

ANALYSIS OF THE ASSORTMENT OF SPECIAL CLOTHING AND PERSONAL PROTECTIVE EQUIPMENT FOR WORKERS OF THE MINING AND METALLURGICAL COMBINE

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Annotation: these works are devoted to the study of the assortment of special clothing and personal protective equipment (SHHV) intended for workers of the mining and Metallurgical Combine, based on analytical data. The study examined the issues of risk levels of the working environment, types of protective equipment suitable for types of work, their compliance with technical and ergonomic requirements, as well as optimization of the range of available products. Based on the results obtained, recommendations have been developed to provide workers with effective and safe working conditions.

Keywords: combine, sex, clothing, safety, aesthetic, ergonomic, special shoes, Mining-Metallurgy, jacket and trousers; apron from tarpaulin fabric.

In the foundry of the Mining-Metallurgical Combine, workers are exposed to the splashing of metal particles. Therefore, in order to organize their labor activities safely and efficiently, and to protect their health, workers should be provided with special protective clothing that fully meets the safety requirements.

Sample criteria for the free provision of special clothing, special shoes and other protective equipment for workers of the mining and Metallurgical Combine (AV/13.02.2009 y. Minister of Labor and social protection, registered with number 1902, dated 19.01.2009. Approved by order 2 / b) defined in the document. This document contains the standards for the provision of personal protective equipment and special clothing, in which the list of working professions is presented [1].

During the study of working conditions and special work clothes at the Navoi mining and Metallurgical Combine, it was determined that the types of products and materials provided by industry standards do not meet the established requirements. According to the standard, special clothing should be suitable for 9 months, but in practice it is observed that after 3 months it becomes unusable. In addition, the most rubbing areas and ergonomic properties of special clothing were not taken into account [1].




Ergonomic requirements are important when developing a special outfit. According to the requirements of GOST R EN 340-210, it is necessary to ensure protective properties, environmental conditions, level of physical activity, maximum comfort[2].

Special clothes for workers in the field of metallurgy, suitable for working conditions, should be safe and comfortable. Special uniforms that comply with the standard requirements of metallurgists include the following.

A special set of clothing of its workers plays an important role in maintaining their safety, health and improving efficiency in the process of work.

The main items in the special clothing wardrobe of mining and Metallurgical Workers, depending on the conditions of work, include (Table 1.1): jacket and trousers; apron from tarpaulin fabric; gloves that protect against dangerous and harmful factors; goggles that protect against the shooting of metal particles; shoes for different seasons.

**1.1-table
Special clothing collection of mining and Metallurgical Workers**

Product name	Appearance	Professions	Shelf life
Jacket and trousers from tarpaulin fabric GOST 12.4045-87 [3].		Welder, metal waste cooker, gas cutter, drilling metals into small pieces	12 months
Brezent fabric protection Apron GOST 4660319471838 [4].		Used when working with hot metal and welding work	12 months
Leather shoes GOST 12.4.103-83 [5].		Crane machinist, metal and alloy casting	12 months

Kaska. GOST R 12.4.207-99 [6].		Crane operator, drill, blower	24 months
Glove GOST 28846-90 from Brezent fabric [7].		Repairman locksmith, welder, metal and alloy casting	
Anti-noise ear tool GOST R 12.4.208-99 [8].		Drilling metals into small pieces, welder, etc	6 months
Face protection barrier GOST 12.4.013-97 [9].		Electric-gas welder, repair locksmith, metal smelter	12 months
Respirator GOST 12.4.299-2015 [10].		Repair locksmith, metal and alloys the foundry	To the unfit
Protective glasses GOST 12.4.253-2013 [11].		Electro-gas welder	

In Uzbekistan, a number of shortcomings and problems were identified in the process of analyzing the special clothing of workers of the mining and Metallurgical Combine. One of the main problems is the insufficient level of protection of special clothing, aesthetically and ergonomically unfavorable, short shelf life. Such shortcomings negatively affect the labor efficiency and safety of workers, increasing the risk of exposing them to various injuries and


occupational diseases in the labor process.

Analysis of the assortment of flamethrower special clothes

Table 1.2

Custom clothing types and price	Fabric Type	Standard requirements	Suitability modality.
 9 420 000 sum	A mixture of preox and aluminium kevlar fibre.	GOST ISO 11612-2014	12 months
 2 969 479 sum	“Sezar FR” (100% cotton) fire resistant Proban®	GOST 12.4.250-2019 GOST R 12.4.297-2013 GOST 12.4.280-2014	12 months

 <p>1 860 808 sum</p>	<p>Swartex, 100% cotton</p>	<p>GOST 12.4.250-2013 GOST R 12.4.297-2013</p>	<p>12 months</p>
 <p>1 674 990 sum</p>	<p>“Fleymshild 340 RS” 100% cotton, fire resistant Proban®</p>	<p>GOST 12.4.250-2019 GOST R 12.4.297-2013</p>	<p>12 months</p>

 <p>570 000 sum</p>	<p>Moleskin, 100% cotton</p>	<p>GOST 12.4.297-2013</p>	<p>6 months</p>
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Foreign special clothing fabrics considered above have a fireproof property (Table 1.2) “Cesar FR” (100% cotton) clothing made with fire-resistant Proban® technology is important to ensure effective protection in working conditions, protect the health of workers and improve work efficiency [12];

Svartex is a fabric made of 350, 100% cotton, which is important in protecting the health of workers, ensuring their comfort and improving labor efficiency. This material is an ideal choice for high-risk work [13];

“Fleimshild 340 RS” is a fire-resistant fabric made of 100% cotton with Proban® technology. This material is mainly intended for use in metallurgy, construction and other high-risk industries [14].

Moleskin is a fabric made of 100% cotton, which, as a rule, provides high quality, efficiency and comfort. Moleskin fabric is mainly designed for workwear, special forms and sportswear [15].

Fireproof tarpaulin fabric is a raw material with a ratio of 35% linen and 65% cotton. The tarpaulin is fireproof, durable and resistant to mechanical influences, and is designed for working conditions in the metallurgical and Construction Sectors[16].

LIST OF LITERATURE USED:

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2. GOST R EN 340-2010. A system of occupational safety standards.



3. GOST 12.4.045-87 SSBT. Men's suits for protection from elevated temperatures.
4. GOST 4660319471838. Tarpaulin apron.
5. GOST 12.4.103-83 SSBT. Special protective clothing, personal protective equipment for legs and hands.
6. SSBT GOST R 12.4.207-99 Protective helmets. General technical requirements.
7. GOST 12.4.252-2013 SSBT. Personal protective equipment for hands.
8. GOST R 12.4.208-99 SSBT. Personal protective equipment for the hearing organ. Headphones.
9. GOST R 12.4.013-97 SSBT. Safety glasses.
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