

Lloyd's Register of Shipping.
SURVEYS FOR FREEBOARD.Index. No. _____
(For London Office only.)

Computation of Freeboard for Steamer, Sailing Ship, Tanker				Port of Survey _____	
having _____				Date of Survey <u>19-4-32</u>	
(Type of Superstructures.) _____				Name of Surveyor _____	
Ship's Name	Nationality and Port of Registry	Official Number	Gross Tonnage	Date of Build	
<u>Burntisland</u>	<u>S.B.C. Ltd.</u>	<u>Salmonale No 2232</u>			
Moulded Dimensions: Length <u>235.5</u> Breadth <u>37.83</u> Depth <u>18.5</u>				Particulars of Classification <u>+100 A.1</u>	
Moulded displacement at moulded draught = 85 per cent. of moulded depth _____ tons				with <u>fld (Contemplated)</u>	
Coefficient of fineness for use with Tables <u>Assume 78</u>					
Depth for Freeboard (D)		Depth correction		Round of Beam correction	
Moulded depth <u>18.50</u>		(a) Where D is greater than Table depth (D-Table depth) R = <u>(18.54 - 15.70) 1.84</u>		Moulded Breadth (B) <u>37.83</u>	
Stringer plate <u>1.04</u>		<u>2.84</u> <u>+ 5.14</u>		Standard Round of Beam = $\frac{B \times 12}{50} = \frac{37.83 \times 12}{50} = 9.08$	
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>8.5</u>	
Depth for Freeboard (D) = <u>18.54</u>		If restricted by superstructures <u>✓</u>		Difference <u>.58</u>	
				Restricted to	
				Correction = $\frac{\text{Diff}^e}{4} \times \left(1 - \frac{S_1}{L} \right) = \frac{.58}{4} \times .263 = +.03$	

DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S ₁)	Height	Height Correction	Effective Length (E)	
Poop enclosed						Standard Height of Superstructure <u>6.0</u>
„ overhang						„ „ R.Q.D. <u>3.905</u>
R.Q.D. enclosed	<u>135.52</u>	<u>135.52</u>	<u>4.0</u>		<u>135.52</u>	Deduction for complete superstructure <u>29.55</u>
„ overhang						Percentage covered $\frac{S}{L} = \frac{135.52}{185} = 73.7$
Bridge enclosed	<u>15.0</u>	<u>15.0</u>	<u>7.0</u>		<u>15.0</u>	„ „ $\frac{S_1}{L} = \frac{135.52}{185} = 73.7$
„ overhang aft						„ „ $\frac{E}{L} = \frac{15.0}{185} = 7.37$
„ overhang forward						Percentage from Table, Line A. (corrected for absence of forecastle (if required))
F'cle enclosed	<u>23.0</u>	<u>23.0</u>	<u>6.0</u>		<u>23.0</u>	Percentage from Table, Line B. (corrected for absence of forecastle (if required)) <u>67.55</u>
„ overhang						Interpolation for bridge less than 2L (if required)
Trunk aft						Deduction = <u>29.55</u> \times <u>.6755</u> = <u>19.96</u>
„ forward						
Tonnage opening aft						
„ „ forward						
Total	<u>173.52</u>	<u>173.52</u>			<u>173.52</u>	

SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product	
A.P.	<u>33.55</u>	1			<u>5.0</u>		1		<u>5.0</u>	Mean actual sheer aft =
$\frac{1}{8}$ L from A.P.		4			<u>2.22</u>		4		<u>8.88</u>	Mean actual sheer forward =
$\frac{2}{8}$ L „		2			<u>.58</u>		2		<u>1.10</u>	Mean standard sheer aft =
Amidships		4			<u>0</u>		4		<u>0</u>	Mean standard sheer forward =
$\frac{3}{8}$ L from F.P.		2			<u>4.29</u>		2		<u>8.58</u>	Length of enclosed superstructure forward of amidships =
$\frac{1}{8}$ L „		4			<u>14.3</u>		4		<u>69.20</u>	„ „ aft of „ =
F.P.	<u>64.10</u>	1			<u>39.0</u>		1		<u>39.00</u>	
Total				<u>301.95</u>					<u>131.76</u>	
Correction = $\frac{\text{Difference between sums of products}}{18} \left(.75 - \frac{S}{2L} \right) = \frac{170.19}{18} \left(.75 - \frac{368}{2 \times 185} \right) = \frac{170.19}{18} \times .382 = +3.61$										
If limited on account of midship superstructure.										
If limited to maximum allowance of 1½ ins. per 100 ft.										

Deduction for Tropical Freeboard.	Deduction for Fresh Water.	TABULAR FREEBOARD corrected for Flush Deck (if required)	29.49
Addition for Winter and Winter North Atlantic Freeboard.	Displacement in salt water at summer load water line	Correction for coefficient $\frac{1.28 + .68}{1.36} = \frac{1.96}{1.36}$	31.66
Ft.	$\Delta =$		
Depth to Freeboard Deck = <u>18.54</u>	Tons per inch immersion at summer load water line	Depth Correction <u>5.14</u>	
Summer freeboard <u>P.O.D. 4.00</u>	T =	Deduction for superstructures <u>19.96</u>	
Moulded draught (d) = <u>16.83</u>	Deduction = $\frac{\Delta}{40 T}$ inches	Sheer correction <u>3.61</u>	
Deduction for Tropical freeboard and addition for		Round of Beam correction <u>+03</u>	
Winter freeboard = $\frac{d}{4}$ inches =		Correction for Thickness of Deck amidships <u>48.00</u>	
Addition for Winter North Atlantic Freeboard (if required =		Other corrections, scantlings, etc.	
		<u>56.78</u> <u>19.96</u> <u>+36.82</u>	
		Summer Freeboard = <u>68.48</u>	

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

Tropical Fresh Water Line above Centre of Disc	
Fresh Water Line „ „	
Tropical Line „ „	
Winter Line below „ „	
Winter North Atlantic Line „ „	

Tropical Fresh Water Freeboard	
Fresh Water „ „	
Tropical „ „	
Winter „ „	
Winter North Atlantic „ „	

Actual Summer Mld Draught = 16-10
Besmed „ „ 15-10 5/8

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