

Lloyd's Register of Shipping.
SURVEYS FOR FREEBOARD.(COMPUTATION FOR ~~STEAMER, SAILING SHIP, TANKER.~~)

Ship's Name "BRITANNIA"	Official Number	Nationality and Port of Registry <i>Norwegian Oslo</i>	Gross Tonnage <i>10,000</i>	Date of Build <i>1939</i>	Port of Survey <i>Hamburg</i>
Moulded Dimensions: Length <i>496.25</i> Breadth <i>67.00</i> Depth <i>34.15</i> to cr. of rudder stock					Date of Survey <i>17.2.1939</i>
Moulded displacement at moulded draught = 85 per cent. of moulded depth <i>21040</i> tons					Surveyor's Signature <i>Th. Goering</i>
Coefficient of fineness for use with Tables <i>763</i>					Particulars of Classification <i>100A1</i> ✓ <i>Carrying petroleum in bulk.</i>

Depth for Freeboard (D).	Depth correction.	Round of Beam correction.
Moulded depth ... <i>34.15</i>	(a) Where D is greater than Table depth (D-Table depth) R = <i>(34.22 - 33.08)3 = + 3.42</i>	Moulded Breadth (B) <i>67'</i>
Stringer plate ... <i>.07</i>	(b) Where D is less than Table depth (if allowed) (Table depth-D) R = <i>1.14</i>	Standard Round of Beam = $\frac{B \times 12}{50} =$ <i>16.08"</i>
Sheathing on exposed deck $T \left(\frac{L-S}{L} \right) =$ ✓	If restricted by superstructures	Ship's Round of Beam = <i>16.14"</i>
Depth for Freeboard (D) = <i>34.22</i>		Difference <i>Excess .06</i>
		Restricted to ✓
		Correction = $\frac{\text{Diff}}{4} \times \left(1 - \frac{S_1}{L} \right) = \frac{.06}{4} \cdot 5549 = -.01"$ ✓

DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S ₁)	Height	Height Correction	Effective Length (E)
Poop enclosed ... ✓	<i>123.12</i>	<i>123.12</i>	<i>8.00'</i>	✓	<i>123.12</i>
" overhang ... ✓	<i>2.39</i>	<i>1.19</i>			<i>1.19</i>
R.Q.D. enclosed ...					
" overhang ...					
Bridge enclosed ... ✓	<i>38.32</i>	<i>38.32</i>	<i>7.25'</i>	<i>7.25/7.5</i>	<i>37.04</i>
" overhang aft ... ✓	<i>2.39</i>	<i>1.79</i>	"	"	<i>1.73</i>
" overhang forward ✓	<i>.66</i>	<i>.33</i>	"	"	<i>.32</i>
F'cle enclosed ... ✓	<i>56.13</i>	<i>56.13</i>	<i>7.51'</i>	✓	<i>56.13</i>
" overhang ...					
Trunk aft ...					
" forward ...					
Tonnage opening aft ...					
" " forward					
Total ... ✓	<i>223.01</i>	<i>220.88</i>			<i>219.53</i>

Standard Height of Superstructure <i>7.5'</i>	
" " R.Q.D. ✓	
Deduction for complete superstructure <i>42"</i> ✓	
Percentage covered $\frac{S}{L} =$ <i>44.94</i> ✓	
" " $\frac{S_1}{L} =$ <i>44.51</i> ✓	
" " $\frac{E}{L} =$ <i>44.24</i> ✓	
Percentage from Table, Line A. <i>Tanker 35.24</i> ✓	
(corrected for absence of forecastle (if required))	
Percentage from Table, Line B. ✓	
(corrected for absence of forecastle (if required))	
Interpolation for bridge less than 2L (if required) ✓	
Deduction = <i>42" × 35.24 = -14.80"</i> ✓	

SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product
A.P. ...	<i>59.62</i>	1		<i>59.62</i>	<i>57.80</i>	<i>57.80</i>	1		<i>57.80</i>
$\frac{1}{8}$ L from A.P. ...	<i>26.53</i>	4		<i>106.12</i>	<i>26.89</i>	<i>26.89</i>	4		<i>107.56</i>
$\frac{2}{8}$ L " ...	<i>6.56</i>	2		<i>13.12</i>	<i>6.61</i>	<i>6.61</i>	2		<i>13.22</i>
Amidships ...	-	4		-	-	-	4		-
$\frac{2}{8}$ L from F.P. ...	<i>13.12</i>	2		<i>26.24</i>	<i>13.39</i>	<i>13.39</i>	2		<i>26.78</i>
$\frac{1}{8}$ L " ...	<i>53.06</i>	4		<i>212.24</i>	<i>52.28</i>	<i>52.28</i>	4		<i>209.12</i>
F.P. ...	<i>119.25</i>	1		<i>119.25</i>	<i>118.90</i>	<i>118.90</i>	1		<i>118.90</i>
Total ...				<i>536.59</i>					<i>533.38</i>

Correction = $\frac{\text{Difference between sums of products}}{18} \left(.75 - \frac{S}{2L} \right) = \frac{3.21}{18} \left(.75 - \frac{2247}{5253} \right) = +.09$
If limited on account of midship superstructure.

Mean actual sheer aft = *Deficient* ✓
Mean standard sheer aft =
Mean actual sheer forward = *Deficient* ✓
Mean standard sheer forward =
Length of enclosed superstructure forward of amidships =
" " aft of " = *Sheer deficient* ✓

Deduction for Tropical Freeboard.	Deduction for Fresh Water.	TABULAR FREEBOARD corrected for Flush Deck (if required)
Addition for Winter and Winter North Atlantic Freeboard.	Displacement in salt water at summer load water line	Correction for coefficient $\frac{763 + .68}{1.36} = \frac{1.443}{1.36}$ ✓
Depth to Freeboard Deck = <i>34.22</i>	$\Delta = 19966$ tons	Depth Correction ... <i>3.42</i>
Summer freeboard = <i>6.71</i>	Tons per inch immersion at summer load water line	Deduction for superstructures ... <i>14.80</i>
Moulded draught (d) = <i>27.51</i>	T = <i>67.24</i> ✓	Sheer correction ... <i>.09</i>
Deduction for Tropical freeboard and addition for Winter freeboard = $\frac{d}{4}$ inches = <i>6.88 = 7</i> ✓	Deduction = $\frac{\Delta}{40T}$ inches = <i>7.42</i>	Round of Beam correction ... <i>.01</i>
Addition for Winter North Atlantic Freeboard (if required) = <i>6.88 + 4.96 = 11.84</i>	= <i>7 1/2"</i> ✓	Correction for Thickness of Deck amidships ...
		Other corrections, scantlings, etc. ...
		✓ <i>3.51 14.81 -11.30</i>
		Summer Freeboard = <i>80.59</i> ✓

SUMMER FREEBOARD amidships from Centre of Disc to top of Deck Line, ~~Wood~~, Steel, Deck:-

Tropical Fresh Water Line above Centre of Disc ...	<i>14 1/2"</i>	<i>368</i>	Tropical Fresh Water Freeboard ...	<i>5'-6"</i>	<i>1677</i>
Fresh Water Line " " ...	<i>7 1/2"</i>	<i>190</i>	Fresh Water " " ...	<i>6'-1"</i>	<i>1855</i>
Tropical Line " " ...	<i>7"</i>	<i>178</i>	Tropical " " ...	<i>6'-1 1/2"</i>	<i>1867</i>
Winter Line below " " ...	<i>7"</i>	<i>178</i>	Winter " " ...	<i>7'-3 1/2"</i>	<i>2223</i>
Winter North Atlantic Line " " ...	<i>11 1/4"</i>	<i>298</i>	Winter North Atlantic " " ...	<i>7'-8 1/4"</i>	<i>2343</i>

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.

Trade of ship.....

Names of sister ships.....

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

Owners.....

Fee £.....



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Foundation