

Lloyd's Register of Shipping.

SURVEYS FOR FREEBOARD.

Computation of Freeboard for Steamer, Sailing Ship, Tanker

having Bridge & Forecastle

Port of Survey

HM ENDERBY (Type of Superstructures.)

Date of Survey 21. 1. 35

Name of Surveyor

Particulars of Classification +100M
Shelter deck with freeboard.

Ship's Name	Nationality and Port of Registry	Official Number	Gross Tonnage	Date of Build
<u>S S TEKOA</u>	<u>British Plymouth</u>	<u>145994</u>	<u>8689.02</u>	<u>1922</u>

Moulded Dimensions: Length 460.00 Breadth 62.50 Depth 37.75

Moulded displacement at moulded draught = 85 per cent. of moulded depth 20,340 tons

Coefficient of fineness for use with Tables .772

Depth for Freeboard (D)	Depth correction	Round of Beam correction
Moulded depth <u>37.75</u>	(a) Where D is greater than Table depth (D-Table depth) R = <u>(37.75 - 30.67) 3.00</u>	Moulded Breadth (B) <u>62.50</u>
Stringer plate <u>.04</u>	= <u>+ 21.36</u>	Standard Round of Beam = $\frac{B \times 12}{50} = \frac{62.50 \times 12}{50} = 15.00$
Sheathing on exposed deck $T \left(\frac{L-S}{L} \right) =$ <u>✓</u>	(b) Where D is less than Table depth (if allowed) (Table depth-D) R = <u>✓</u>	Ship's Round of Beam = <u>15.50</u>
Depth for Freeboard (D) = <u>37.79</u>	If restricted by superstructures <u>✓</u>	Difference <u>Excess .50</u>
		Restricted to
		Correction = $\frac{\text{Diff}}{4} \times \left(1 - \frac{S_1}{L} \right) = \frac{.50}{4} \times .3184 = -.04$

DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S ₁)	Height	Height Correction	Effective Length (E)
Poop enclosed					
" overhang					
R.Q.D. enclosed					
" overhang					
Bridge enclosed	<u>270.00</u>	<u>260.83</u>	<u>8'-0"</u>	<u>✓</u>	<u>260.83</u>
" overhang aft					
" overhang forward					
Isle enclosed	<u>57.58</u>	<u>57.58</u>	<u>7'-11"</u>	<u>✓</u>	<u>57.58</u>
" overhang	<u>2.25</u>	<u>1.12</u>	<u>✓</u>	<u>✓</u>	<u>1.12</u>
Trunk aft					
" forward					
Tonnage opening aft					
" forward					
Total	<u>323.83</u>	<u>313.53</u>			<u>313.53</u>

Standard Height of Superstructure 7.50'

" " R.Q.D. ✓

Deduction for complete superstructure 42.00"

Percentage covered $\frac{S}{L} = \frac{323.83}{460} = 70.40\%$

" " $\frac{S_1}{L} = \frac{313.53}{460} = 68.16\%$

" " $\frac{E}{L} = \frac{313.53}{460} = 68.16\%$

Percentage from Table, Line A.
(corrected for absence of forecastle (if required))

Percentage from Table, Line B. 59.87%
(corrected for absence of forecastle (if required))

Interpolation for bridge less than 2L (if required)

Deduction = 42.00 x .5987 = -25.14"

SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product
A.P.	<u>56.00</u>	1		<u>56.00</u>	<u>42.50</u>	<u>42.50</u>	1		<u>42.50</u>
$\frac{1}{4}$ L from A.P.	<u>24.92</u>	4		<u>99.68</u>	<u>19.21</u>	<u>19.21</u>	4		<u>76.84</u>
$\frac{3}{4}$ L "	<u>6.16</u>	2		<u>12.32</u>	<u>4.80</u>	<u>4.80</u>	2		<u>9.60</u>
Amidships	<u>✓</u>	4		<u>✓</u>	<u>✓</u>	<u>✓</u>	4		<u>✓</u>
$\frac{3}{4}$ L from F.P.	<u>12.32</u>	2		<u>24.64</u>	<u>11.43</u>	<u>11.43</u>	2		<u>22.86</u>
$\frac{1}{4}$ L "	<u>49.84</u>	4		<u>199.36</u>	<u>45.72</u>	<u>45.72</u>	4		<u>182.88</u>
F.P.	<u>112.00</u>	1		<u>112.00</u>	<u>102.50</u>	<u>102.50</u>	1		<u>102.50</u>
Total				<u>504.00</u>	<u>✓</u>	<u>✓</u>			<u>437.18</u>

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 = Deficient
" " aft of " = Sheet.

$$\text{Correction} = \frac{\text{Difference between sums of products}}{18} \left(.75 - \frac{S}{2L} \right) = \frac{66.82}{18} (.75 - .352) = +1.48"$$

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.
Addition for Winter and Winter North Atlantic Freeboard.

Ft.
Depth to Freeboard Deck = 37.79
Summer freeboard = 7.83
Moulded draught (d) = 29.96

Deduction for Tropical freeboard and addition for

Winter freeboard = $\frac{d}{4}$ inches = 7.49 = 7.3"Addition for Winter North Atlantic Freeboard (if required) = ✓

Deduction for Fresh Water.

Displacement in salt water at summer load water line

 $\Delta = 18889$

Tons per inch immersion at summer load water line.

 $T = 59.50$ Deduction = $\frac{\Delta}{40T}$ inches= 7.94"= 8.00"

TABULAR FREEBOARD corrected for Flush Deck (if required)

Correction for coefficient

	+	-
Depth Correction	<u>21.36</u>	<u>-</u>
Deduction for superstructures	<u>-</u>	<u>25.14</u>
Sheer correction	<u>1.48</u>	<u>-</u>
Round of Beam correction	<u>-</u>	<u>.40</u>
Correction for Thickness of Deck amidships	<u>-</u>	<u>-</u>
Other corrections, scantlings, etc.	<u>-</u>	<u>-</u>
	<u>22.84</u>	<u>25.18</u>
Summer Freeboard =	<u>93.96</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>15$\frac{1}{2}$"</u>
Fresh Water Line " "	<u>8"</u>
Tropical L " "	<u>7$\frac{1}{2}$"</u>
Winter L " " below " "	<u>7$\frac{1}{2}$"</u>
Winter N " " " "	<u>✓</u>

Tropical Fresh Water Freeboard	<u>6'-10"</u>
Fresh Water " "	<u>6'-2"</u>
Tropical " "	<u>7'-2$\frac{1}{2}$"</u>
Winter " "	<u>8'-5$\frac{1}{2}$"</u>
Winter North Atlantic " "	<u>✓</u>

PARTICULARS OF PROTECTION TO OPENINGS, ETC.

HATCHWAYS ON FREEBOARD AND SUPERSTRUCTURE DECKS										
Description of Hatchway										
Dimensions of Hatchway										
COAMINGS	{	Height above Deck ...								
		Thickness { Sides ...								
		{ Ends ...								
		Stiffeners								
		Brackets, Stays ...								
HATCH BEAMS	{	Number								
		Spacing								
		Scantling and Sketch ...								
		Bearing Surface								
FORE AND AFTERS	{	Number								
		Spacing								
		Unsupported Lengths ...								
		Scantling* and Sketch ...								
		Bearing Surface								
HATCH COVERS	{	Material								
		Thickness								
		How fitted								
		Bearing Surface								
Spacing of Cleats										
Number of Tarpaulins										
<p>*Are wood fore and afters steel shod at all bearing surfaces ?</p> <p>Are battens and wedges efficient and in good condition ?</p> <p>Are tarpaulins in good condition and in accordance with rule requirements ?</p> <p>Are lashings provided in accordance with rule requirements ?</p>										

Particulars of fiddle, funnel and ventilator coamings :—

Particulars of Flush Bunker Scuttles :—

Particulars of Companionways :—

Particulars of Ventilators in exposed positions on freeboard and superstructure decks :—

Particulars of Air Pipes in exposed positions on freeboard, raised quarter, or superstructure decks :—

Particulars of Gangway Cargo and Coaling Ports :—



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