



Physiological and Hygiene Changes in Working Conditions in a Ceramic Production Enterprise

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Abstract: Modern production is one of the complex processes of turning raw materials, materials, semi-finished products and other production objects into finished products that meet the needs of society. At the same time, it is the sum of all the actions of workers and production tools for the production of certain types of products. The main part of the production process is the technological process, which includes actions aimed at changing and clarifying the condition of the objects of production.

Key words: Ceramics production enterprise, cocktail conditions, workplace, dust, chemical factors, noise, lighting, microclimate indicators, physical exposure, background, contrast.

Complex factors affect the body of workers in a ceramic production enterprise: dust, chemical factors, poor microclimate conditions, noise, vibration, the weight of the environment, physical fatigue. The purpose of our scientific work is to develop a complex healthy working environment aimed at increasing the working ability of workers at a ceramic production enterprise and improving the work process and reducing morbidity.[1.,2,3,4]

The President of the Republic of Uzbekistan, Shavkat Mirziyoyev, emphasized strengthening the microeconomic stability of the Republic of Uzbekistan, deepening the modernization and diversification of the structural reforms of the Republic of Uzbekistan. Our country, first of all, reforming our economy, developing production, liberalizing and modernizing it, as well as diversifying its structural structure, is a strong force that protects us from the negative impact of disputes and other threats. is a reliable means of protection. Problems of health promotion and labor protection among workers in production include medical, social, economic, legal and other aspects. Harmful and dangerous working conditions cause medical, social and economic damage, high-level occupational diseases, reducing the ability to work, is considered one of the main tasks of the working doctor and the health care system. Protection and strengthening of workers' health is related to the economic growth of the state, especially among the labor force contingent [1,3]. That's why there is a special effort in the public policy[5,6,7,8,]

Hygienic assessment of working conditions, assessment of safe work experience under the influence of harmful factors, establishment of periodicity of medical treatment, payment of compensation and benefits for harmful working conditions, modernization of technological processes and equipment. A

ceramic production enterprise is characterized by unhealthy working conditions that affect the health of workers and the work activities of workers. [7,8,9] The production conditions of the ceramic products factory depend to a small extent on the organization of the production process in hot climate conditions. It is mainly characterized by meteorological and dust factors that shed light on hygienic issues. Our research worker is focused on improving the working conditions in the enterprise.

Research results.

Kaolin and clay are the raw materials for the production of Solol products. They are pure shako, often - with additives. Kaolin and clay are hydrous aluminosilicates with various mixtures, which turn into a stone-like state when combined with water. Clay is the basis of any ceramic product. The clay dough should be uniform in texture, without lamination and air bubbles, evenly mixed with additives, moistened, and able to form a nest or ub with slight pressure. It should be easy to connect separate parts that do not stick to the mixed ashes. There are several ways to make a clay pot. One of them is as follows: a large amount of water is added to the dried and crushed clay, it is transferred through a sieve into a clean container and the clay sinks to the bottom of the water. Then excess water is removed by evaporation or pumping. Before molding, the clay mass is additionally processed, that is, air bubbles are removed from it and it is given a uniform structure. The clay is stored in wet conditions in closed places until the treated clay is used. This allows you to keep the shape of the clay during the production process, while improving the flexibility and plasticity. Freshly prepared mud is often mixed with previously mixed mud, as this condition increases its bacterial activity and improves its quality. The next process is the molding process, in the molding of ceramic products, the clay mass is placed in the molds and treated with soft water, then dried and sent to the ash processing workshop.

Glazing process: glazed alloys melted on a piece of ceramic with a thickness of 0.12-0.40 m. This process is used to cover the ceramic product with a dense and smooth layer, to give the product durability and attractive appearance, to guarantee dielectric properties and to protect the decoration from mechanical and chemical influences. is used. The composition of the glaze includes crushed zircon, boron, belila. The finished glaze is placed in containers and passed through sieves several times to remove additional particles. Glue and glaze are added to the mixture and sent to the next stage. Semi-finished products are sent to the oven for baking. The oven is equipped with a pre-drying module, dust removal and blowing chambers. Heat treatment is carried out at a temperature of 1230 °, the length of the furnace is about 89 meters. The cycle from loading the trolley to cooking takes about one and a half days. Baking of products in the oven is done during the day. After the fire, sorting is carried out: similar products are divided into groups, and those with defects are placed in separate containers for recycling. 80-90% of the working time is spent on the main work during the working day in the enterprise under study. In the production environment, adverse microclimate, dustiness, gassiness, noise, vibration, the weight and tension of the cocktail are considered as critical factors.

Dust from raw materials is one of the professional factors in a ceramic products manufacturing enterprise. The dust factor is characterized by high dispersion and its size is 2-10 μm or more. This indicator was analyzed at the workplaces of grinders and pulverizers in the preparation workshop. It was determined that the amount of dust in the workplace contains SiO_2 and that it is 70% in the dust content. The amount of dust in the workshop was 91 mg/m^2 , which is 2.3 times higher than the norm (REM-4 mg/m^2). It was determined that the amount of dust in front of the heating furnaces in the enterprise and in the workplaces of artists was slightly higher than REM.

Ceramic beads are used to decorate ceramics. This paint includes lead, quartz, boron oxide, aluminum oxide. These dyes are finely dispersed chemicals with a size of -8-15 μm in powder form. In the process of sprinkling ceramic paints with a pneumatic sprayer, it was determined that the lead aerosols in the breathing zone of the artist increased by 3 March from REM.

In the process of drying and baking ceramics, the average concentration of carbon dioxide in the working areas of ceramic kilns was 26.3 ± 0.11 mg/m, which was 1.3 times higher than the norm. It was determined that the amount of carbon monoxide did not exceed the norm in the other workplaces, that is, in the process of drying products. The amount of carbon monoxide in the air of the workplace was determined to be 26.35 ± 0.11 mg/m, i.e. 6.35 mg/m, higher than that of meteorites.

In the process of decorating ceramics in the drawing workshop, it was determined that the concentration of chemical substances exceeded the REM: lead aerosols in the workplaces of artists were 0.018 mg/m³, i.e., 82, turpentine amount was 196 mg/m, i.e., 10.6, It was determined that cobalt oxide increased by 0.045 mg/m³, i.e. 19 times, in workplaces. In the process of drying the slip, a carbon monoxide level of 85 mg/m² was observed.

One of the main hygienic characteristics is a warming microclimate. The results of our investigation showed that the microclimate conditions in the sheds were established in the summer and winter conditions of ms/in. It was found that the microclimate parameters do not meet the hygienic standards even in the cold period of the year. Thus, in the warm period of the year, it was determined that the air coming to the shop from the ventilation system was ineffective, and the microclimate indicators also depended on external environmental factors. The noise of the next stacking factors is the result of the operation of molding spindles and gas burners. The noise indicators are 97,787.7 \pm 0.71dBA (RED-80dBA) in the wet areas of grinders-pulverizers, 85.1 \pm 0.61dBA (RED-80dBA) in the molding workshop, 83,940.68 (RED-80dBA) in the work areas of bakers, in the wet areas of airbrushes and it was determined to be equal to 84.3 \pm 0.1 (RED- 80dBA). The spectral structure of Shovkin was observed to be higher by 2-16 dB at frequencies from 250 Hz to 8000 Hz. Another factor that negatively affects the health of workers is lack of lighting. The lighting in the ceramics production enterprise is mixed, and natural lighting is transmitted from the side through window panes. Artificial lighting is provided by fluorescent lamps. It was determined that the lighting in the workplaces is 20-40 Lk lower than the norm in the workplaces of molders, sorters, artists (RED-200Lk). Natural lighting is below standard in the workplaces of moulders, presses and sorters, and meets the requirements of KMK, 2.01.05-98 "Natural and artificial lighting" in the workplaces of grinders, pulverizers and dryers. In the enterprise, it is required to attend the performance analyzer of some professions. The work activity of the artists is one-shift work and is included in the first class of high precision work. The smallest size of the object is 0.3-0.5 m, the background is light, the contrast is medium or large depending on the color. [5,6,7,11] The intensity of lighting in workplaces was equal to 12.0% during the working day, and it was found to be 03.0% lower at the time of inspection. Thus, workplaces in the enterprise are characterized by high temperature, high dustiness characterized by the storage of chemical substances, and low lighting that does not meet hygienic standards.[10,11]

LIST OF REFERENCES.

1. Manasova I.S., Mansurova M.Kh., Youth's Look For A Healthy Lifestyle // Central asian journal of medical and natural sciences. Volume: 02 issue: 02 March –april2021 ISSN; 2660-4159.P.149-153.
2. Ibrohimov K.I. The Meal of The Students // *Indonesian Journal of Public Policy Review* //. Vol 18 (2022): April -P 1-5.
3. Manasova I. S. ANATOMICAL AND PHYSIOLOGICAL FEATURES OF DEVELOPMENT.\\ Emergent: Journal of Educational Discoveries and Lifelong Learning.ISSN: 2776-0995 Volume 3, Issue 1, Jan, 2022 P-127-131.
4. Ibrohimov K.I. Hygienic Features of Sorting and Spinning in the Production of Wool // MIDDLE EUROPEAN SCIENTIFIC BULLETIN // . VOLUME 22 Mar 2022 ISSN 2694-9970. -P12-15

5. Манасова И.С. Гигиенические Аспекты Мукомольного Промышленности.// AMALIY VA TIBBIYOT FANLARI ILMIY JURNALI\\ISSN: 2181-3464 Volume 1 No.6 2022 S-100-106.
6. Manasova I.S., Academicia An International Multidisciplinary Research Journal. Features of labor of workers in agro-industrial labor 10.5958 2249-7137.2020.01622.5 .c.958-962
7. Ibodova Makhfuza. SOIL ECOLOGY AND FUNCTIONS.// Journal of Advanced Research and Stability//Volume: 02 Issue: 09 | Sep - 2022 ISSN: 2181-2608 -Б.177-181
8. Ibotova Mahfuza Oybek qizi. Condition of Endemic Goiter.// Vital Annex: International Journal of Novel Research in Advanced Sciences (IJNRAS) //Volume: 01 Issue: 03 | 2022 ISSN: 2751-756X-P.63-66
9. Ibodova Makhfuza Oybekovna. Ecological Problems of the Environment Under Modern Conditions. // AMALIY VA TIBBIYOT FANLARI ILMIY JURNALI//ISSN: 2181-3464– 2022. Б. 82-84
10. Ibotova Mahfuza Oybek qizi Уровень Физического Здоровья И Здорового Образа Жизни Студентов. //MALIY VA TIBBIYOT FANLARI ILMIY JURNAL// ISSN: 2181-3464. P.59-62
11. Ibotova Mahfuza Oybek qizi Anatomical and Physiological Features of Development.// International Journal of Health Systems and Medical Sciences// ISSN: 2833-7433 Volume 2 | No 2 | February -2023. P.7-10
12. SX Samandarovna.,Mehnat Sharoitining Inson Organizmiga Ta'siri Sog'Lom Turmush Tarzi//AMALIY VA TIBBIYOT FANLARI ILMIY JURNALI, ISSN:2181-3464 C34-37
13. SK Samandarovna.,The Problem of Environmental Pollution//Vital Annex:International Journal of Novel Research in Advanced Sciences, Volume:01 Issue: 03 I 2022 ISSN: 2751-756X Page81-85