARING PPE

30.5.1. Hearing PPE provide for effective protection against exposure to noise only in case when they are carefully fitted and properly used.

30.5.2. The effectiveness of protection from noise exposure using acoustic ear muffles is significantly reduced if ear muffles are put on top of glasses having thick ear pieces. Ear pieces can prevent having tight contact of ear muffles and allow noise penetration.

30.5.3. Hearing PPE should be carefully chosen to ensure that the noise level reaching the ear is below normal time-averaged effect equal to 80 dB.

31. PERSONAL PROTECTION EQUIPMENT FOR EYES AND FACE. SAFETY GLASSES

31.1. GENERAL REQUIREMENTS

31.1.1. Light eye injuries are usually caused by ingress of small foreign bodies such as wind-borne dust, scale particles, small shavings, etc. Severe injuries of eyes and face are caused by shards scattered, for example, during processing metal, stone, glass, and breaking ice. Among the negative effects there are thermal burns of eyes and damage inflicted by chemicals (acids, alkalis, solvents). The eye injury can in turn cause complete or partial loss of eye sight.

31.1.2. Whilst performing work activities applying corrosive, harmful, hazardous chemicals it is required to ensure eye wash station at workplace. Technical requirements for eye wash station is stipulated in the item 31.5 of this Standard.

31.1.3. The most common means of protection eyes and face are glasses having open and closed type as well as the protective face shields having head mounting or mounted on hard hats.

31.1.4. Functions of eye PPE deal with protection from the following types of hazards:

- mechanical effects;
- gases and fine aerosols;
- colloidal aerosols (dust);
- impact of aggressive chemical substances;
- or any combination of these factors.

31.1.5. Requirements to design and materials:

- Eye PPE should not have protruding parts, sharp edges or other defects which can cause discomfort or inflict injury during operations;
- eye PPE contacting human skin should be made of materials that do not cause skin irritation;
- the material to make headbands in shields should be made of polymers, resistant to sunlight, water-resistant, resistant to effects of sparks and splashes of molten metal during the entire time of use.

31.1.6. Examples of labeling lenses are listed in Appendix 6.

31.2. OPEN PROTECTIVE GLASSES

31.2.1. Technical description

Shockproof ophthalmic glasses made from polycarbonate to provide side protection.

The protective glasses should be resistant to impact having kinetic energy of 0.84 J (a low-energy impact).

The optics parts of protective glasses (ophthalmic glasses) should not have optical defects (bubbles, scratches, inclusions, dimmed areas, erosion, traces of casting, washouts, graininess, depressed areas, delaminations and roughness); these parts should not have optical effects impairing visual perception (there should be no optical distortion effects and the optics class is 1).

Ophthalmic glasses should have blinds if the glasses are designed to work on the street in bright sunlight.

It is recommended to wear glasses having nasal supports separate from the spectacle glasses in the cold period of the year when working outside buildings.

31.2.2. The glasses should have the following:

- ophthalmic glasses ensuring side protection;
- The minimum weight (no more than 65 g);
- the ear pieces should be capable of adjusting the length and tilt or have a reliable coverage of the face;
- special coating to protect ophthalmic glasses from scratches on the outside and from fogging inside (the marking of spectacle glasses should contain symbols "K" and "N" in compliance with GOST 12.4.253-2013);
- marking frames and spectacle glasses in accordance with the design according to GOST 12.4.253-2013.
- provide protection from ultraviolet radiation at 99% level.

Ophthalmic glass with mist-preventing coating under testing should remain unfogged for a period no shorter than 8 seconds.

Glasses design can allow using them with correcting glasses or with special inserts made into glasses having correcting ophthalmological glasses.

It is allowed to use protective glasses with correcting effect.

The ear pieces of protective glasses sitting on top of corrective glasses should not overlay the ear pieces of corrective glasses to prevent double pressure on the scalp in the ear area and behind the ears.

It is also permitted to have glasses' design providing for mounting onto protective hard hat (with glasses sliding into space under hard hat when not used).

The glasses should ensure absence of eye fatigue when the safety glasses are used during the whole shift.

31.2.3. Mandatory conformance declaration: TR CU 019/2011.

31.2.4. Mandatory conformity: GOST 12.4.253-2013

31.2.5. Recommended to make additional compliance certification: EN 166, EN 170, EN 172.

31.2.6. Designation

To protect the eyes at the front and at sides from mechanical impact of flying particles.

31.3. CLOSED PROTECTIVE GLASSES

31.3.1. Technical description

Glasses, consisting of frame, panoramic glass made of polycarbonate or acetate, shutter ensuring tight contact with face, and headband.

The protective glasses should be resistant to impact having kinetic energy of 0.84 J (a low-energy impact) when equipped with glasses made of acetate and 5.9 J (average power blow) when glasses are made of polycarbonate.

Head band used as mounting means should have a width no less than 10 mm along the whole length of contact with the head.

Head belt should be capable of adjusting the length or be self-regulating.

The optics parts of protective glasses (ophthalmic glasses) should not have optical defects (bubbles, scratches, inclusions, dimmed areas, erosion, traces of casting, washouts, graininess, depressed areas, delaminations and roughness); these parts should not have optical effects impairing visual perception (there should be no optical distortion effects and the optics class is 1).

31.3.2. The glasses should have the following:

- minimum weight (no more than 140 g);
- special coatings that protect the ophthalmological glass from scratches outside and inside from fogging (the marking of the ophthalmological glass should contain symbols "K" and "N" to comply with GOST 12.4.253-2013);
- to ensure protection against non-ionizing radiation (UV) in accordance with graded code specified on the marking;
- marking of frames and spectacle glass in accordance with design according to GOST 12.4.253-2013.

During testing spectacle glass with coating from misting should remain without fog for a period no less than 8 seconds.

The glasses should ensure absence of eye fatigue when the safety glasses are used during the whole shift.

31.3.3. Mandatory compliance certification: TR CU 019/2011.

31.3.4. Mandatory conformity: GOST 12.4.253-2013

31.3.5. Recommended to make additional compliance certification: EN 166, EN 170, EN 172.

31.3.6. Designation

To protect the eyes in front and from sides, from top and bottom from the mechanical impact of high-speed particles, from dust, from impact of aggressive environment, from aerosols and droplets of chemicals (for glasses having chemically resistant panoramic glass).

31.4. GLASSES CARING STATION

31.4.1. Technical description

The station should provide for a simple caring for the glasses using a special solution and cloths. The solution should be applied to the surface of the spectacle glasses or onto a special cleaning cloth.

The kit should include:

- container with a set of screws and keys;
- cloths for station (700) - 2 packs;
- solution for the station (0.5 L) - 1 bottle;
- plastic spray gun for solution - 1 pc.

There should be an option to purchase components separately.

31.5. EYE RINSING KIT

31.5.1. Technical description

It is used for emergency eye wash in case of traumatic damage, ingress of dust, acids and alkalis. The housing should be made of dust tight material with a wall-mounting option; it should be sealed and can be used only once.

Storage term is no more than 36 months.

The solution for eye washing in case of ingress of dust or other contaminants should contain a sterile sodium chloride solution (0.9%).

The washing solution in case eyes suffer ingress of chemicals (acids and alkalis) should contain a sterile buffer solution of phosphate salts having concentration of 4.9%.

31.5.2. Mandatory compliance certification: GOST ISO 10993-1-2011.

32. PERSONAL PROTECTION EQUIPMENT FOR EYES AND FACE. PROTECTIVE SHIELD

32.1. PROTECTIVE FACE SHIELD

32.1.1. Technical description

The shield consisting of a transparent housing made of polycarbonate or acetate.

The shield should be resistant to impact with the kinetic energy of 5.9 J (an impact having average kinetic) for polycarbonate and 0.84 J (a low-energy impact) for acetate.

The sight-glass should not have an optical effect causing deterioration of visual perception.

Sight glasses should have a special coating that protects from scratches (marking sight glasses should contain symbol "K" in compliance with GOST 12.4.253-2013).

The thickness of the sight glass should be no less than 1 mm.

The shield should have one of the following mountings:

- overhead mounting;
- attached to protective closed glasses;
- attachment to protective hard hat.

32.1.2. Mandatory conformance declaration: TR CU 019/2011.

32.1.3. Mandatory conformity: GOST 12.4.023-84, GOST 12.4.253-2013.

32.1.4. Recommended to make additional compliance certification: EN 166.

32.1.5. Designation

To protection eye and face at the front and from the sides from mechanical effects of high-speed particles, and splashing.

33. PERSONAL PROTECTION EQUIPMENT FOR EYES AND FACE. CORRECTING PROTECTIVE GLASSES

33.1. GENERAL REQUIREMENTS TO CORRECTING PROTECTIVE GLASSES.

33.1.1. Correcting protective glasses should be obligatorily made individually for each employee against the prescription issued by practicing ophthalmologist.

33.1.2. Checking eye sight, selecting correction, choosing frames, issuing prescriptions according to the approved list of employees should be carried out in accordance with Instruction No. 470n dated June 5, 2017 (On enacting the professional standard of ophthalmological doctor) and Instruction No. 1181n dated December 20, 2012 (On enacting the procedures to administer and prescribe use of medical products, as well as prescription forms to buy medical products and the sequence of issuing these forms, their accounting and storing).

33.1.3. The recommended form of prescription for glasses is given in Appendix 7.

33.1.4. Ophthalmic glass in protective corrective glasses used in making glasses should comply with requirements set forth in GOST 12.4.253-2013.

33.1.5. Ophthalmic frames should comply with requirements set forth in GOST 12.4.253-2013; they should be chosen taking into account anthropometric parameters of user.

33.2. PROTECTIVE GLASSES HAVING CORRECTING LENSES

33.2.1. Technical description

Protective correcting glasses should consist of spectacle glasses and frame. The nose support should have anatomical shape (for all frames) and be adjustable (for metal frames). The glasses can have soft ear pieces and removable shutter.

Protective correcting glasses should have the side and above eye brow protection and withstand the impact having a kinetic energy of 0.84 J (a low-energy impact).

The material of frame: plastic or metal.

Material of goggle lens: Trivex.

The optics parts of protective glasses (ophthalmic glasses) should not have optical defects (bubbles, scratches, inclusions, dimmed areas, erosion, traces of casting, washouts, graininess, depressed areas, delaminations and roughness); these parts should not have optical effects impairing visual perception (there should be no optical distortion effects and the optics class is 1).

33.2.2. The glasses should have the following:

- frame providing side protection;
- light weight spectacle glasses (no more than 1.1 g/cm³);
- multifunctional coating (having water repelling, mud repelling, dust repelling (antistatic) properties and resistance to altering temperature, scratches, and having light transmission of 99%);
- marking frames and spectacle glasses in accordance with the design according to GOST 12.4.253-2013.
- refraction index of the spectacle glasses is 1.53;
- the refraction range without restrictions;
- the option of manufacturing lenses with astigmatism, bi-focal and progressive type of focus.

33.2.3. Mandatory conformance declaration: TR CU 019/2011.

33.2.4. Mandatory conformity: GOST 12.4.253-2013

33.2.5. Recommended to make additional compliance certification: EN 166.

33.2.6. Designation

To protect eyes from the front and from the sides from mechanical impact of high-speed particles as well as for handling fluids (in case there is a shutter available).

34. INDIVIDUAL RESPIRATORY PROTECTIVE EQUIPMENT

34.1. GENERAL REQUIREMENTS

34.1.1. The air inside operational areas can contain aerosols in the form of dust, smoke and fog, vapors and gases posing risk to human health. Monitoring the source of contamination is of great importance to reduce the risk of occupational diseases caused by inhaling detrimental impurities.

34.1.2. When choosing BPE an account should be taken of specificity of the workplace and the nature of the work, namely: the intensity of work, typical activities, the duration of using BPE, the requirements to be met by telecommunication means and the required visibility level.

34.1.3. The service life of BPE depends on the status of environment and intensity of work. For example, when engaged in heavy physical work, the life of RPE can be reduced by two or more times.

34.1.4. The time of protecting the respiratory system is an important parameter. The account should be taken of the nature of BPE efficiency - whether it is applied to make a normal work, special work, or it is used in emergency conditions or for rescue.

34.2. FILTERING RESPIRATOR TO PROTECT AGAINST AEROSOLS

Note - it is required to check tight application to face before starting the work wearing respirator.

34.2.1. Technical description

Filtering respirator should:

- consist of the filtering material forming the front part;
- cover nose, mouth and chin;
- the mounting belts should be adjustable (or self adjustable) and provide reliable and comfortable fixing the particulate respirator in required position;
- to provide adequate application to the user’s face (should fit tightly to the user’s face along the contact line);
- have a metal nose clip;
- have marking on the filtration efficiency FFP1 (low) or FFP2 (average), or FFP3 (high) according to GOST 12.4.294-2015.
- remain fit for purpose after exposure to the temperatures minus 30°C and plus 70°C.

Filtering respirator can have exhaling valve.

34.2.2. Mandatory compliance certification: TR CU 019/2011.

34.2.3. Mandatory conformity: GOST 12.4.294-2015.

34.2.4. Recommended to make additional compliance certification: EN 149.

34.2.5. Designation

For protection from dust not emitting toxic gases and vapors, smoke (welding, etc.), and fog (oil, etc.).

34.3. FILTERING RESPIRATOR PROTECTING AGAINST AEROSOLS HAVING ADDITIONAL PROTECTION AGAINST GAS ODORS AND VAPORS

34.3.1. Technical description

Filtering respirator protecting against aerosols having additional protection against gas odors and vapors should:

- should contain a layer of absorbing material distributed throughout the volume;
- cover nose, mouth and chin;
- the mounting belts should be adjustable (or self adjustable) and provide reliable and comfortable fixing the particulate respirator in required position;
- to provide adequate application to the user's face (should fit tightly to the user's face along the contact line);
- have a metal nose clip;
- have marking on the filtration efficiency FFP1 (low) or FFP2 (average), or FFP3 (high) according to GOST 12.4.294-2015.
- remain fit for purpose after exposure to the temperatures minus 30°C and plus 70°C.

Filtering respirator protecting against aerosols having additional protection against gas odors and vapors can be equipped with expiration valve.

34.3.2. Mandatory compliance certification: TR CU 019/2011.

34.3.3. Mandatory conformity: GOST 12.4.294-2015.

34.3.4. Recommended to make additional compliance certification: EN 149.

34.3.5. Designation

To protect against aerosols (dust, fumes, mists) as well as against unpleasant smells of gases and vapors of harmful substances in case they present simultaneously or separately in air and the concentration of gases and vapors should not exceed the maximum admissible concentration (MAC).

34.4. FILTERING RESPIRATOR (RESPIRATOR HAVING INSULATING MATERIALS TO BE USED WITH GAS, COMBINED OR COLLOID FILTERS)

34.4.1. Technical description

Respirator as a part of thermoplastic elastomer respirators or silicone respirators or rubber silicon containing rubber having disposable cartridges, should:

- have a minor resistance to breathing;
- to be well balanced;
- equipped with a detached system to mount filters on respirator (bayonet type);
- have exhale valve to reduce accumulation of heat and moisture under respirator;
- ensuring tight application to face of any type due to three sizes;
- be compatible with other PPE (glasses, facial shields, hard hats);
- to be compatible with bayonet connection filters;
- should not cause irritation to the face skin;

- remain operating after exposure to temperatures from minus 30°C to plus 70 °C;
- in case the filtration respirator is used several times its material should be resistant to use of cleaning agents or disinfectants.

34.4.2. Mandatory compliance certification: TR CU 019/2011.

34.4.3. Mandatory conformity: GOST 12.4.041-2001, GOST 12.4.244-2013, GOST 12.4.296-2015.

34.4.4. Recommended to make additional compliance certification: EN 140.

34.4.5. Designation:

- having gas filters - any operations carried out in areas having excess MAC in air of the working area on gases and/or vapors.
- with colloid filters - any operations n areas having excessive concentrations (MAC) of aerosols in air in case it is impossible to use the filtering respirator;
- with combined filters - any operations made in working areas having excess concentrations in air of gases and/or vapors and aerosols;
- having gas protecting and aerosol protecting filters - any operation inside the area featuring high concentration (relative to MAC) of gases and/or vapors and aerosols requiring frequent replacement of aerosol filters.

34.4.6. The requirements to be met by respirator filters:

- should have a bayonet connection compatible with respirator;
- respirator should have aerosol filters of class P3 and have the permeability of the filter material by sodium chloride aerosol no higher than 1%.
- gas filters (each filter) having low efficiency against gas and vapor should have a permanent resistance to air flow at a flow rate of 30 dm3/min no higher than 100 Pa;
- combined filters (each filter) having an average efficiency against gas and vapors, and high filtering efficiency against aerosols should have the resistance to a constant air flow with flow rate 30 dm3/min no higher than 260 Pa;
- combined filters resistant to dust plugging should have additional "D" marking.

34.4.7. Mandatory compliance certification: TR CU 019/2011.

34.4.8. Mandatory conformity: GOST 12.4.246-2016 (for aerosol protection filters), GOST 12.4.235-2012 (for gas and combined protection filters).

34.5. FILTERING GAS MASK (A MASK MADE OF ISOLATING MATERIALS TO BE USED WITH GAS, COMBINED OR AEROSOL FILTERS)

34.5.1. Technical description

Mask as a part of gas masks having disposable filtering cartridges should be capable of:

- to be well balanced;
- have the threaded, bayonet or other connection compatible with filters;
- have a sight glass (screen) ensuring good view without optical distortion and having fog resistant features;
- have relevantly low resistance to breathing;

- ensure the option (if necessary) of replacing headband belts, the valve blades, seals;
- have exhale valve to reduce accumulation of heat and moisture under respirator;
- to ensure tight application to a face of any type;
- be compatible with hard hats;
- should not cause irritation to the face skin;
- remain fit for purpose after exposure to the temperatures minus 30°C and plus 70°C.

The mask can be fitted with protective films for the sight glass (screen) to extend the term of service.

The mask can be equipped with a vocal diaphragm.

34.5.2. Mandatory compliance certification: TR CU 019/2011.

34.5.3. Mandatory conformity: GOST 12.4.041-2001, GOST 12.4.293-2015, GOST 12.4.121-2015.

34.5.4. Recommended to make additional compliance certification: EN 136.

34.5.5. Designation:

- having gas mask filters - any operation in the working area having high readings of MAC on gas and vapor where using respirators it is not allowed and where eye and face protection is required;
- with aerosol filters - any work in working area having high readings of MAC on aerosols where using respirators it is not allowed and where eye and face protection is required;
- having combined filters - any operation inside a working area having excessive (relative to MAC) concentrations of gases, vapors and/or aerosols, where using respirators is unacceptable with required protection of eye and face;
- having gas and aerosol filters: any operation when the air in the working area has concentration above MAC on gas and/or vapor and aerosols that requires frequent replacement of aerosol filters and where use of respirators is not allowed with requirements to protect face and eyes.

34.5.6. Requirements to filters for gas masks (respirators):

- should have the thread, bayonet or other type of connection compatible with the mask;
- respirator should have aerosol filters of class P3 and have the permeability of the filter material by sodium chloride aerosol no higher than 1%.
- gas filters (each filter) having low efficiency against gas and vapor should have a permanent resistance to air flow at a flow rate of 30 dm3/min no higher than 100 Pa;
- combined filters (each filter) having an average efficiency on gas and vapors and high filtering efficiency on aerosols should have resistance of a constant air flow under flow rate of 30 dm3/min no higher than 260 Pa;
- combined filters resistant to dust plugging should have additional "D" marking.

34.5.7. Mandatory compliance certification: TR CU 019/2011.

34.5.8. Mandatory conformity: GOST 12.4.246-2016 (for aerosol protection filters), GOST 12.4.235-2012 (for gas and combined protection filters).

34.6. BREATHING APPARATUS HAVING HOSE TO SUPPLY CLEAN AIR USED WITH A MASK OR WITH A HELMET

34.6.1. Technical description

34.6.2. Breathing hose apparatus without drive has five versions:

- Hose breathing no-drive apparatus of PSh-1 type having single channel air supply hose wound into hank.
- Hose breathing no-drive apparatus of PSh-1B type having single channel air supplying hose, wound on the drum.
- Hose breathing no-drive apparatus type PSh-1S having single channel air supply hose wound into bag.
- Hose drive-free breathing apparatus of type PSh-1-155 having single channel air supply hose collapsed into hank.
- Hose breathing drive-free apparatus of PSh-1B-155 type having single channel air supply hose wound on a drum.

34.6.3. Hose breathing no drive apparatus type "PSh-1-155 (PSWh-1B-155)" consists of the following:

- a set of face parts (large view mask or hard hat-mask);
- connecting long tube to connect the front part to the air supplying hose;
- air supply hose consisting of a reinforced rubber-fabric sleeve 10 m long having cuffs at both ends for mounting the fittings;
- the filter element for removing from air inhaled;
- antistatic safety harness to connect the unit to the safety system for work at height and to fix connecting tubes;
- the waist belt to mount air supply hose;
- a drum to accommodate components of PSh-1B-155 during its transportation and storage inside the drum and air supply hose wound on the drum surface;
- of the tissue bag to transport and store apparatus PSh-1-155.

34.6.4. Hose breathing apparatus without drive of PSh-1 type (PSh-1B, PSh-1S) consists of the following:

- a set of face parts (large view mask or hard hat-mask);
- two connecting tubes;
- the rubber reinforced with air supplying hose having length of 10 meters. The sleeve should have the inner rubber layer, the intermediate rubber-treated cloth, the metal spiral, intermediate rubber layer and the outer layer. At the end the sleeves should have cuffs made of rubber-textile the (without spiral) to attach them to the fixture;
- of the filter cartridge;
- gear consisting of the waist belt with shoulder straps and a signal and rescue rope. The strength of the gear to effects of static load should be no less than 1960 N (200 kg).

Cotton gear should be used in potentially explosive atmospheres, synthetic (made of dacron or polypropylene) in a corrosive environment (acid, alkali, etc.).

The air suitable for breathing is supplied into the front part from the clean area using hose due to breathing (inhaling) of the worker. The time of protective action is not limited.

34.6.5. Mandatory compliance certification: TR CU 019/2011.

34.6.6. Mandatory conformity: GOST 12.4.236-2012.

34.6.7. The hose breathing apparatus having manual or mechanical drive of PSh-2 type has three designs:

- The hose breathing apparatus having manual or mechanical drive of PSh-2 type having single channel air supply hose with length of 20 meters.
- The hose breathing apparatus having manual or mechanical drive of PSh-2 type having single channel air supply hose with length of 40 meters.
- Hose breathing apparatus with manual or mechanical drive of PSh-2 G type: dual channel having two air supplying hoses each 20 m long.

34.6.8. Hose equipped breathing apparatus having manual or mechanical drive consists of the following:

- air blower having manual or mechanic drive;
- one or two sets of facial parts (a wide view mask or a hard hat-mask);
- one or two rubber reinforced pipes having length of 20 or 40 m (two hoses for simultaneous work of two people). The sleeve should have the inner rubber layer, the intermediate rubber-treated cloth, the metal spiral, intermediate rubber layer and the outer layer. At the end the sleeves should have cuffs made of rubber-textile the (without spiral) to attach them to the fixture;
- the gear consisting of the waist belt having shoulder straps and a signal rescue rope (two sets of gear for simultaneous work of two people). The strength of the gear to effects of static load should be no less than 1960 N (200 kg).

Cotton gear should be used in explosion hazardous atmosphere, the synthetic (made of dacron or propylene) in corrosive environment (featuring acid, alkali, and etc.).

The air fit for respiration is supplied under the frontal part from the clean zone using the hose and a connection (corrugated) hose using installation (air blower) having electric motor and/or a manual drive. Operating breathing apparatus having manual or electric drive (type PSh-2) has a constant supply of clean air developing excessive pressure under the mask space which excludes penetration of polluted air inside and rules out fogging the glass in the front part. The time of protective action is not limited.

34.6.9. Mandatory compliance certification: TR CU 019/2011.

34.6.10. Mandatory conformity: GOST 12.4.236-2012.

34.6.11. Designation

It is used for protecting respiratory organs, eyes and face from any harmful admixtures in the air regardless of their concentrations, as well as to be used in work under conditions of lacking oxygen (less than 17%-volume) in the working area over the temperature range from minus 40°C to 40°C (for PSh-1-155) and from minus 30°C to 40°C (for PSh-1 and PSh-2). Breathing apparatus having hose to supply pure air is used when the work is carried out inside tanks, wells, vessels, etc.

34.7. FILTERING REBREATHER FOR PROTECTION IN CASE OF FIRE

34.7.1. Technical description

The rebreather filtering kit for protection under fire situation (hereinafter, rebreather) should include the following:

- working part of rebreather (hood with respirator and filtering and absorbing cartridge);
- a pack for hermetic packaging;
- a bag for rebreather;
- Operations manual.

The guaranteed time of using the rebreather should be no less than 30 minutes.

Rebreathers should have the following specifications: the inward leakage coefficient on sulfur hexafluoride no higher than 1.0%; the rate of penetrating sodium chloride aerosol under respirator and in the area of eyes no higher than 1.0%, the rate of penetration on the standard oil mist under respirator and in the area of eyes no higher than 1.0%.

The filtering and absorbing cartridge of rebreather should have the following time of protective action against toxic combustion products:

- on hydrogen cyanide having concentration of 2000 mg/m³ no less than 30 min;
- on chloride hydrogen at concentrations of 3000 mg/m³ no less than 30 min;
- on acrolein having concentration of 1250 mg/m³ no less than 30 minutes.
- carbon monoxide, 4375mg/m³ no less than 30 min;
- acetonitrile, 700 mg/m³ at least 30 min;
- chloropicrin, 50 mg/m³ no less than 30 min;
- chlorine, 90 mg/m³ no less than 30 min;
- hydrogen sulfide, 700 mg/m³ at least 30 min;
- sulfur dioxide, 700 mg/m³ no less than 30 min;
- hydrogen fluoride, 10 mg/m³ no less than 30 min;
- ammonia, 600 mg/m³ no less than 30 min;
- dimethylamine, 90 mg/m³ no less than 30 min;
- nitrogen dioxide, 40 mg/m³ no less than 30 min;
- cyanogen chloride, 50 mg/m³ no less than 30 min;
- phosgene, 50 mg/m³ no less than 30 minutes.

The warranty period of storage inside the package is no less than 6 years.

The time to bring rebreather from "in box" to "operational" position should be no longer than 30 seconds.

Rebreather should have confirmed protection from effects of carbon monoxide, hydrogen cyanide, acrolein, sulfur dioxide, hydrogen sulfide, chlorine, ammonia, acetonitrile, hydrogen fluoride, dimethylamine, nitrogen dioxide, phosgene, chlorine cyanide and chloropicrin.

filtering and absorbing cartridge of rebreather should have a permeability coefficient on radioactive substances no more than 1.0% under vapor concentration, Ci/dm^3:

- Iodine-131 - 1/100000;
- methyl iodide - 1/100000.

The quality of each batch of rebreathers should be confirmed by leak checking.

34.7.2. Mandatory certification of rebreathers on compliance with requirements of fire safety in the following areas:

- Federal Law 123-FZ.
- GOST R 53261-2009.

34.7.3. Mandatory certifications of rebreathers on compliance with the following: TR CU 019/2011.

34.7.4. Designation

It is designed to protect the respiratory organs, eyesight and skin at the head from exposure to toxic combustion products, including carbon monoxide, hazardous chemicals and aerosols generated during fires and during other emergency situations of technogenic nature when the oxygen content in the air is less than 17 %-vol. It should be used by employees in offices and in administrative building during emergency evacuation from the affected area.

34.8. FILTERING INDUSTRIAL CLOSED-CIRCUIT REBREATHER

34.8.1. Technical description

The filtering rebreather kit to be used during technological accidents (hereinafter, rebreather) should include the following:

- working part of rebreather (hood with respirator and filtering and absorbing cartridge);
- a pack for hermetic packaging;
- a bag for rebreather;
- Operations manual.

The guaranteed time of using rebreather should be 20 minutes.

Rebreathers should have the following specifications: the inward leakage coefficient on sulfur hexafluoride no higher than 1.0%; the rate of penetrating sodium chloride aerosol under respirator and in the area of eyes no higher than 1.0%, the rate of penetration on the standard oil mist under respirator and in the area of eyes no higher than 1.0%.

On time the filtering and absorbing cartridge active the rebreather should be rated as belonging to no less than the third grade of high efficiency according to 12.4.285 for AVEKR brand.

The filtering and absorbing cartridge of rebreather should have the protective action no less than 20 min under the following concentrations of poisonous chemicals:

- hydrogen cyanide, having concentration of 10 mg/m^3;
- hydrogen chloride, having concentration of 400 mg/m^3;
- cyclohexane having concentration of 1000 mg/m^3;
- acetonitrile having concentration of 700 mg/m^3;
- chloropicrin having concentration of 50 mg/m^3;

- Chlorine having concentration of 90 mg/m³;
- sulfur hydride having concentration of 700 mg/m³;
- sulfur dioxide, having concentration of 700 mg/m³
- hydrogen fluoride having concentration of 10 mg/m³;
- ammonia, at concentrations of 1400 mg/m³;
- chlorine cyanide at concentration of 50 mg/m³;
- phosgene, at concentration of 50 mg/m³.

The time to bring the rebreather from "in a box" to "operational" position should be no longer than 30 seconds.

The warranty period of storage inside the package is no less than 5 years.

The rebreather should have protection from hydrogen cyanide, sulfur dioxide, hydrogen sulfide, chlorine, ammonia, acetonitrile, hydrogen fluoride, nitrogen dioxide, phosgene, chlorine cyanide and chloropicrin.

filtering and absorbing cartridge of rebreather should have a permeability coefficient on radioactive substances no more than 1.0% under vapor concentration, Ci/dm^3:

- Iodine-131 - 1/100000;
- methyl iodide - 1/100000.

The quality of each batch of rebreathers should be confirmed by leak checking.

34.8.2. Mandatory compliance certification: TR CU 019/2011.

34.8.3. Mandatory conformity: GOST 22.9.05, GOST 12.4.235.

34.8.4. The filtering and absorbing cartridge of rebreather should comply with the following requirements: TR CU 019/2011, GOST 12.4.235.

34.8.5. Designation

It is designed to protect the respiratory organs, eyesight and skin at the head from exposure to toxic combustion products, including carbon monoxide, hazardous chemicals and aerosols generated during fires and during other emergency situations of technogenic nature when the oxygen content in the air is less than 17 %-vol. It should be used by employees in offices and in administrative building during emergency evacuation from the affected area.

34.9. ISOLATING REBREATHER

34.9.1. Technical description

It is designed to protect breathing organs and eyesight under conditions of low oxygen content in the air of working area as well as under conditions when the air contains any harmful substances regardless of their composition and concentration. It is designed to evacuate and engage into initial activities to respond accidents. It can be used immediately and does not require individual fitting.

34.9.2. Mandatory compliance certification: TR CU 019/2011.

34.9.3. Mandatory conformity: Federal Law 123-FZ.

34.9.4. Designation

They are used for protecting the respiratory organs, eyesight and the skin of the face from any harmful admixtures in the air regardless of their concentrations as well as provide for working under conditions of oxygen deprivation in the air under temperatures ranging from minus 40°C to 40°C.

34.10. BREATHING APPARATUS USING COMPRESSED AIR

34.10.1. Technical description

The breathing apparatus includes the following:

- panoramic mask with a broad view and the centrally located nozzle to connect breathing machine (without extra adapters). Detaching breathing machine should be carried out through pressing a button on the panoramic mask. Breathing machine should connect to pneumatic system of breathing apparatus via quick-release coupling located on the medium pressure hose;
- detachable pressure reducer having pneumatic distribution system consisting of a separate pneumatic hoses of high and medium pressure, pressure gauge, and signaling device;
- suspension system having channels for separate laying hoses under medium and high pressure;
- depending on the model the rigid bearing plate (back) can be height-adjustable;
- metal composite bottle with a capacity of 6.8 liters with a valve. The life time of the bottle should be no less than 15 years from the date of manufacturing. The axis of rotation of the valve flywheel should be the same as the main axis of the bottle.

The breathing apparatus may include one or two bottles.

Breathing apparatus designed for the simultaneous operation using two tanks is additionally fit with a tee to connect tanks to a pressure reducer having elongated tank belt of suspension system.

Connecting the rescue devices should be carried out using the quick-release connection of the EURO type having the passage of 7 mm in the lumbar user area. The connection sleeve should be located on a separate hose coming directly from the pressure reducer.

The service life of the breathing apparatus should be unlimited.

The pressure gauge in the breathing apparatus should be a registered measuring means subject to state validation at least once every two years.

Regulated pressure reducer overhaul should be made after 10 years from the manufacturing date.

34.10.2. Mandatory compliance certification: TP TU 019/2011, TP TU 032/2013.

34.10.3. Mandatory conformity: GOST R 53255-2009, GOST R 53257-2009, GOST R 53258-2009.

34.10.4. Designation

They are used to protect eyesight and respiratory (breathing) organs from harmful effects of unsuitable for breathing, toxic and fumed environment during firefighting operations, during response to accident involving emission of life and health threatening chemicals in the range of operating temperatures from minus 40°C to 60°C.

34.11. PROCEDURE TO CHECK TIGHT APPLICATION OF RPE FACE MASK/RESPIRATOR

Below there are two methods of test for tight application of RPE face mask/respirator. These methods are applicable to most types of BPE. One or both of testing techniques given below should be applied before each use BPE.

Checking application is made before each use BPE.

34.11.1. Check fitting under positive pressure mode

Put on the mask/respirator so that it feels comfortable and tighten head straps. Close the exhale valve using the palm and gently exhale air into the mask.

The test results are considered satisfactory if under mask/respirator there is a slight positive pressure developed without signs of outside leaking.

34.11.2. Check fitting under negative pressure mode

Put on the mask/respirator so that it feels comfortable and tighten head straps. If you cannot close using palms the inlet holes in the cartridge, apply adhesive tape glue to the cartridges/filters or using any other air tight material.

After sealing inlet holes make a breath that will create a minor negative pressure under the mask/respirator. Hold your breath for approximately ten seconds.

The test results should be considered satisfactory if the mask/respirator remains in a slightly compressed condition not showing air leaks inside the masks/respirator.

35. PERSONAL PROTECTION EQUIPMENT TO PREVENT FALL FROM HEIGHT.

35.1. GENERAL REQUIREMENTS

The rules on labor protection when working at a height 155n should be followed when engaged into work at height.

The systems providing safe work at height are divided into the following types: restraint systems, positioning systems, safety systems, and rescue and evacuation systems.

35.1.1. The fall arrest system

Restraint system consists of:

- holding harness (safety belt), wound around the waist consisting of several parts that in combination with straps fix the worker at a certain height during operations;
- opening part for connecting components allowing worker to attach strap in order to connect directly or indirectly to support (hereinafter - the connecting element (carbine));
- anchoring point to fasten a personal protection equipment after installing anchor device or anchor structure having stationary fixing to a structure (building);
- strained strap having adjustable length to hold a worker;

The components and parts of restraining systems should withstand a static load of at least 15 kN and straps made of synthetic materials should be have resistant to static load of at least 22 kN.

Both restraint and life line can be used as a harness in restraint systems.

Holding or positioning straps having permanent or adjustable length, including elastic straps, straps having shock absorber and pull out protection gear can be used as straps in connecting and shock absorbing subsystem of restraining system.

35.1.2. Positioning system

Positioning system allowing worker to operate with support preventing falling; it consists of the following:

- a waist belt to support body embracing body by the waist;
- tensioned strap having adjustable length to ensure working positioning used for connecting waist belt to an anchor point or structure, embracing it, as a means of support;

- strap having shock absorber;
- safety harness.

The waist belt in positioning system can operate as a component in the fall arrest system.

Positioning system can be used only when the lifeline system is in place.

Connectors made of positioning straps having permanent or adjustable length should be used as a connecting-shock absorbing subsystem; at the same time the sliding type protection means involving flexible or rigid anchor lines can be also used for the same purpose.

35.1.3. The safety system

Safety systems consisting of a safety harness and lifeline subsystem attached consists of the following:

- structural anchor set up at each end of the anchor line;
- anchor line made of a flexible rope or wire between structural anchors to which the personal protection equipment can be attached;
- strap;
- shock absorber;
- safety harnesses (strapped safety belt) used as a component of the safety system to embrace human body in order to prevent from falling from height; the harness can include connecting straps, buckles and appropriately fastened parts to support the entire body and support the falling body through all motion phases and after full stop.

Connecting the impact absorbing subsystem to a worker is carried out using the rope part having A marking. Connecting to a point located on the back is preferred because it eliminates the chance of incidental disconnection (unfastening) by the worker and does not interfere with carrying out the work.

A lifeline harness is used as a harness in the safety systems. The use of strap-free safety belts is prohibited due to the risk of injury or death in a result of impact effect on the worker spine when falling stops, potential worker loosing the safety belt or inability of staying long time in the safety belt in suspended position.

A shock absorber should be included into design of connecting and impact absorbing subsystem in the safety system on obligatory basis. The connecting and shock absorbing subsystem can be made of straps, pull out safety devices or sliding type protection means having rigid or flexible anchor lines.

35.1.4. Rescue and evacuation system

The composition of the rescue and evacuation systems should include the following:

- additional or already used but designed to withstand additional load anchors and/or anchor lines;
- backup restraining systems, positioning systems, access systems and/or life-line systems;
- required ascend or descend means depending on the rescue plan and/or evacuation pattern (for example, winches, hoisting blocks, tripods, elevators);
- stretchers, splints, immobilizing means;
- the first aid kit.

Rescue and evacuation system using protection means of retractor type with a built-in winch consists of the following:

- hard anchor line allowing simultaneous fastening to the rescue and evacuation systems of an injured worker and a lifeline for a worker involved in rescue operations;
- protection means of retractor type having a built-in winch;
- rescue harness including straps, fittings, buckles or other parts suitably arranged and assembled to support human body in a comfortable position during evacuation;
- strap;
- shock absorber;
- safety harness.

Rescue and evacuation system can use rescue loops in addition to rescue harnesses.

There are the following differences observed:

- rescue loop of Class A: the loop is designed and made in a way that a person rescued is constrained by the rescue loop which passes under the arms during rescue operations;
- the rescue loop of Class B: a loop designed and made in such a way that a person rescued is constrained in sitting position by the loop straps during rescue operations;
- rescue loop C: this is a loop designed and developed in such a way that during the rescue process the employee is held in upside down position by rescue loop straps gripping ankles.

Rescue and evacuation system using a portable temporary anchoring device consists of the following:

- of tripod;
- hoisting winch;
- rescue harness;
- lifeline device having automatic pulling strap self-blocking function and an option of automatic pulling out and retracting pulled out strap;
- shock absorber contained inside the retracting strap (the energy dissipation function can be performed by the safety device);
- safety harness.

The rescue and evacuation system using individual rescue means (IRM) is designed for worker individual self-rescuing from height and it consists of the following:

- IRD preventing rotation and risk of free fall of a worker during descent as well as a sudden stop of descent and providing an automatic descend speed not exceeding 2 m/s;
- class B rescue loop (the use of class A rescue loops is allowed).

In the operational documentation the manufacturer of individual rescue device should indicate the maximum height for descent.

35.1.5. The systems to ensure safe work at height should meet the following requirements:

- correspond to existing conditions at the workplace, correspond to the nature and type of work performed;
- take account of ergonomic requirements and the worker's health status;
- it should correspond to gender, height and size of an employee after necessary adjustment.

35.1.6. The safety systems to work at height consist of the following:

- the anchoring device;
- harness (safety harness to hold and positioning for sitting position);
- the connection shock absorbing subsystem (straps, ropes, swiveling hooks, shock absorbers, retractable type protection gear, slider type protection gear against falling using flexible or rigid anchor line).

Anchoring device in restraint and positioning systems is rendered fit to purpose if it withstands a load of no less than 13.3 kN.

Anchoring device in lifeline systems for one employee is considered being fit to purpose if it withstands a load of at least 22 kN.

The points of anchoring to connect safety-systems for two workers should withstand without mechanical failure the load no less than 24 kN adding 2 kN for an additional worker (for example, horizontal flexible anchor lines should withstand 26 kN for three, and 28 kN for four workers).

35.2. THE SAFETY OR RESTRAINING HARNESS

35.2.1. Technical description

Safety harness having shoulder and hip straps with two mounting points (on the chest and on the back) to connect to the fall protection system having a waist belt (sash) and two D-shaped rings to work in barrage (for positioning purpose). The woven tape and sewing thread to make safety leash should be made of homogeneous fiber or multiple thread synthetic fibers that are suitable for their intended use.

Tensile strength of synthetic fibers - no less than 0.6 N/tex.

Threads used to stitching should be physically compatible with the cloth and the quality should be compatible with the quality of the fabric. They should have a different color or contrast hue to provide for a visual control.

The straps should not change position and slacken by themselves.

The waist belt (sash) should have a width no less than 43 mm and it should be adjustable to fit the size of worker.

The width of the back support of waistband (if available) should be no less than 100 mm at the section having length of 200 mm; it should be centered on the back of user, and the width should be no less than 60 mm in the rest of places.

The width of the main belts should be no less than 40 mm, and the auxiliary belts should be no less than 20 mm wide.

Rip load: no less than 1500 kgf (15 kN).

The temperature range use the harness is from minus 30°C to 50°C.

The safety leash should have identification tag that contains information about the product, the user, the way of putting on and the timing of visual inspection, visual testing before use.

35.2.2. Mandatory compliance certification: TR CU 019/2011.

35.2.3. Mandatory conformity: GOST R EN 361-2008, GOST R EN 813-2008, GOST R EN 358-2008.

35.2.4. Designation

To make work on power lines, to engage into roofing works, into rescue operations, making work inside tanks and wells.

35.3. SAFETY HARNESS MADE OF HEAT-RESISTANT MATERIALS HAVING THE SHOULDER AND HIP STRAPS

35.3.1. Technical description

Safety harness having shoulder and hip straps. All harness elements should be made of heat-resistant materials.

Tensile strength of synthetic fibers - no less than 0.6 N/tex.

Threads used to stitching should be physically compatible with the cloth and the quality should be compatible with the quality of the fabric. They should have a different color or contrast hue to provide for a visual control.

The straps should not change position and slacken by themselves.

The width of the main belts should be no less than 40 mm, and the auxiliary belts should be no less than 20 mm wide.

Rip load: no less than 1500 kgf (15 kN).

35.3.2. Mandatory compliance certification: TR CU 019/2011.

35.3.3. Mandatory conformity: GOST R EN 361-2008, GOST R EN 813-2008, GOST R EN 358-2008.

35.3.4. Designation

To carry out work associated with open fire.

35.4. THE SAFETY STRAP WITH SHOCK ABSORBER

35.4.1. Technical description

Both ends of the strap should have appropriate end connections. The free end of the strap having adjustable length should have a limit stop. The length of the strap including the length of the end connections, for example, carbines or loops and compact shock absorber should be no more than 2 m. The strap having adjustable length should not be longer than 2 meters.

Fiber rope, woven bands and suture thread for straps should be made of homogeneous fiber or from multiple synthetic threads suitable for this application. Tensile strength of synthetic fibers - no less than 0.6 N/tex.

Straps or their components made of textile materials, for example, from ropes or woven belts, straps made of synthetic fibers, as well as textile connections at the strap ends and their length controls, if applicable, should be able to withstand the force no less than 22 kN without separation, rupture or destruction of any strap element.

35.4.2. Mandatory compliance certification: TR CU 019/2011.

35.4.3. Mandatory conformity: GOST R EN 354-2010, GOST R EN 355-2008, GOST R EN 358-2008.

35.5. FIRE RESISTANT SAFETY STRAP WITH SHOCK ABSORBER

35.5.1. Technical description

Both ends of strap should have the appropriate end connections. The free end of the strap having adjustable length should have a limit stop. The length of the strap including the length of the end connections, for example, carbines or loops and compact shock absorber should be no more than 2 m. The strap having adjustable length should not be longer than 2 meters.

All strap elements should be made of heat-resistant materials (cord from incombustible materials, shock absorber should be in the heat resistant cover).

The straps should withstand a force no less than 22 kN without separation, tearing or destruction of any strap element.

35.5.2. Mandatory compliance certification: TR CU 019/2011.

35.5.3. Mandatory conformity: GOST R EN 354-2010, GOST R EN 355-2008, GOST R EN 358-2008.

35.6. DOUBLE (TWO SHOULDER) STRAP HAVING SHOCK ABSORBER

35.6.1. Technical description

Double (two shoulder) strap made of a strong woven belt or fiber rope. The strap provides for free movement on metal structures, scaffolding, ladders, etc.

The length of the arm is no less than 1 m. On one end of the strap there is a connection to the shock-absorber and the clip, and on the opposite end there are two hooked clips having self-closing locks. The maximum length of loaded strap having folded shock absorber should be no more than 2 m. Ropes and woven belts should be made of synthetic fibers having properties of polyamide or polyester fibers.

Ropes and woven tapes used to make straps, should withstand breaking load no less than 22 kN.

35.6.2. Mandatory compliance certification: TR CU 019/2011.

35.6.3. Mandatory conformity: GOST R EN 354-2010, GOST R EN 355-2008, GOST R EN 358-2008.

35.7. GRIP ON A FLEXIBLE ANCHOR LINE

35.7.1. Technical description

Flexible anchor line with a grapple which is automatically moving along the anchor line and blocks at the time of fall. Material of grip: stainless steel. The grip should withstand a static tearing load no less than 15 kN. The rope should be made of synthetic fibers having properties similar to polyamide or polyester fibers. The length of the rope should be no less than 10 meters. The diameter of the rope is from 10 to 14 mm. The rope used to make anchor line should have the break load no lower than 22 kN.

35.7.2. Mandatory compliance certification: TR CU 019/2011.

35.7.3. Mandatory conformity: GOST R EN 353-2-2007.

35.8. THE RETRACTOR-TYPE LOCKING DEVICE WITH STEEL CABLE

35.8.1. Technical description

The locking device having retractable cable no shorter than 6 m of the winding type and fast engaging braking system. High-strength composite or steel housing. Steel cable having diameter no less than 4 mm. The response time to engage breaking device should not exceed 1.5 m/s.

The locking device should be able to withstand the force no less than 12 kN.

The temperature range of using is from minus 30°C to 50°C.

35.8.2. Mandatory compliance certification: TR CU 019/2011.

35.8.3. Mandatory conformity: GOST R EN 360-2008.

35.9. THE RETRACTOR-TYPE LOCKING DEVICE WITH BELT CABLE

35.9.1. Technical description

The locking device with automatic strap return. The belt width should be no less than 17 mm, the length of the belt with the shock-absorber should be no less than 1.97 m. The built-in shock absorbing element operating on the principle of the safety seat belt inside cars is reducing the load onto the human body during the falling time.

The locking device should be tested for operation when mounted at the leg level; it should withstand the load no less than 15 kN.

The temperature range of using is from minus 30°C to 50°C.

35.9.2. Mandatory compliance certification: TR CU 019/2011.

35.9.3. Mandatory conformity: GOST R EN 360-2008.

35.10. TRIPOD WITH LIFTING MECHANISM

35.10.1. Technical description

Material: aluminum

The maximum lifting capacity is no less than 135 kg.

Working height is no less than 1.3 to 2.3 m.

Weight is no more than 19 kg.

All three support of a tripod should have the option of independent adjustment of length and tilt.

The number of points to mount safety harness is no less than 2.

35.10.2. Mandatory compliance certification: TR CU 019/2011.

35.10.3. Mandatory conformity: GOST EN 795-2014.

35.10.4. Designation

For bringing down and lifting up persons engaged in work inside wells, pits, channels, mines, etc. The work should involve at least two persons. An employee serving the lifting mechanism that lowers or raises a worker attached to a rope is engaged at the same time in providing safety measures to the worker in case an emergency or abnormal situation develops.

36. INDIVIDUAL MEANS TO PROTECT AGAINST ELECTRIC CURRENT

36.1. GENERAL REQUIREMENTS

36.1.1. Individual protection against electric current should provide protection against electrocution and/or the possible effect of timely un-switched high voltage in electric networks. The most common means of personal protection are given in the typical standards. They are as follows: dielectric gloves, dielectric overshoes, dielectric boots, and dielectric pads.

36.1.2. Classification and the list protection means to be used in work with electric installations including individual protection means, the requirements to their testing and application, the guidelines of using, the accounting and monitoring of their status are listed in the guidelines on application and testing personal protection means SO 153-34.03.603-2003.

36.2. DIELECTRIC OVERSHOES

36.2.1. Technical description

Overshoes should be fully or partially (the outer layer) made of dielectric material (rubber). Special marking and signs should be available in obligatory manner. Overshoes are not intended for daily wearing for several hours. Overshoes should be tested with information on testing being applied as a marking on the surface of the overshoes - "No., can be used up to __kV rating, the date of the next test".

Overshoes should consist of a rubber top, ribbed rubber soles, textile lining and internal reinforcement parts. Shaped overshoes can be made without liner.

Boots should have cuffs.

The height of the boots should be no less than 160 mm.

36.2.2. Mandatory compliance certification: TR CU 019/2011.

36.2.3. Mandatory conformity: GOST 13385-78.

36.2.4. Designation:

- repair or installation work on lines and on unequipped construction and other work sites;
- the work which should be made with obligatory use of PPE to protect from effects of electric current as well as when PPE is recommended by manufacturers of industrial and other types of equipment.

Dielectric overshoes are an additional protection means against electric current when working inside weather protected and in open the electric installations when there is no atmospheric precipitation. Dielectric overshoes are used when the voltage is above 1 kV at temperatures ranging from minus 30°C to 50°C.

36.3. DIELECTRIC BOOTS

36.3.1. Technical description

Overshoes should be completely or partially made (the outer layer) of dielectric material (rubber). Special marking and signs should be available in obligatory manner. Overshoes are not intended for daily wearing for several hours. Overshoes should be tested with confirming it by a marking applied to the surface of boots as follows: "No., can operate up to __kV, the date of the next test".

Overshoes should consist of a rubber top, ribbed rubber soles, textile lining and internal reinforcement parts.

The height of boots should be no less than 55 mm.

36.3.2. Mandatory compliance certification: TR CU 019/2011.

36.3.3. Mandatory conformity: GOST 13385-78.

36.3.4. Designation:

- repair or installation work on lines and on unequipped construction and other work sites;
- the work which should be made with obligatory use of PPE to protect from effects of electric current as well as when PPE is recommended by manufacturers of industrial and other types of equipment.

Dielectric overshoes are additional means of protection from electric current when the work is conducted on electric installations inside rooms or outside buildings if there is no atmospheric precipitation. Dielectric overshoes are used for voltages up to 1 kV at temperatures from minus 30°C to 50°C.

36.4. DIELECTRIC GLOVES

36.4.1. Technical description

The five-finger seamless gloves made of film having smooth internal and external surfaces. It is allowed to have an additional coating applied to external side of the gloves to ensure better grip. Length no less than 280 mm.

Material: 100% latex (natural rubber).

The leak current for a given voltage not to exceed 9 mA.

36.4.2. Mandatory compliance certification: TR CU 019/2011.

36.4.3. Mandatory conformity: GOST 12.4.103-83.

36.4.4. Recommended to make additional compliance certification: EN 60903.

36.4.5. Designation

They are applied in electric installations rated up to 1000 V as the main insulating protection mean.

36.5. DIELECTRIC PADS

36.5.1. Technical description

These are pads having thickness of 6±1 mm, length between 500 and 800 mm and width from 500 to 800 mm. Pads should have rough outer surface, the depth of reefs being 1-3 mm. Pads should have one color.

Dielectric pads of should comply with the 1-st work group rated to operate under ambient temperatures from minus 40°C to 50°C.

Dielectric pads should be used as an additional protection in the closed electric installations energized with 1000 V and higher except especially wet premises, as well as in open electric installations in dry weather.

Each dielectric pad should be marked with indelible ink or embossed stencil. The height of embossed marking should not exceed 1 mm for unshaped dielectric pads.

Marking applied to dielectric pads should contain the following information:

- the trademark or logo and the name of manufacturer;
- symbol applied to a dielectric mat;
- the voltage at which dielectric pads were tested;
- batch number;
- the date of the dielectric pad was manufactured showing the quarter and the year;
- the stamp of technical control function confirming the quality of dielectric pads.

36.5.2. Mandatory compliance certification: GOST 4997-75.

36.5.3. Designation

Work with electric equipment.

37. PORTABLE MEASURING DEVICES (GAS ANALYZERS)

37.1. GAS ANALYZER FOR MEASURING OXYGEN AND TOXIC GASES CONCENTRATION

37.1.1. Technical description

- the warranty no shorter than 24 months after the operating onset;
- the life of sensors is no less than 24 months from activation;
- the device operation life is no less than 10 years;
- the presence of a triple alarm system: sound and light signals, a vibrating signal to be generated simultaneously for each type of emergency situation;:

- simple and easy-to-read backlit display;
- ability to display readings in the following units: [mg/m³] or [ppm] or [%-vol];
- it is possible to carry out manual calibration of the various gases or calibration using an automatic station;
- available software;
- explosion proof housing providing waterproof properties and absorbing impacts when falling;
- IP protection (protection from dust and moisture): no less than IP66/67;
- device should be certified to work in area zone 0, where the explosive gas mixture is permanently present or is present for long periods of time.
- the equipment should be certified for the areas having a potentially explosive environment by IIC class;
- operating temperature range: from minus 40°C to 50°C;
- ability to use the automated functional tests for simultaneous testing no less than 6 gas analyzers.

37.1.2. The mandatory certification for compliance with the following: TR TU 012/2011.

37.1.3. Obligatory Certificate on primary check or mark in the product passport about on passing initial calibration by the measurement tool.

37.1.4. Designation

Individual portable instrument for measuring and monitoring concentration of one of gases (carbon monoxide, sulfur oxide, hydrogen sulfide, oxygen, chlorine, carbon dioxide, hydrogen cyanide, ammonia, hydrogen fluoride, two organic compounds, and mercaptans).

37.2. THE GAS ANALYZER FOR SIMULTANEOUS MEASUREMENT OF CONCENTRATIONS OF SEVERAL GASES

37.2.1. Technical description

- the warranty no shorter than 24 months after the operating onset;
- device operational life is no less than 8 years;
- Large display having an additional backlighting that provides reliable reading under adverse conditions;
- the presence of a triple alarm system: sound and light signals, a vibrating signal to be generated simultaneously for each type of emergency situation;:
- explosion-, dust- and water-protected housing, resistant to effects of electromagnetic fields and corrosive gases;
- the device should be certified as suitable to operate in zone 1 where the explosive gas mixture is continuously present or is available for long periods of time.
- the equipment should be certified for the areas having a potentially explosive environment by IIC class;

- a wide range of controlled explosive gases and vapors, including vapors of volatile organic compounds obtained and used in operations of the Company (hydrocarbons C1-C10, vapors of butyl alcohols, aromatic hydrocarbons, gasoline vapor, etc.);
- optional availability of devices for taking samples from confined spaces;
- the option to calibrate each sensor individually;
- available software;
- IP protection (protection from dust and moisture): no less than IP66/67;
- the ability to display sensor readings of toxic gases and oxygen in the following designations: [mg/m³] or [ppm] or [%-vol];
- The ability to display sensor readings on explosive gases and vapors in the following designations: [% LEL] or [mg/m³], or [ppm] or [%-vol];
- operating temperature range: from minus 40°C to 50°C;
- ability to use the automated functional tests for simultaneous testing no less than 6 gas analyzers.

37.2.2. The mandatory certification for compliance with the following: TR TU 012/2011.

37.2.3. Obligatory Certificate on primary check or mark in the product passport about on passing initial calibration by the measurement tool.

37.2.4. Designation

It is intended for detecting and monitoring concentration of explosive gases (CH_4, etc.), O_2, H2S, CO.

38. PRE-MEDICAL ASSISTANCE MEANS

38.1. GENERAL INFORMATION

38.1.1. Providing the first aid at the incident scene should be carried out using relevant means and medicines which are recommended to be kept as the first aid kits and kits located in vicinity of the job sites.

38.1.2. All production facilities should have the first-aid kits to provide first-aid to workers.

38.1.3. In each structural subdivision there should be responsible persons assigned (including persons responsible for maintaining the first aid kits in proper conditions) as well as the areas allocated to store the first aid kits.

38.1.4. Places to store first aid kits should bear clearly visible sign.

38.2. FIRST AID KIT FOR WORKERS

First Aid Kit to provide first-aid to workers is developed in accordance with Instruction of the Ministry of Health and Social Development of Russia No. 169n dated March 5, 2011.

38.2.1. Technical description

First aid kit is a set of medical products designed to help pre-medical stuff individual and mutual assistance; it is put inside a wall-mounted plastic or metal cabinet.

38.2.2. Composition of the first-aid kit

1) The arresting bleeding tourniquet - 1 pc.
2) Non-sterile medical gauze bandage 5 m × 5 cm - 1 pc.

3) Non-sterile medical gauze bandage 5 m × 10 cm - 1 pc.
4) Non-sterile medical gauze bandage 7 m × 14 cm - 1 pc.
5) Gauze medical sterile bandage 5 m × 7 cm - 1 pc.
6) Sterile medical gauze bandage 5 m × 10 cm - 2 pcs.
7) Sterile medical gauze bandage 7 m × 14 cm - 2 pcs.
8) A first aid dressing individual sterile package - 1 pc.
9) Medical sterile gauze cloths no smaller than 16 cm x 14 cm No 10 - 1 pack.
10) Bactericidal adhesive plaster no less than 4 cm×10 cm - 2 pcs.
11) The bactericidal adhesion plaster having dimensions at least 1.9 cm x 7.2 cm - 10 pcs.
12) Adhesive plaster roll - no less than 1 cm × 250 cm - 1 pc.
13) The device for administering artificial respiration "Mouth-to-mouth" - 1 pc.
14) Scissors - 1 pc.
15) Antiseptic alcohol cloths - 5 pcs.
16) Medical non-sterile gloves used for inspection having size no less than M - 2 pairs.
17) Medical mask - 2 pcs.
18) The isothermal rescue blanket 160 cm x 210 cm - 1 pc.
19) English pins - 3 pcs.
20) Recommendations with icons on using the first-aid kit - 1 pc.
21) Notepad - 1 pc.
22) Fountain pen - 1 pc.

39. RESPONSIBILITY

41.1. Responsibility for the timely compilation of the List of PPE handed out to department employees, generating the requisition list to procure PPE, its coordination with HSE and submission to the regional procurement function is born on regional managers.

41.2. Responsibility for storing PPE at the warehouses of the company is hinged with the heads of regional procurement functions; when PPE are stored in material storerooms of the region the responsible persons are regional representatives (warehousemen).

41.3. Monitoring handing out PPE to the company workers is hinged with HSE regional functions.

41.4. Monitoring the compliance with this standard is made by Regional managers.

40. LIST OF APPENDIXES

The list of applications to the standard is given in Table 3.

Table 3. List of appendixes

#	Name
1.	Marking special clothing on compliance with protective properties
2.	The requirements to retroreflective materials
3.	Requirement to accessories

APPENDIX 1 - MARKING INDICATING PROTECTIVE PROPERTIES OF SPECIAL CLOTHING

Marking special clothing on compliance with protective properties

Name of the Group	Name of sub-group	Designation for special clothing
1	2	3
From mechanical effects	From punctures, cuts From abrasion	Mp Mi
From high temperatures	From high temperatures caused by climate conditions	Tk
	From heat radiation	Ti
	From open flame	To
	From sparks, splashes of molten metal, from scale	Tr
	From contacting hot surfaces having temperature above 45°C	-
	From a contact with hot surfaces having temperature from 40 to 100°C	Tp100
	From the contact with hot surfaces having temperature from 100 to 400°C	Tp400
	From contact with hot surfaces having temperature above 400°C	Tv
From low temperatures	From cold air temperatures	Tn
	From effects of low air temperatures and wind	Tnv
From radioactive contamination and X-ray radiation	From radioactive contamination	Rz
	From X-rays	Ri
From electric current, from electromagnetic fields	From electrostatic charges and fields	Es
	From electric fields	Ep
	From electromagnetic fields	Em
From nontoxic dust	From glass fiber and asbestos dust	Ps
	From fine dust	Pm
From toxic substances	From solid toxic substances	Yat
	From liquid toxic substances	Yazh
	From aerosols of toxic substances	Yaa
From water and non-toxic substance solutions	Waterproof	Vn

	Water proof	Vu
	From solutions of detergent substances	Bp
From acid solutions	From effects of acids having concentration above 80% (on sulfuric acid basis)	Kk
	From acids having concentration from 50 to 80% (recalculated to sulfuric acid base)	K80
	From acids having concentration from 20 to 50% (recalculated to sulfuric acid base)	K50
	From acids having concentration of up to 20% (calculated on the sulfuric acid basis)	K20
From alkali	From alkali solutions	Schr
	From the solutions of alkali having concentration above 20% (recalculated to sodium hydroxide)	Sch50
	From solutions of alkali having concentration up to 20% (calculated on sodium hydroxide basis)	Sch20
From crude oil, petroleum, oils and fats	From crude oil	Ns
	From light fraction products	Nl
	From the oil lubricant and heavy fraction products	Nm
	From vegetable and animal oil and fats	Nzh
From general industrial contaminations	-	Z
From the harmful biological factors	From microorganisms	Bm
	From insects	Bn
Warning	-	So

APPENDIX 2 - REQUIREMENTS TO RETROREFLECTIVE MATERIALS

Requirements to retroreflective materials manufactured by 3M, GL Pesko Co, Innopac Korea Inc.

Suture retroreflective materials:	Mixed, the content of polyester, no less than 65% or 100% polyester
Retroreflective materials for clothing and cloak to protect against water:	Retro-reflective specialized thermally activated tape made of polymer materials

Retroreflective capacity (original), no less than:	in accordance with the Table "The minimum retroreflective factor"
Retroreflective capacity (after 20 washing cycles), no less than:	100 cd/(lux·m²)
Resistance to washing at 60°C	20 cycles
Resistance to chemical cleaning	5 cycles
The minimum material width:	50 mm
The certification on compliance:	TR CU 019/2011, GOST 12.4.281-2014, EN ISO 20471

The requirements to fire resistant retroreflective materials made by 3M, GL Pesko Co, Innopac Korea Inc.

Tissue base:	Aramid fibers, cotton with fire retardant impregnation
Retroreflective capacity (original), no less than:	in accordance with the Table "The minimum retroreflective factor"
Retroreflective capacity (after 20 washing cycles), no less than:	100 cd/(lux·m²)
Retroreflective ability (after exposure to heat or convection radiation) should be no less than:	100 cd/(lux·m²)
Resistance to heat flow of 5 kWh/m² for 240 sec:	The following is not allowed: having damaged outer surface (showing traces of fusion, charring, burn through, etc.), delamination of the cover coating from the fabric base and burning
Resistance to open flame for 5 seconds:	The time of residual smoldering is no more than 2 sec
Resistance to effects of ambient temperature of 200°C during 180 sec:	The following is not allowed: having the outer surface damaged (showing traces of fusion, charring, burn through, etc.), delamination of the cover coating from the fabric base, burning, the change in linear dimensions (shrinkage) in excess of 5%
The minimum material width:	50 mm
The certification on compliance:	TR CU 019/2011, GOST 12.4.281-2014, EN ISO 20471

The minimum retroreflective factor

The observation angle	**The minimum retroreflective factor for illumination angle (cd/(lux·m²)**			
	5º	**20º**	**30º**	**40º**
12′	330	290	180	65
20′	250	200	170	60
1°	25	15	12	10
1° 30′	10	7	5	4

APPENDIX 3 - REQUIREMENTS TO ACCESSORIES

YKK, IDEAL fittings.

Plastic zipper of the tractor design, type 5

The transverse link strength:	400 N
The strength of the upper end stops:	80 N
The strength of connecting lock (for zip locks):	100 N
The strength of the lower stops (for close-ended zippers):	55 N
The strength of mounting the slider suspension to detachment:	120 N
Resistance to paints:	level 4–5
Washing:	60 °C
Certificates of conformity:	DIN 55350-18, Oeko-Tex Standard 100 class 1

Plastic zipper of the tractor design, type 8

The transverse link strength:	600 N
The strength of the upper end stops:	150 N
The strength of attaching clip connector:	200 N
The strength of mounting the slider suspension to detachment:	200 N
Resistance to paints:	level 4–5
Washing:	60 °C
Certificates of conformity:	DIN 55350-18, Oeko-Tex Standard 100 class 1

Requirements to flame resistant accessories

Fireproof zipper, type 5, on Nomex® ribbon

The transverse link strength:	500 N
The strength of the upper end stops:	80 N
The strength of connecting lock (for open-ended zippers):	100 N
The strength of the lower stops (for close-ended zippers):	55 N
The strength of mounting the slider suspension to detachment:	120 N
Resistance to paints:	level 4-5
Resistant to open flame:	no lower than 10 s
The certification on compliance:	DIN 55350-18, Oeko-Tex Standard 100 class 1

Chemically and heat resistant amine-plastic buttons

Description:	The press-powder cartridges have high strength indicators, they do not burn, and they are resistant to water, diluted acids, organic solvents, but they are not sufficiently resistant to effects of alkalis
Heat resistance:	up to 800 C
Dry cleaning:	permitted

APPENDIX 4 - REQUIREMENTS TO HEAT INSULATING MATERIALS

Heat insulator: on the basis of polyester Shelter Micro microfibers

Composition:	100% polyester
Surface density, no less than:	150±10 g/m²
Rip loading, N, no less than: along the length across the width	 8.0 17.0
Total thermal resistance, m² · ° C/W, no lower than:	0.55
Design features:	Non-woven thermally bound fabric on the basis of microfiber having linear density no more than 0.22 tex (approximately 2 den) with molten surface (calendering)
The requirements to washing and drying:	Per GOST R ISO 6330-2014: - washing - 4M - drying - B
Dry cleaning requirements:	It is allowed to
Certification of heat insulating materials:	TR CU 017/2011 or TR CU 019/2011 Recommended Oeko-Tex Standard 100 class 1
The limited flame propagation index:	1

Heat insulator: based on Thinsulate polyester fibers

Composition:	100% polyester or 35% polyester, 65% polypropylene fibers
Surface density, no less than:	150±10 g/m²
Rip loading, N, no less than: along the length across the width	 10.0 20.0
Total thermal resistance, m² · ° C/W, no lower than:	0.54
Design features:	The mandatory calendering surface of the material, or bonding using Vlieseline. Thermal bonding of internal insulation fibers
Dry cleaning requirements:	It is allowed to
Certification of heat insulating materials:	TR CU 017/2011 or TR CU 019/2011 Recommended Oeko-Tex Standard 100 class 1

Requirements to fire resistant heat insulating materials

Heat insulator: on the basis of polyester and aramide Shelter Profy FR fibers

Composition:	A mixture of flame resistant fibers, modacryl, polyester and m-aramid fibers
Surface density, no less than:	150±10 g/m²
Rip loading, N, no less than: along the length across the width	 7.0 19.0
Total thermal resistance, m² · ° C/W, no lower than:	0.400
Design features:	Nonwoven thermally bound fabric on the basis of special flame retardant fibers having linear density of no more than 0.33 tex (approximately 3 den), providing Index 3 for a limited flame propagation. The surface of the canvas is sub-molten (calendered)
The requirements to washing and drying:	Per GOST R ISO 6330-2014: - washing - 4M - drying - B
Dry cleaning requirements:	It is allowed to
Certification of heat insulating materials:	TR CU 017/2011 or TR CU 019/2011 Recommended Oeko-Tex Standard 100 class 1
The limited flame propagation index:	3

Heat insulation: Thinsulate FR

Composition:	A mixture of flame resistant fibers, modacryl, polyester and m-aramid fibers
The density, no more:	150±5 g/m²
Thickness, cm	1.5
Heat insulation, Clo:	2.4
Total thermal resistance, m² · ° C/W, no lower than:	0.37
Requirements to washing:	60 °C
Dry cleaning requirements:	It is allowed to
Spreading flame to the top or side edges:	No
Developing hole:	No
Residual burning/melting:	No
Residual flame, less than:	< 2 sec
After-glow/smoldering, less than:	< 2 sec
Design features:	The mandatory calendering the material surface
Certification of heat insulating materials:	TR CU 017/2011 or TR CU 019/2011 and EN ISO 15025

APPENDIX 5 - PROTECTIVE GLOVES. REQUIREMENTS TO LABELING

- from mechanical impact
- from low temperatures
- from elevated temperatures and open flame
- from chemicals
- from chemicals (waterproof, with a low protection level)

APPENDIX 6 (MANDATORY): EXAMPLES OF LABELING PROTECTIVE GLASS (ACCORDING TO GOST 12.4.253-2013)

Protective glasses marking

2-	X	1(2.3)	S	8	9	K	N	R	0(V)
Grading coding (only for the spectacle glass having UV and IR filters	The manufacturer's identification	The optical class (except cover glass)	Mechanical strength	The symbol of resistance to radiation arc of insulation and other thermal processes (where required)	The symbol of molten metal adhesion and resistance to penetration of hot particles (where required)	Symbol of resistivity to surface destruction caused by fine aerosols (where required)	The symbol of resistance to fogging in glass spectacle (where required)	A symbol of high reflection (where required)	The symbol of initial (replaced) spectacle glass (optional)
Optical class: optical class 1 - the best optical quality, optical class 2 optical class 3			***The classification of mechanical strength:*** without logo - the minimum strength S - Elevated strength F - A low-energy impact (45 m/sec) B - Average energy impact (120 m/sec) A - High energy impact (190 m/sec)						

Samples of labeling frames (according to GOST 12.4.253-2013)

X	ZZ	3	S	N	2-

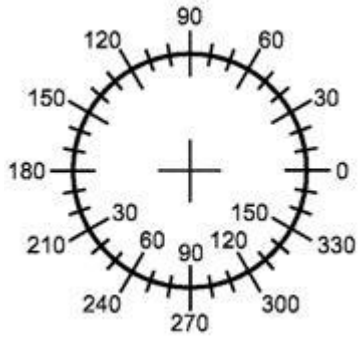
The manufacturer's identification	The Standard designation	Application area (where required)	The symbol of elevated resistivity to effects of particles moving at high speed (where required)	The symbol of eye PPE designated for heads having small size (where required)	The greatest gradational code compatible with frame (where required)
Designations for application areas: Without logo - The main application 3 - Liquids 4 - Colloidal particles 5 - Gas and fine aerosols 8 - Short circuit arc 9 - Molten metals and hot solids			***The classification of mechanical strength:*** S - Elevated strength F - A low-energy impact (45 m/sec) B - Average energy impact (120 m/sec) A - High energy impact (190 m/sec)		

APPENDIX 7 THE FORM OF PRESCRIPTION FOR CORRECTING GLASSES

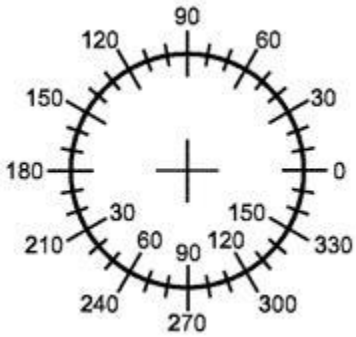
« ____ » _____ 20 _____.

Lens		Sphere, D	Cylinder, D	Cylinder axis, deg	Prism, pD	The prism base
Right	Top					
	Bottom					
Left	Top					
	Bottom					
ADD	Right lens			Left lens		

ADD - addition



Right lens



Left lens

Centering distance, mm

Designation	Binocular	Monocular	
		The right-hand	The left-hand
For far sight			
For proximity			

Assigning points (underline):

for far sight;

For proximity;

for permanent wear

Notes _____

Cover _____

Special notes _____

To: _____

The doctor _____

APPENDIX 8 - THE APPLICATION FORM OF AN EMPLOYEE TO WRITE OFF PPE DEGRADED BEFORE THE INTENDED END OF USE

To the head of _____
(shop, unit name)
_____
(The name of the head of workshop, department)
from _____
(profession, position of worker)
_____

_____
(The worker's name)

STATEMENT

Because my individual protection equipment: _____
_____
,
(full name of worn out PPE)
came out of commission before the end of the operating term; I request writing off and replacing this personal protection equipment.

The basis for writing off and replacement of PPE: _____
(damage to PPE)

Cause of damaging PPE: _____

_____ _____
(signature of worker) (Date)

PPE wear confirmed:
The worker's manager: _____ _____ _____
(position) (signature) (FULL NAME)

APPENDIX 9 - THE FORM OF CERTIFICATE ON WRITING OFF LOW VALUE AND QUICKLY WORN OUT ITEMS

AGREED
Deputy Chief Engineer - the head of HSE, Chief accountant
(position)
_____ _____
(signature) (legible handwritten name)
"_" _____ 20__.

APPROVED
(position)
_____ _____
(signature) (legible handwritten name)
"_" _____ 20__.

CERTIFICATE NO
_____ _____

to write off sundry and quick wear items

The Codes	
OCUD form	0320004
per OKPO	

Company _____

Company division _____

Generation date	The operation type code	Company division	Activity type	Corresponding account	
				account, sub-account	analytical account code

The Committee appointed by instruction (resolution) dated " __" _____20__ No.__ inspected the items accepted over the term _____20__ that were used low value and quickly worn out items and recognized them unfit to use and subject to depositing (moving into scrap category)

Subject		Unite measurement	Amount	The delivery date	Table No./ Name	The signature of delivery	The sum, rub. kop.		Life time	The cause of write off (type of damage that caused premature wear)
name	nomenclature number						excluding VAT	of depreciation		
1	2	3	4	5	6	7	8	9	10	11
		Total		X	X	X				

The total number of items _____

Number and date of disposal certificate _____

Listed in this certificate in presence of the Committee are disposed of (turned into scrap), which is put into log book:

The operation type code	Activity type	Company division	Waste (scrap)		Measurement unit		Amount	Price, Rub. kop.	Sum, Rub. kop.	Serial the record number on the warehouse card
			name	nomenclature number	name	code				
1	2	3	4	5	6	7	8	9	10	11

Total			

Waste not accounting, destroyed.
Chairman of the Committee

position	signature	full name

Members of committee:

position	signature	full name
position	signature	full name

Waste (scrap) as indicated in way bill No. _____ was delivered

APPENDIX 10 (MANDATORY) - SHEET TO REGISTER CHANGES

SHEET TO REGISTER CHANGES							
Chng. No	Description of change	Enactment date	Sheet numbers			Total sheets	Full name of person making change
			Chng.	New	Annul.		