

# Amended computation

## Lloyd's Register of Shipping.

### SURVEYS FOR FREEBOARD.

(COMPUTATION FOR STEAMER, SAILING SHIP, TANKER.)

Ship's Name <b>ETREMA.</b>	Official Number	Nationality and Port of Registry <b>Dutch.</b>	Gross Tonnage	Date of Build	Port of Survey
Moulded Dimensions: Length <u>129.54m</u> Breadth <u>16.54m</u> Depth <u>9.449m</u>					Date of Survey <u>20.1.48</u>
Moulded displacement at moulded draught = 85 per cent. of moulded depth <u>13330 M<sup>3</sup></u> tons					Surveyor's Signature
Coefficient of fineness for use with Tables <u>.775</u>					Particulars of Classification <u>+100A C.P.1.b.</u>

DEPTH FOR FREEBOARD (D).	DEPTH CORRECTION.	ROUND OF BEAM CORRECTION.
Moulded depth ... <u>9.449</u>	(a) Where D is greater than Table depth (D - Table depth) R = <u>8.33(9.467 - 8.636) x 30 = 208 mps</u>	Moulded Breadth (B) <u>16.54</u>
Stringer plate ... <u>18</u>	(b) Where D is less than Table depth (if allowed) (Table depth - D) R =	Standard Round of Beam = $\frac{B \times 12}{50} = \frac{16.54 \times 12}{50} = 3.97$
Sheathing on exposed deck $T \left( \frac{L-S}{L} \right) =$	If restricted by superstructures	Ship's Round of Beam = <u>3.43</u>
Depth for Freeboard (D) = <u>9.467</u>		Difference = <u>12</u>
		Restricted to
		Correction = $\frac{\text{Diff}^2}{4} \times \left( 1 - \frac{S_1}{L} \right) = \frac{12^2}{4} \times \left( 1 - \frac{16.54}{129.54} \right) = 35.58$

DEDUCTION FOR SUPERSTRUCTURES.					
Mean Covered Length (S)	Equivalent Enclosed Length (S <sub>1</sub> )	Height	Height Correction	Effective Length (E)	Standard Height of Superstructure
Poop enclosed ... <u>27.22</u>	<u>27.22</u>	<u>23.41</u>	—	<u>27.22</u>	<u>22.90</u>
„ overhang ...					R.Q.D.
R.Q.D. enclosed ...					Deduction for complete superstructure <u>1067</u>
„ overhang ...					Percentage covered $\frac{S}{L} = \frac{27.22}{129.54} = 21.01$
Bridge enclosed ... <u>12.45</u>	<u>12.45</u>	<u>22.79</u>	<u>22.79/22.40</u>	<u>12.39</u>	„ $\frac{S_1}{L} = \frac{12.45}{129.54} = 9.61$
„ overhang aft ...					„ $\frac{E}{L} = \frac{12.39}{129.54} = 9.57$
„ overhang forward ...					Percentage from Table, Line <u>Tankers</u> <u>35.58</u>
Fore enclosed <u>16.73</u>	<u>16.73</u>	<u>23.41</u>	—	<u>16.73</u>	(corrected for absence of forecastle (if required))
„ overhang <u>2.84</u>	<u>1.42</u>	<u>23.41</u>	—	<u>1.42</u>	Percentage from Table, Line B.
Trunk aft ...					(corrected for absence of forecastle (if required))
„ forward ...					Interpolation for bridge less than .2L (if required)
Tonnage opening aft ...					Deduction = <u>1067 x .3558 = 380 mps</u>
„ „ forward ...					
Total ... <u>59.24</u>	<u>57.82</u>			<u>57.76</u>	

SHEER CORRECTION.							
Station	Standard Ordinate	S	Product	Actual Ordinate	Effective Ordinate	S	Product
A.P. ...	<u>1333</u>	1	<u>1333</u>	<u>1361</u>	<u>1361</u>	1	<u>1361</u>
$\frac{1}{8}$ L from A.P. ...	<u>592</u>	4	<u>2368</u>	<u>604</u>	<u>604</u>	4	<u>2416</u>
$\frac{2}{8}$ L „ ...	<u>148</u>	2	<u>296</u>	<u>157</u>	<u>157</u>	2	<u>314</u>
Amidships ...	—	4	—	—	—	4	—
$\frac{3}{8}$ L from F.P. ...	<u>296</u>	2	<u>592</u>	<u>298</u>	<u>298</u>	2	<u>596</u>
$\frac{4}{8}$ L „ ...	<u>1185</u>	4	<u>4740</u>	<u>1197</u>	<u>1197</u>	4	<u>4788</u>
F.P. ...	<u>2666</u>	1	<u>2666</u>	<u>2740</u>	<u>2740</u>	1	<u>2740</u>
Total ...			<u>11995</u>				<u>12215</u>

Correction =  $\frac{\text{Difference between sums of products}}{18} \left( .75 - \frac{S}{2L} \right) = \frac{220(.75 - .2282)}{18} = -6$

If limited on account of midship superstructure.

Mean actual sheer aft = Excess  
Mean standard sheer aft = Excess

Mean actual sheer forward = Excess  
Mean standard sheer forward = Excess

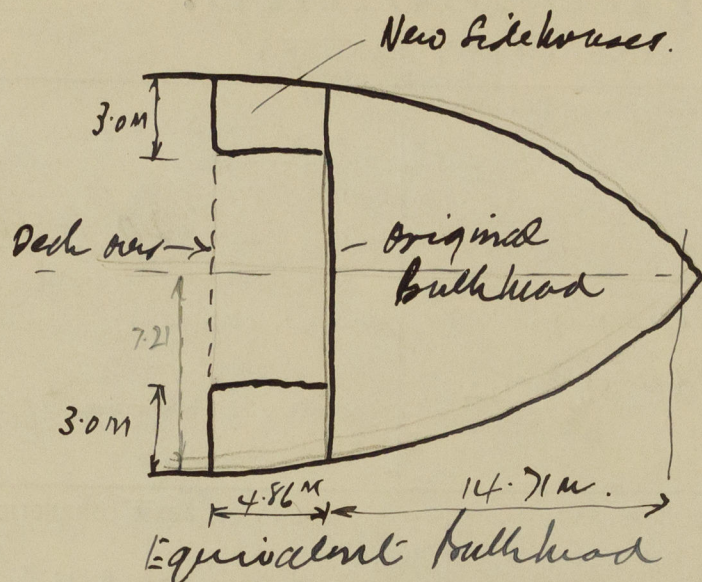
Length of enclosed superstructure forward of amidships = Tanker does not apply.  
aft of „ = Excess

Deduction for Tropical Freeboard.	Deduction for Fresh Water.	TABULAR FREEBOARD
Addition for Winter and Winter North Atlantic Freeboard.	Displacement in salt water at summer load water line $\Delta = 13062$	Corrected for Fresh Deck (if required) <u>1742</u>
Depth to Freeboard Deck = <u>9.467</u>	Tons per inch immersion at summer load water line $T = 18.77$	Correction for coefficient <u>1.36</u> <u>1864</u>
Summer freeboard = <u>1.680</u>	Deduction = $\frac{\Delta}{40 T} = \frac{13062}{40 \times 18.77} = 17$	Depth Correction ... <u>208</u>
Moulded draught (d) = <u>7.787</u>		Deduction for superstructures ... <u>380</u>
Deduction for Tropical freeboard and addition for Winter freeboard = <u>16 cms</u>		Sheer correction ... <u>6</u>
Addition for Winter North Atlantic Freeboard (if required) = <u>27 cms</u>		Round of Beam correction ... <u>2</u>
		Correction for Thickness of Deck amidships ...
		Other corrections, scantlings, etc. ...
		Summer Freeboard = <u>1684</u>

SUMMER FREEBOARD amidships from Centre of Disc to top of Deck Line, Wood, Steel, Deck :-			
Tropical Fresh Water Line above Centre of Disc ... <u>33 cms</u>	Tropical Fresh Water Freeboard ... <u>1.35</u>		
Fresh Water Line „ „ ... <u>17</u>	Fresh Water „ „ ... <u>1.51</u>		
Tropical Line „ „ ... <u>16</u>	Tropical „ „ ... <u>1.52</u>		
Winter Line below „ „ ... <u>16</u>	Winter „ „ ... <u>1.84</u>		
Winter North Atlantic Line „ „ ... <u>27</u>	Winter North Atlantic „ „ ... <u>1.95</u>		



A new form should be prepared if any alterations that affect the freeboard have been made. If no such alterations have been made, the Surveyor should endorse the form on this side with his signature and the date.



$$\begin{array}{r} \text{Sidehouse} \quad 4.86 \times 3 = \\ \hline 7.21 \end{array}$$

$$\begin{array}{r} 14.71 \quad \checkmark \\ 2.02 \quad \checkmark \\ \hline 16.73 \quad \checkmark \text{ equiv enclosed} \\ 4.86 \\ 2.02 \\ \hline 2.84 \quad \checkmark \text{ equiv overhang} \end{array}$$

Trade of ship .....

Names of sister ships .....

Builder's name and yard number .....

Owners .....

Fee £ .....



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