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SAFETY TECHNIQUES IN CONSTRUCTION AND INSTALLATION WORK

Abstract. This article studies the scientific basis and practical application of safety measures in construction and installation work. It emphasizes the need to comply with safety requirements in order to protect the lives of workers working in hazardous working conditions, increase productivity, and ensure the continuity of production processes. The study presents conclusions based on current legislative standards, statistical data, and observation results.

Keywords: construction, safety measures, installation work, work at height, labor protection, emergency situations.

ТЕХНИКА БЕЗОПАСНОСТИ ПРИ СТРОИТЕЛЬНО-МОНТАЖНЫХ РАБОТАХ

Аннотация. В статье рассматриваются научные основы и практическое применение мер безопасности при строительно-монтажных работах. Подчеркивается необходимость соблюдения требований безопасности в целях защиты жизни работников, работающих во вредных условиях труда, повышения производительности труда, обеспечения непрерывности производственных процессов. В исследовании представлены выводы, основанные на действующих законодательных нормах, статистических данных и результатах наблюдений.

Ключевые слова: строительство, меры безопасности, монтажные работы, работа на высоте, охрана труда, чрезвычайные ситуации.

QURILISH-MONTAJ ISHLARINI BAJARISHDA XAVFSIZLIK TEXNIKASI

Annotatsiya. Ushbu maqolada qurilish-montaj ishlarida xavfsizlik texnikasi bo‘yicha chora-tadbirlarning ilmiy asoslari va amaliy tatbiqi o‘rganiladi. Xavfli mehnat sharoitida ishlovchi ishchilarning hayotini himoya qilish, ish unumdorligini oshirish va ishlab chiqarish jarayonlarining uzluksizligini ta'minlash uchun xavfsizlik texnikasi talablariga amal qilish zarurligi ta’kidlanadi. Tadqiqotda amaldagi qonunchilik me’yorlari, statistik ma’lumotlar va kuzatuv natijalariga asoslangan xulosalar keltirilgan.

Kalit so‘zlar: qurilish, xavfsizlik texnikasi, montaj ishlari, balandlikda ishlash, mehnat muhofazasi, favqulodda holatlar.

Introduction. Ensuring occupational safety in the construction sector is important not only to protect the health and life of workers, but also to prevent economic losses, increase productivity, and ensure the continuity of the production process. Compared to other sectors, accidents in construction are more fatal, as they involve working with heavy machinery, heights, live electrical lines, and explosive or flammable materials.

According to the International Labor Organization (ILO), the number of industrial accidents in the construction sector is 3-5 times higher than in other sectors of the industry. This situation is especially relevant in developing countries. This requires increased attention to safety techniques, the introduction of new technologies and management methods. In recent years, the construction sector in the Republic of Uzbekistan has been developing at a significant pace. As a result of large infrastructure projects, housing construction, industrial facilities, roads and bridges, thousands of workers are being attracted. However, if this development is not carried out in accordance with safety requirements, it can lead to many negative consequences.

Therefore, laws on labor protection, regulatory documents aimed at ensuring safety in construction (including Construction Norms and Rules - QMQ, technical regulations, the Labor Code of the Republic of Uzbekistan and other relevant regulatory documents) are constantly being improved. However, the existence of laws and regulations is not enough - they must be strictly applied in practice, and control and monitoring mechanisms must function effectively.

Psychological and social factors also affect safety: difficult working conditions, excessive workload, lack of sufficient rest, indifference to work, lack of sufficient skills and knowledge increase the risk. Therefore, a systematic approach to safety in construction is necessary: this requires not just a one-time instruction, but a comprehensive management strategy that is constantly being developed. Electricity is widely used in construction. Electrical wiring, switchgear and equipment must be installed in accordance with established standards. Electrical installations may only be serviced by qualified electricians. Ungrounded electrical equipment, touching them with wet hands, overloading when several devices are connected at the same time - all this increases the risk of electric shock. The areas within the working range of the crane must be clearly marked. There must be constant communication between the operator operating the crane and the personnel working on the ground. Lifting equipment, concrete pouring machines and other heavy machinery must be operated only by workers with the appropriate documents and qualifications.

The results of the study show that the safety control system in construction organizations is not working effectively enough. The number of occupational safety specialists is limited or they are only busy with document management. It was observed that in some facilities, safety equipment is used only during inspections. This situation indicates a weak work culture and a lack of safety knowledge.

In international practice, for example, in German or Japanese construction companies, safety plans are developed for each project stage, and real-time monitoring is carried out using special mobile applications. The introduction of such digital approaches in Uzbekistan can also significantly increase occupational safety.

Conclusion. Construction and installation work is one of the types of activities with high technical complexity and high risk. Each worker working in this field is responsible not only for his own health and life, but also for the safety of people and objects around him. Therefore, compliance with safety regulations is not just a requirement, but should be an integral part of professional culture.

Scientific and analytical sources and international experience show that most accidents in construction are due to the human factor, namely, labor discipline, carelessness, lack of knowledge and skills. Therefore, ensuring safety should not be limited to protective clothing, signs or technical means - it is a complex process that requires a conscious and responsible approach from each participant.

In addition, the following measures should be taken to improve safety techniques:

Continuous training and retraining of workers - increasing theoretical and practical knowledge of safety rules;

Introduction of modern technologies - automated systems that allow for early detection and prevention of risks;

Analysis and monitoring of working conditions - conducting regular inspections, audits and safety assessments;

Psychological and social support - increasing the morale of workers, stress resistance and motivation to work.

Ultimately, strict adherence to safety techniques in construction and installation work increases production efficiency, prevents economic losses, and most importantly, protects human life and health. In today's conditions, ensuring

safety should be a strategic goal of any development-oriented construction organization.

Foydalanilgan adabiyotlar:

1. O‘.R.Yo‘ldoshev, O.D.Rahimov, R.T.Xo‘jaqulov, O.T.Hasanova. Mehnat muhofazasi va texnika xavfsizligi. – T.: «Davr nashriyoti» MChJ, 2013, 200 bet.

2. F.U. Karshiev, Sh.Ch. Tursunov, A.D. Rasulov, D. Khudaynazarov, IOP Conference Series: Earth and Environmental Science **1112** 012054 (2022)

3. Rahimov O.D. Hayot faoliyati xavfsizligi (Fanni asosiy mazmuni va test savollari to‘plami),Toshkent, 1999-y.

4. Rahimov O. D. Hayot faoliyati xavfsizligi. /Ma’ruzalar matnlari to‘plami. Toshkent, 1999-y.

5. Rahimov O.D. Mehnatni muhofaza qilish / Ma’ruzalar matnlari to‘plami, П nashri. Oliy ta’limning «Neft va gaz ishi» ta’lim yo‘nalishi uchun. Qarshi, 2003-y.