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(For London Office only.)

# Lloyd's Register of Shipping.

## SURVEYS FOR FREEBOARD.

(COMPUTATION FOR STEAMER, SAILING SHIP, TANKER.)

Ship's Name <b>BEN DEARG.</b>	Official Number <b>144518</b>	Nationality and Port of Registry <b>BRITISH. FLEETWOOD.</b>	Gross Tonnage <b>280</b>	Date of Build <b>1920</b>	Port of Survey <b>Fleetwood.</b>
Moulded Dimensions: Length <b>125.00</b> Breadth <b>23.33</b> Depth <b>13.50</b> ✓					Date of Survey <b>June 17<sup>th</sup> 20<sup>th</sup> 23<sup>rd</sup> 1949.</b>
Moulded displacement at moulded draught = 85 per cent. of moulded depth <b>Not available</b> tons					Surveyor's Signature <b>[Signature]</b>
Coefficient of fineness for use with Tables <b>assumed less than .68.</b>					Particulars of Classification <b>+100A1 Stm. Frames.</b>

DEPTH FOR FREEBOARD (D).	DEPTH CORRECTION.	ROUND OF BEAM CORRECTION.
Moulded depth ... <b>13.5'</b>	(a) Where D is greater than Table depth (D-Table depth) R = $\frac{13.59 - 8.33}{.961} = +5.05''$ ✓	Moulded Breadth (B) <b>23.33</b> ✓
Stringer plate ... <b>.03"</b>	(b) Where D is less than Table depth (if allowed) (Table depth-D) R = $\frac{5.26}{.961} = +5.47''$ ✓	Standard Round of Beam = $\frac{B \times 12}{50} = 5.60$ ✓
Sheathing on exposed deck <b>3"</b>		Ship's Round of Beam = <b>7.00</b> ✓
$T \left( \frac{L-S}{L} \right) = 25 \times .2547 = 6.37$	If restricted by superstructures ✓	Difference <b>1.40</b> ✓
Depth for Freeboard (D) = <b>13.59</b> ✓		Restricted to <b>1.40</b> ✓
		Correction = $\frac{\text{Diff}^2}{4} \times \left( 1 - \frac{S_1}{L} \right) = \frac{1.40^2}{4} \times .2547 = -.09''$ ✓

DEDUCTION FOR SUPERSTRUCTURES.					
	Mean Covered Length (S)	Equivalent Enclosed Length (S <sub>1</sub> )	Height	Height Correction	Effective Length (E)
Poop enclosed ...			<b>virtual</b>		
„ overhang ...			<b>.94</b>	<b>.94</b>	
R.Q.D. enclosed ...	<b>72.92</b>	<b>72.92</b>	<b>9.4</b>	<b>3.167</b>	<b>21.64</b>
„ overhang ...					
Bridge enclosed ...					
„ overhang aft ...			<b>virtual</b>		
„ overhang forward ...			<b>6.19</b>		
F'cle enclosed ...	<b>20.25</b>	<b>20.25</b>	<b>6.0</b>	<b>✓</b>	<b>20.25</b>
„ overhang ...			<b>+3.1th.</b>		
Trunk aft ...					
„ forward ...					
Tonnage opening aft ...					
„ „ forward ...					
Total ...	<b>93.17</b>	<b>93.17</b>			<b>47.89</b>

Standard Height of Superstructure **6.0'** ✓  
 „ „ R.Q.D. **3.167** ✓  
 Deduction for complete superstructure **18.50** ✓  
 Percentage covered  $\frac{S}{L} = 74.53$  ✓  
 „ „  $\frac{S_1}{L} = 74.53$  ✓  
 „ „  $\frac{E}{L} = 33.51$  ✓  
 Percentage from Table, Line A. **17.98** ✓  
 (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 =  $18.50 \times .1798 = 3.33''$  ✓

SHEER CORRECTION.							
Station	Standard Ordinate	S M	Product	Actual Ordinate	Effective Ordinate	S M	Product
A.P. ...	<b>22.50</b>	<b>✓ 1</b>	<b>22.50</b>	<b>60.00</b>	<b>22.50</b>	<b>✓ 1</b>	<b>22.50</b>
$\frac{1}{8}L$ from A.P. ...	<b>10.01</b>	<b>✓ 4</b>	<b>40.04</b>	<b>32.00</b>	<b>10.01</b>	<b>✓ 4</b>	<b>40.04</b>
$\frac{2}{8}L$ „ ...	<b>2.475</b>	<b>✓ 2</b>	<b>4.95</b>	<b>12.00</b>	<b>2.475</b>	<b>✓ 2</b>	<b>4.95</b>
Amidships ...		<b>4</b>		<b>Zero</b>	<b>-</b>	<b>4</b>	<b>-</b>
$\frac{3}{8}L$ from F.P. ...	<b>4.95</b>	<b>✓ 2</b>	<b>9.90</b>	<b>1.00</b>	<b>1.00</b>	<b>✓ 2</b>	<b>2.00</b>
$\frac{4}{8}L$ „ ...	<b>20.025</b>	<b>✓ 4</b>	<b>80.10</b>	<b>9.00</b>	<b>9.00</b>	<b>✓ 4</b>	<b>36.00</b>
F.P. ...	<b>45.00</b>	<b>✓ 1</b>	<b>45.00</b>	<b>15.50</b>	<b>15.50</b>	<b>✓ 1</b>	<b>15.50</b>
Total ...			<b>202.49</b>				<b>120.99</b>

Mean actual sheer aft = **Excess**  
 Mean standard sheer aft = **Excess**  
 Mean actual sheer forward = **Deficient**  
 Mean standard sheer forward = **Deficient**  
 Length of enclosed superstructure forward of amidships = **Deficient**  
 „ „ aft of „ = **Shear**  
 Correction =  $\frac{\text{Difference between sums of products}}{18} \left( .75 - \frac{S}{2L} \right) = \frac{81.50}{18} \left( .75 - \frac{3727}{3773} \right) = +1.71''$  ✓  
 If limited on account of midship superstructure. ✓  
 If limited to maximum allowance of  $1\frac{1}{2}$  ins. per 100 ft. ✓

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 <b>N/L</b>
Depth to Freeboard Deck = <b>14.53</b>	$\Delta = \text{Not available}$	Depth Correction ... <b>5.05</b>
Summer freeboard = <b>2.25</b>	Tons per inch immersion at summer load water line	Deduction for superstructures ... <b>3.33</b>
Moulded draught (d) = <b>12.28</b>	T =	Sheer correction ... <b>1.71</b>
Deduction for Tropical freeboard and addition for	Deduction = $\frac{\Delta}{40 T}$ inches	Round of Beam correction ... <b>.09</b>
Winter freeboard = $\frac{d}{4}$ inches = <b>3.07 = 3''</b>	= $\frac{d}{4} = 3''$ ✓	Correction for Thickness of Deck amidships ... <b>2.28</b>
Addition for Winter North Atlantic Freeboard (if required) = <b>5''</b>		Other corrections, scantlings, etc. height ... <b>9.00</b>
		<b>18.04</b> <b>3.42</b> <b>+1.62</b>
		Summer Freeboard = <b>27.12</b>

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

Tropical Fresh Water Line above Centre of Disc	...	6"
Fresh Water Line	...	3"
Tropical Line	...	3"
Winter Line below	...	3"
Winter North Atlantic Line	...	5"

Tropical Fresh Water Freeboard	...	2.3"
Fresh Water	...	2.0"
Tropical	...	2.0"
Winter	...	2.6"
Winter North Atlantic	...	2.8"



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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