

Structural Strength

Question 1:

"FAMAGUSTA"

An investigation has been made into the stress values under the condition of loading in the departure condition.

Certain assumptions regarding the filling of double bottom tanks have been made to make the condition reported by the London Surveyors agree with the condition calculated from the light ship figures obtained from the Admiralty.

For the weight curve the hull weight has been distributed in accordance with the Biles formula.

The calculated I/y is 672 at trunk deck and on a wave of height equal to $1/20$ th of the ship's length the stress values are as follows:-

Sagging

B.M. = 3,510 ft. tons.

Stress = 5.2 tons per sq. inch. compression
at trunk deck

1.9 tons per sq. in. tension at
keel

Hogging

B.M. = 3.990 ft. tons

Stress = 5.9 tons per sq. inch tension at
trunk deck

2.2 tons per sq. in. compression
at keel.

If the formula given in the Load Line Rules were used, the I/y required for the approved draught would be 592. Assuming the B.M. to be given by ΔL where $\Delta =$

$\frac{.75L \times B \times d}{35}$ the stress is 6.2 tons per sq. inch. If

the calculated wave B.M. is used with the I/y given by Load Line Rules, the stresses are 5.9 tons per sq. inch in the sagging condition and 6.75 hogging.

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