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TRANSPORTATION OF OIL AND OIL PRODUCTS

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ABSTRACT

This article is about the transportation and methods of transportation of oil and oil products.

Keywords: oil, air, gas, car, tank, train, ship, pump, transit, logistic.

The technique of storage and transportation of oil and oil products is of great importance in the economy and geography of the oil industry. Steel tanks with a capacity of up to 10,000 tons are currently used for storage of oil and liquid oil products. Such reservoirs of various sizes are used in oil fields and oil refineries, oil depots near railway stations and marinas, large automobile farms and state farms. Large tanks are not simple structures. They are equipped with valves that maintain the normal pressure inside, cold water sprayers for cooling in the summer, and are equipped with fire-fighting equipment and various tools. Special requirements apply to gasoline storage tanks; they must withstand an internal pressure of up to 0.6 MPa as gasoline is kept under pressure to prevent evaporation.Oil and liquid petroleum products are transported in various vehicles. The cheapest way to transport oil is in bulk vessels - tankers, which make up more than 36 tonnes of the world's fleet. The tonnage of individual tankers reaches hundreds of thousands of tons. Oil is transported by self-propelled and ascending barges along rivers.The second place in terms of the low cost of transporting oil and its liquid products is occupied by tens, hundreds and thousands of kilometers of pipelines (oil pipelines and product pipelines).This is done by continuously pumping oil from one pumping station to another via main pipelines. Pumping stations are located every 50-100 km. The diameter of the main pipes exceeds 1000 mm, the pressure during pumping is 5 MPa and above. The velocity of the oil in the pipe is usually 1-1.5 m / s; it depends on the technical condition of the pipeline, the viscosity of the pumped oil and the specific gravity level. A variety of petroleum products can be pumped in series through the product pipeline.Large quantities of liquid petroleum products are also transported by rail in special tanks. Such transport is much less because the tanks are smaller in size and on top of that the tanks in the reverse direction are always empty. Special car tanks are used to deliver petroleum products to small consumers. Gas transportation, storage of hydrocarbon resources is one of the components of the high-tech process of its production and processing. This is a very dangerous raw material, so certain safety requirements must be followed when it is in transit and placed in a warehouse. Enterprises have special rules for dealing with the substance. Oil and gas transportation is a very dangerous process of delivery of minerals directly from wells, deposits to consumer organizations. All deliveries are made by rail, sea or river vessels, as well as highways. The type of transit, as a rule, is selected depending on the requirements, the required volumes and types of raw materials. All of them differ in the level and development of equipment. Logistics and economic performance are important. In general, all modes of transport are included in a single system of delivery of gas and oil products. It consists of a complex of complex equipment and all means of storage and delivery, which allows to provide a wide consumer with the required amount of resources.Gas belongs to the category of combustible products. It therefore requires adherence to certain safety precautions and an enhanced management system.

Gas transportation in Russia can be done using the methods described above, but piping systems are the most efficient and popular method today.This type of engineering communications is much more developed in Russia. They are especially important for distilling gas and oil through main pipelines, which are a key component of the country's economy. This is the most technologically advanced and environmentally safe method for the transit of flammable substances. The main advantage of gas pipelines is that they are able to transport loads at high speeds and efficiently over long distances. The existing high-pressure pipelines have a large cross-section and the average speed of movement of raw materials through them is 15 m / s. The country's main gas pipelines are the entire circulatory system, which allows to supply resources not only in the Russian Federation, but also in the most remote settlements and enterprises in neighboring countries. It must be acknowledged that it is almost impossible to use such a gas transport to deliver hydrocarbon raw materials to all processing plants and warehouses. This is because the system does not work at all. Therefore, road and rail transport are very common. Nowadays, they often use railway transport. Trains allow you to transport all types of resources, including crude oil. Transit is carried out in tin and tanks, which are designed for transportation, separated by increasing force. As a rule, the railway finds its place in the supply chain when it is necessary to transport a small amount of product over short distances. This method transits bitumen, engine oil, fuel and liquefied gas. Among the advantages is the versatility of the railway. All major settlements in the state are connected by rails. Covered roads allow the delivery of raw materials anywhere at relatively low prices. It is widely used in logistics. For large-scale transport, the use of this mode of transport is less efficient. Most often, liquefied gas is transported by water. River or sea vessels are used.

This is a very convenient and effective method. The main disadvantage of this method is related to the low speed of transport. In addition, this is one of the most difficult methods, because for loading and unloading it is necessary to create certain conditions at the places of receipt and dispatch.Abut the main advantage is that it eliminates all the shortcomings. Sea transport opens up the possibility of intercontinental delivery. This significantly increases the availability of raw materials in many countries.The most common device used to deliver gas and oil is road transport. This method is used when you need to put small volumes over short distances. Often used by small consumers. The technology is very simple and convenient because the car is able to drive almost anywhere where there are no other connections.The transportation of liquefied petroleum hydrocarbons by car requires a very responsible approach. This is due to the dangers of transportation. The gas ignites and has explosive properties, which leads to the application of certain safety measures. The same considerations force any situation on the road and ways to prevent them.

The specialist in charge of gas transit must strictly follow the instructions written by the enterprise, fulfilling all the restrictions regulated by law. If there is any malfunction in the operation of the equipment, it is necessary to call the crew immediately to eliminate the malfunction and its cause. If there is a shortage of gas, it is necessary to block part of the road to avoid casualties due to the explosion.Transportation should be carried out in strictly regulated liquefied gas, specialized certified containers. Only after going through this procedure are they allowed to operate. Before each logistics operation, they are carefully checked by trained personnel

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