

MARINE TRANSPORT CARGO ASSEMBLY AND OPERATION

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***Abstract.** Determining the optimal option for loading cargo in marine transport is one of the major points of cargo transportation technology, which first determines the volume-mass characteristics of the cargo storing, boxing and packaging characteristics, physico-chemical features, as well as some other commodities.*

***Keywords:** marine transport, cargo transport, marine shipping.*

Familiarity with cargo properties is essential to determine a ship's suitability for a particular route, and to find out how the ship's technical machinery should be used to ensure cargo safety. Besides, the study of the properties of the cargo is essential for establishing a proper commercial-legal relationship with the customers. It's noticeable to mention that the problem of cargo safety is a very important issue for the establishment of shipping technology, both for the practical operation of the fleet, as well as for scientific research, in order to make shipping even safer and more profitable.

The transport-technological characteristics of the cargo are a high importance in the calculation of the loading of a vessel. Cargo transport characteristics are a set of cargo characteristics that determine the technology and method of its transportation, transshipment and storage. The cargo is presented for shipment only in a transportable condition, which ensures its safety at all stages of the transport process.

Familiarity with the transport-technological characteristics of the cargo allows to calculate the optimal variant of its load on the transport. The most important characteristic of a cargo is its volume-mass characterization and compatibility with each other.

It is important that both the land and air as well as the marine transport system must be operational, flexible and able to handle the maximum volume of cargo in a minimum of time. To implement this, it is necessary to develop the most efficient concept of transport capacity, as well as the transportation of cargo defined by this means of transport. Obviously, all of this requires scientific research, analysis, and making conclusions and optimal decisions based on that.

We choose one of several options for selecting the route during transportation, because it is impossible to run the same marine transport with different routes at the same time. Besides, we choose one of the most optimal

choices from different schemes of production of loading-unloading operation on board, because, even in this case, it is impossible to implement several schemes at once.

The set of alternatives has no structure indeed, thus, it is unstructured, and each element of the set is randomly retrieved or suggested, and has not yet been considered and prioritized. Therefore, it is impossible to say which alternative is better and which is less desirable. The optimal choice for carrying out a loading-unloading operation on a ship must be selected from the majority of alternatives that can be obtained using any method.

The transport-technological characteristics of the cargo are of major importance in the calculation of the load of a vessel. Cargo transport characteristics are a set of cargo characteristics that determine the technology and method of its transportation, reloading and storage. The cargo is presented for shipment only in a transportable condition, which ensures its protection at all stages of the transportation process.

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The rule of combining loads is established in terms of its protection and reduction of impact on each other, which can be considered as a factor of environmental aggression. For this reason, we consider it necessary to give the following explanations:

1. Cargoes on one cargo area are considered compatible in case of their separation.
2. Cargo must be divided by a deck or a partition.
3. Cargo should be divided by a vertical waterproof partition.

To determine the maximum load of the ship and the cargo configuration in the cargo hold, the permissible load of the ship is first calculated.

Cargo set-up in cargo warehouses is based on the following requirements:

1. Fulfillment of cargo matching conditions.
2. Oversized and long cargo shall be placed in the ship's central cargo hold.
3. Small-sized cargo shall, as far as possible, be placed in the front and rear cargo compartments.
4. The placement of "rolling barrel" type cargo in front and rear trucks is not recommended.
5. As far as possible, the cargo shall be set up so that the total amount of cargo in a particular cargo store room is equal to the weight distributed to those store rooms and the volume occupied by the cargo is equal to the cargo capacity of the ship.

6. Fulfillment of the condition of inadmissibility of reloading of cargo warehouses.
7. Whenever possible place “heavy” cargo in the hatchway, while a “lightweight” cargo - on twin and upper deck.
8. Loose and bulk cargo should be located below the main cargo and divided by horizontal waterproof partitions.

The maximum load of cargo compartments is determined by the durability properties of the ships deck, which is characterized by a maximum allowable load of 1 square meter (technical).

In view of all the above mentioned, it can be concluded that with the increase in the volume of shipments worldwide and the emergence of brand new types of cargo and transport properties in marine shipping, there is an urgent need for serious scientific research.

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