

Lecture 7. Systematic approach to the organization of cargo transportation

Purpose of the lecture: apply modern and promising technological processes for the processing of various goods in warehouses, systems of loading and unloading machines and equipment based on the determination of the required amount of technical means;

Keywords: Stocks and storage capacity, warehouses, modern

Types of lectures: Lecture conference

7.1. Stocks and storage capacity

7.2. Purpose of warehouses

7.3. Classification of warehouses

7.4. The device and organization of work of modern warehouses

7.1. Stocks and storage capacity

Cargo reserves classify:

- by the nature of the stored materials (raw materials, auxiliary materials, semi-finished products, products of own production, finished products, production waste);
- at the location: commodity - in the field of distribution and circulation; production - in the field of production, at industrial enterprises; transport-tailors (in the process of transportation); from suppliers, consumers, resellers, retail chains;
- by purpose and nature of formation: current (ensure the continuity of production or consumption); preparatory or buffer (part of the production necessary for the preparation of production); warranty or insurance (to provide consumers in unforeseen circumstances); seasonal (with the seasonal nature of production, transportation or consumption); transient, liquid (which can be sold) and non-visible (which have no demand).
- the magnitude and nature of the change (constant, variable, minimum, average, maximum, minimum, random);
- according to the condition of the goods: at rest (in warehouses), in motion (in transport), in processing.

There is a fairly well-developed theory of management of

themselves, which offers several theoretical methods of inventory management. The purpose of inventory management is to ensure minimum stocks of goods, which always leads to the best economic performance of logistics systems. Inventory management includes the following tasks: accounting for the current level of cargo stocks; determination of the amount of safety stock; determination of time points at which it is necessary to replenish stocks and quantities of transport lots for replenishing stocks (order values).

7.2. Purpose of warehouses

In multimodal transportation systems, warehouses are located at points of cargo transfer from one type of transport to another and convert the incoming freight traffic on one type of transport into

a freight flow sent from a warehouse (having different parameters) and most suitable for another type of transport. Thus, through warehouses, the most effective interaction of different types of transport, with the least downtime of vehicles, in multimodal transportation systems is carried out. Converting cargo flows at transshipment points, warehouses are actively involved in the formation of their parameters, and therefore - significantly affect the efficiency of cargo flows, which is the goal of business logistics.

7.3. Classification of warehouses

Warehouses are very diverse in type, purpose, nomenclature of processed goods, sectors of the economy, etc. The purpose of classifying warehouses is to outline the characteristic features for different warehouses and, having distributed them by classes, groups and types, to establish the features of different warehouses and the areas of application of rational technical and space-planning solutions.

According to the physical condition of stored and processed goods, warehouses are divided into warehouses of solid (piece), bulk (bulk), liquid (bulk) and gaseous cargo.

By the nature of the processed cargo, one can distinguish warehouses of piece cargo, containers (container terminals), bulk cargo (closed and open), liquid (liquid) cargo, metal, timber, bulky and heavy cargo, and dangerous goods.

7.4. The device and organization of work of modern warehouses

Warehouses are created at the points of interaction of different transport and production systems and do not serve to store goods, as is sometimes assumed, but to convert cargo flows in logistics chains with the aim of the most efficient further transportation or use of goods. Modern mechanized and automated warehouses are complex in design and probabilistic in nature of functioning. Therefore, it is advisable to improve and create them as complex probabilistic technical systems using the methodology of the General theory of systems. Any warehouse can be considered as a system consisting of elements-technological sections.

Questions:

1. What are the types of cargo stocks?
2. What methods of cargo stock management do you know?
3. What are the engineering methods for determining warehouse capacity?
4. What are the types of warehouses for the purpose and interaction with external systems?
5. How are warehouses classified according to the type of cargo handled?

Literature and resources

1. Zhuravlev N.P., Malikov O.B. Transport and cargo complexes: Textbook. allowance. - M.: Route, 2016.-- 232 p.
2. Boyko N.I., Cherednichenko S.P. Transport and cargo systems and warehouses: textbook / N.I. Boyko, S.P. Cherednichenko. - Rostov n / a.: Phoenix, 2007.-- 400 p.
3. Transport and cargo systems. Textbook / A.S. Balalaev, I.A. Baburova, A. Yu. Kostenko. - Khabarovsk: Publishing house of FVGUPS, 2015.-- 101 p.

4. 4. Complex mechanization and automation of loading and unloading operations: Textbook / Ed. Timoshina A.A. and Machulsky I.I.-M .: Route, 2013.- 400 p.

Internet resources:

1. Abdikerimov, G.S. Logistic management of cargo transportation and terminal and warehouse activities [Text]: A textbook for specialists / G.S. Abdikerimov, S.Yu. Eliseev, V.M. Nikolashin, A.S. Sinitsyna, O.B. Malikov // M: FGBOU "Educational-methodical / center for education in railway transport". - 2013 .-- 428 p. <https://e.lanbook.com/reader/book/59016/#1>
2. Balalaev A.S., Leontiev R.G. Transport and logistics interaction in multimodal transportation: monograph. - M .: FGBOU "Educational-methodical center for education in railway transport", 2012. - 268 p. - <http://e.lanbook.com/view/book/58896/page58/>
3. Design of loading and unloading devices and warehouses: Method. instructions / compiled by V.A. Bolotin, E.K. Korovyakovsky, N.G. Yankovskaya.- SPb.: FSBEI HPE PGUPS, 2015.- 38 p.

Available online: Additional educational material and Internet sources used to complete the assignments of lectures, seminars, CDS, will be available on your page in the Univer.kaznu system.