

Crude containers – a mammoth truth essay

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This paper is submitted by mechanupam (ANUPAM BASU) Crude Oil which nearly contributes to 30% in the energy basket of the world is transported in containers having more than 3, 00, 000 deadweight. A tanker's deadweight is a measure of ship's carrying capacity in tons. It includes both the weight of the cargo (in the case of ship's carrying crude the cargo is the crude oil) and the weight of the fuel the tanker carries for her own propulsion purposes.

Crude containers come in an enormous range of sizes like as follows: ·

ULCC :- above 3, 20, 000 tons Deadweight (Ultra large crude containers)

VLCC :- 1, 60, 000 to 3, 20, 000 tons Deadweight (Very Large Crude

Containers) · Suezmax :- 1, 20, 000 to 1, 59, 000 tons Deadweight ·

Aframax :- 80, 000 to 90, 000 tons Deadweight · Paramax :- 50, 000 to 80,

000 tons Deadweight · Handymax :- Approx. 45, 000 tons Deadweight Oil

tankers come in two basic types, the crude carrier, which carries crude oil, and the clean products tanker, which carries the refined products, such as petrol, gasoline, aviation fuel, kerosene and paraffin.

It must be noted that over 60% of the world's oil is transported by these tankers, and over 99% of that arrives safely without causing pollution. As to increase the efficiency in transportation (cost wise) of crude oil or refined products they are usually brought in ULCC or VLCC. A fully loaded VLCC will have a draft in excess of 20 meters. A ULCC can have a draft of as much as 25 meters.

So, now the question arises what is a Draft? The draft of a ship is the depth of a ship's bottom from the surface of the water. It is usually measured in meters. If the ship is full of heavy cargo, the draft will be greater than if it is not full. Heavy cargo will make the ship sink deeper in the water than light

cargo. In other words, we can say that Draft determines the minimum depth of water a ship or boat can safely navigate. The draft can also be used to determine the weight of the cargo on board by calculating the total displacement of water and then using Archimedes' principle.

But the main problem arises is that very less ports across the world have such a high draft. Therefore it becomes difficult for the tanker to enter the load or discharge port (i. e. the place from where the crude is unloaded).

The most prominent example is the USA which has almost no ports which can accept drafts in excess of 13 meters. When these ships bring oil to the United States, they almost always have to off-load their cargo to smaller tankers at sea. The smaller tankers, called lighters, and then actually deliver the oil to the shores. This process is called lightering. Lightering normally takes place 20 to 50 miles offshore.

Thus, a VLCC will offload to about four lighters in a single discharge, and a ULCC to as many as six. The lighters have deadweight of about 80, 000 tons. But, there can be an exception to these lighters. They are SBM/ SPM i. e. Single Buoy Mooring or Single Point Mooring.

As large vessels such as ULCC and VLCC have significant cost advantages, they need a very high draft of more than 20 m for movement which is not mostly available near shores. Thus, SPM systems act as an instant port since they can be installed in deeper areas without any need for construction of jetties (Jetties have loading and unloading arms which are used for loading or unloading crude or refined products when there is enough draft for the tankers to come to the ports). Hence, where there is a limitation of draft for <https://assignbuster.com/crude-containers-a-mammoth-truth-essay/>

the size of tanker, SPM is used for loading or unloading. SBM-based system is far safer than lightering and is also cheaper.