

5) Prescriptions or other documents previously issued by institutions of the state sanitary-epidemiological service and relating to this occupational disease;

6) Results of medical examinations of the employee(s);

7) Other materials.

Prevention of occupational diseases

The prevention of occupational diseases consists of the systematic improvement of working conditions and the elimination of harmful factors, reducing their effects to a level safe for human health. For this purpose, technological processes are being improved, sanitary-technical equipment is widely used, work and rest regimes are being rationalized, etc.

#### References

1. ПОСТАНОВА КАБІНЕТУ МІНІСТРІВ УКРАЇНИ від 17 квітня 2019 р. № 337. «Про затвердження Порядку розслідування та обліку нещасних випадків, професійних захворювань та аварій на виробництві». Режим доступу: <https://zakon.rada.gov.ua/laws/show/337-2019-%D0%BF#Text>

2. Професійні захворювання: особливості класифікації та розслідувань. Режим доступу: <https://oppb.com.ua/articles/profesiyni-zahvoryuvannya-osoblyvosti-klasyfikaciyi-ta-rozsliduvan>

### **METHODOLOGY OF TECHNOLOGICAL CALCULATION OF AUTOCENTER U WAREHOUSES OF A CAR SHOWROOM AND A SERVICE CENTER**

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In recent years, there has been a constant increase in the number of cars in Ukraine, both new and on the secondary market. This requires an increase in their maintenance and repair services due to the further development of the infrastructure of road transport enterprises.

The main purpose of the technological calculation is to determine the initial values of the quantities necessary for the construction of the designed structure, as well as for the subsequent special calculations of its individual elements.

The tasks solved during the technological calculation are usually reduced to the definition of the main technological and constructive ones, which are necessary at the initial stage of design and are the basis for further design calculation works. The design parameters of the car center are determined by the number of products sold in the car showroom, and the repair capacity of the service station.

In order to design the car center and obtain the necessary information to identify the client's needs, a technological calculation of the car showroom and service station will be carried out, in which, based on norms and standards, their area, the number of personnel, as well as the necessary equipment will be determined. The correct selection of equipment and the location of all work areas on the object being designed play an important role. The design of these enterprises is based on technological calculation.

There are different methods of technological calculation: aggregated, probabilistic, dealer and deterministic. The last calculation method has become the most widespread and is based on the requirements and recommendations of ZNTP-01-91 [1]. This document contains a large amount of reference information, however, it is based on data from the late 80s of the last century and is partially outdated by this time, which leads to significant discrepancies between the calculated parameters and the real characteristics of operating enterprises.

Another significant problem is the lack of free space within the city limits for the construction of these objects, therefore, the technological calculation method of the car center as part of the car showroom and service station should also take this feature into account.

The previously developed methodology [2] is maximally focused on the selection of the main parameters of the service station (determination of production capacity, number of workstations for maintenance and repair, number of personnel, number of car spaces, required areas, etc.), and insufficient attention is paid to the selection of parameters of the car showroom attention In modern car centers, especially

dealerships, the car showroom plays a dominant role aimed at maximum car sales, and the service station complements it. Unfortunately, dealers carefully hide the principles of car dealership calculation, which creates some difficulties. In the approach, it is suggested that the calculation of the necessary areas of the car center should not be carried out separately by the service station and the car center separately, but in parallel, starting with the car showroom. For this purpose, a detailed table of all the functional areas of the car showroom, both indoors and outdoors, is compiled (their number can reach 30 positions). At the same time, a table of functional zones of the service station is drawn up, and based on the priority tasks facing the auto center, the issue of the possibility of combining a number of functional zones is decided, with the aim of reducing the total area of the auto center.

One of the problems of the network of auto center enterprises is the high occupancy of some of them and the lack of demand for others. In many ways, this is explained by the legality of choosing their parameters during design or reconstruction. These parameters include: the appearance of the car showroom, the number of cars sold, the number of maintenance stations (car maintenance) and TR (technical recommendations), area, number of production and support workers, etc.

Their values are usually determined during the technological calculation of the enterprise. When designing a production and technical base with an STO (maintenance station) and a car showroom of motor transport enterprises, it is necessary to work out groups of issues: technological, economic and organizational issues.

Technological issues include: study of structures and technical conditions for vehicle maintenance and repair; determination of the manufacturability of the design of the car and its units from the point of view of performing routine and repair work; design of technological maintenance and repair processes for new models of cars and calculation of time standards, development of the type and determination of the necessary number of equipment and cars that will be in the showcase of the car showroom, composition and standards of consumption of materials, determination of areas and sizes of production units, determination of the need for energy carriers.

The purpose of the technological calculation of the enterprise is to determine its

technical parameters: the number of workstations (workplaces), the number of production jobs, the number of workers and their distribution by workstations (workplaces), the number of units of production and lifting and transport equipment and the area of premises: production, auxiliary, warehouse and administrative and household and development of planning decisions regarding the accepted list of production zones and plots.

The technological calculation is performed for each manufactured unit of the enterprise, and the technical parameters of the enterprise as a whole are determined by summing them up. Before the calculation, the production structure of the enterprise and the form of work organization are selected and substantiated. Technological calculations are performed after the technical and economic substantiation of the construction, reconstruction or expansion of any production. They are the basis of the design of technological processes, their content and sequence of execution are determined by the specifics of the technological scheme being designed. This method allows you to save up to 20% of the total area of the car center.

#### List of references:

1. ONTP-01-91. All-Union norms of technological design of road transport enterprises // RD 3107938-0176-91. - 1991. - P. 74.
2. Napolsky H.M. Technological design of motor vehicle enterprises and maintenance stations/H.M. Napolsky// Transport. - 1993. - P. 271.

## **PROBLEMS AND PROSPECTS OF MECHANICAL ENGINEERING AND AUTOMOBILE BUILDING IN UKRAINE**

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The main problems of the machine-building complex of Ukraine are related to the need to develop economic ties in the supply of components, the loss of traditional product sales markets, the orientation of enterprises to the production of military