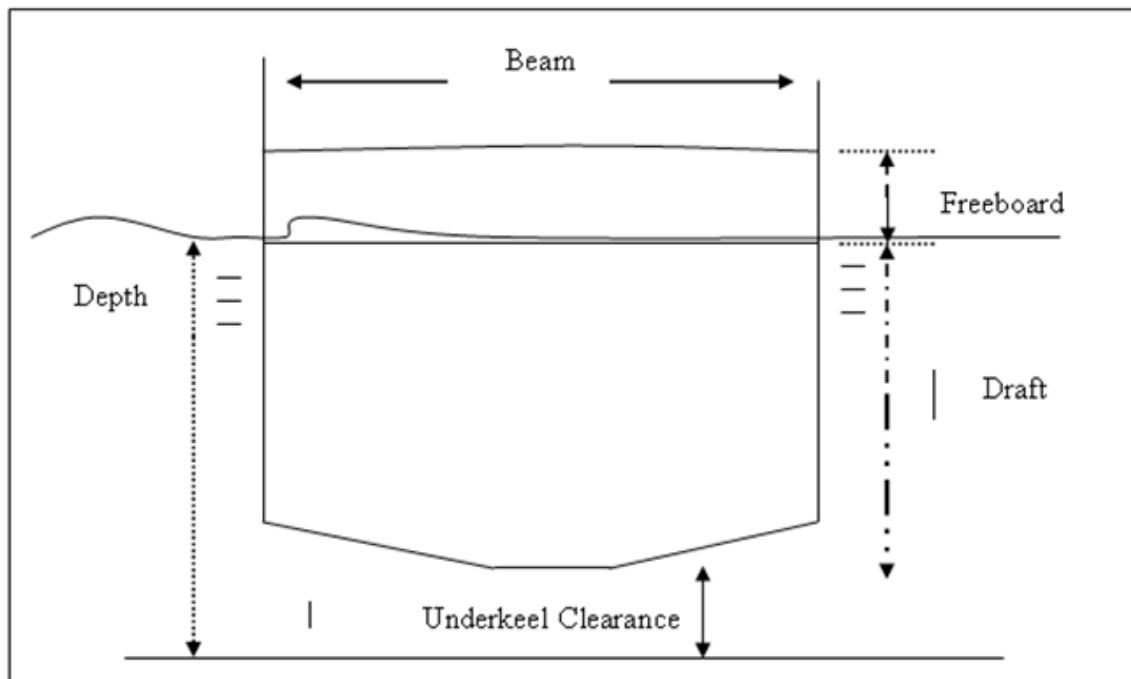




Exceeding Expectations

DRAFT SURVEY

Draft surveys are used to calculate the displacement (weight of water) of a floating vessel. If you calculate the displacement before and after cargo operations, the weight of cargo loaded or discharged can then be calculated.



Every ship has a set of tables that are commonly known as "hydrostatic particulars". These tables were formulated by the ship builder and the naval architect for the purpose of describing the ship's static stability for varying drafts (depth of water the ship has submerged to from the keel to the water line). These hydrostatic tables will supply you with the displacement of the vessel for varying drafts, much like a shore tank strapping chart will give you volume for varying ullages or soundings.

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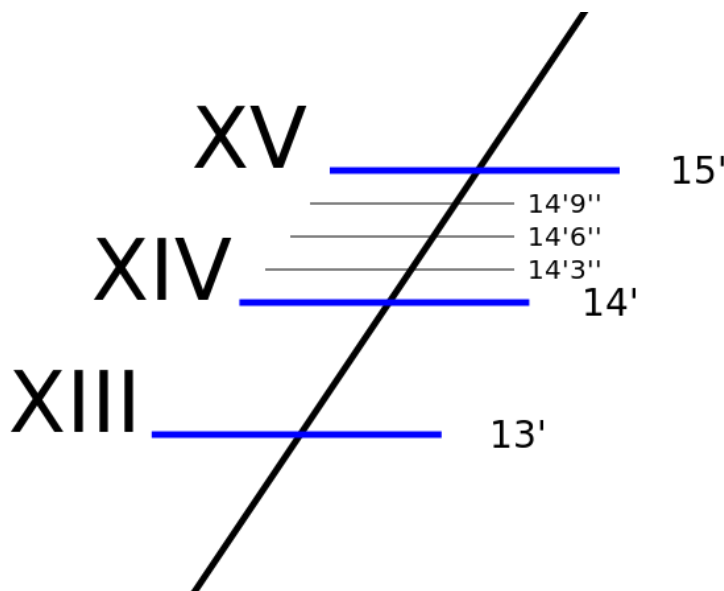
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On most ships there are 6 draft marks, 3 down each side at the forward, mid and aft sections. The average draft is determined and the corresponding displacement is calculated from the hydrostatic tables. There are corrections made for water density (ships will sink further in fresh water than in salt water) and trim (difference between the forward and aft drafts). Cargo weight is then calculated by subtracting the closing survey from the opening survey with corrections made for consumables (bunkers) and ballast water changes.

Draft surveys are not normally conducted on oil tankers since the cargo tanks are calibrated with high precision but could be useful for loss control and / or cargo quantity claims should the accuracy of the vessel's calibration tables be called into question.

Surveys are usually performed on bulk carriers and is often the only way to determine the cargo weight loaded or discharged. Some common commodities measured by draft survey are: agri-products (corn, soy bean wheat etc.), iron ore, coal or any commodity carried in bulk rather than by container.

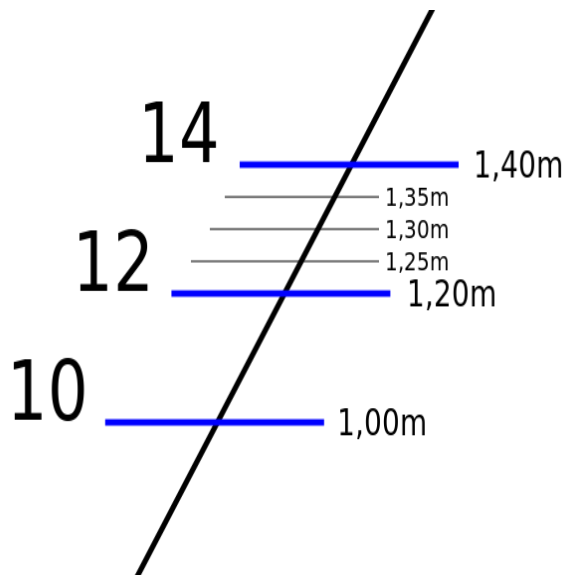
The degree of accuracy of a draft survey will vary greatly dependent upon weather and sea conditions when the drafts are read. On drafts measured in feet and inches you are required to read the draft to the nearest ½ inch and on drafts in the metric system, to the nearest 1 centimeter. Consider that degree of accuracy when there is a 3 foot swell running and the wind is 30 MPH!!



The forward port draft reading on the above is 11 feet 7 inches. Each number is exactly 6 inches high and the gap between the numbers is also exactly 6 inches.

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In the metric system, draft marks are numbered every 20 cms, each mark is 10 cms high and the space between the marks is also 10cms. For the above example the forward starboard draft is 4.65 meters.

As a leading service provider of inspection services, AmSpec regularly performs draft surveys. For further information, please contact dave.akeroyd@amspecgroup.com

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