

Preliminary
Lloyd's Register of Shipping.
SURVEYS FOR FREEBOARD.

Index. No. **34131**
(For London Office only.)

Computation of Freeboard for Steamer, Sailing Ship, Tanker
having *a complete superstructure deck with a tonnage opening.*
(Type of Superstructures.)

Ship's Name	Nationality and Port of Registry	Official Number	Gross Tonnage	Date of Build
<i>Swan Hunter & Wigham Richardson Ltd</i>	<i>✓</i>	<i>✓</i>	<i>✓</i>	<i>✓</i>

Dimensions: Length *248.0'* Breadth *39.33'* Depth *16.83'*
Displacement at moulded draught = 85 per cent. of moulded depth *3148* tons
Amount of fineness for use with Tables *.490* *x*

Port of Survey _____
Date of Survey *23-1-32*
Name of Surveyor _____
Particulars of Classification *+100 A. 1.*
With freeboard (Contemplated)

Depth for Freeboard (D)	Depth correction	Round of Beam correction
... .. <i>16.83</i>	(a) Where D is greater than Table depth (D-Table depth) R = <i>(16.86 - 16.53) x 1.904 = +0.63</i>	Moulded Breadth (B) <i>39.33</i> Standard Round of Beam = $\frac{B \times 12}{50} =$ <i>9.44</i> Ship's Round of Beam = <i>9.50</i> Difference = <i>.06</i>
Exposed deck) =	(b) Where D is less than Table depth (if allowed) (Table depth - D) R = <i>.33</i>	Restricted to Correction = $\frac{\text{Diff}^e}{4} \times \left(1 - \frac{S_1}{L}\right) =$ <i>.06 x .0084 = N/A</i>
Depth for Freeboard (D) = <i>16.86</i> <i>x</i>	If restricted by superstructures	

DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S ₁)	Height	Height Correction	Effective Length (E)	
closed ...	<i>19.00</i>	<i>19.00</i>	<i>4'6"</i>	<i>✓</i>	<i>19.00</i>	Standard Height of Superstructure <i>6.00</i> <i>x</i>
erhang ...						" " R.Q.D. <i>✓</i>
enclosed ...						Deduction for complete superstructure <i>30.80</i> <i>x</i>
overhang ...						Percentage covered $\frac{S}{L} =$ <i>100.0</i>
enclosed... ..						" " $\frac{S_1}{L} =$ <i>99.16</i> <i>✓</i>
overhang aft ...						" " $\frac{E}{L} =$ <i>99.16</i> <i>✓</i>
overhang forward	<i>224.84</i>	<i>224.84</i>	<i>4'6"</i>	<i>✓</i>	<i>224.84</i>	Percentage from Table, Line A. (corrected for absence of forecastle (if required))
closed ...						Percentage from Table, Line B. <i>98.96</i> <i>✓</i> (corrected for absence of forecastle (if required))
erhang ...						Interpolation for bridge less than 2L (if required)
aft ...						Deduction = <i>30.80 x .9896 = - 30.48</i>
forward ...						
e opening aft ...	<i>4.16</i>	<i>2.08</i> <i>✓</i>			<i>2.08</i>	
" forward						
Total ...	<i>248.00</i>	<i>245.92</i>			<i>245.92</i>	

SHEER CORRECTION.

Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product	
<i>34.8</i>	<i>1</i>			<i>33 + 18</i>	<i>51.00</i>	<i>1</i>		<i>51.00</i>	Mean actual sheer aft = <i>Excess</i> Mean standard sheer aft
	<i>4</i>			<i>14.75</i>	<i>22.40</i>	<i>4</i>		<i>90.80</i>	Mean actual sheer forward = <i>Excess.</i> Mean standard sheer forward
	<i>2</i>			<i>3.75</i>	<i>5.6x</i>	<i>2</i>		<i>11.22</i>	
	<i>4</i>					<i>4</i>			Length of enclosed superstructure forward of amidships =
	<i>2</i>			<i>7.25</i>	<i>9.24</i>	<i>2</i>		<i>18.48</i>	" " aft of " =
	<i>4</i>			<i>29.37</i>	<i>34.38</i>	<i>4</i>		<i>149.52</i>	
<i>69.6</i>	<i>1</i>			<i>66 + 18</i>	<i>84.00</i>	<i>1</i>		<i>84.00</i>	Actual T.D height <i>7'6"</i> Standard " " <i>6'0"</i> <i>1'6"</i> <i>✓</i>
			<i>313.20</i>					<i>405.82</i>	

Correction = $\frac{\text{Difference between sums of products}}{18} \left(\frac{75 - S}{2L} \right) =$ $\frac{3214}{18} \times \left(\frac{45 - 50}{25} \right) = -1.28$ *x*
ded on account of midship superstructure.
If limited to maximum allowance of $1\frac{1}{2}$ ins. per 100 ft.

Correction for Tropical Freeboard.	Deduction for Fresh Water.	TABULAR FREEBOARD corrected for Flush Deck (if required)
Correction for Winter and Winter North Atlantic Freeboard.	Displacement in salt water at summer load water line	Correction for coefficient <i>.490 + .68</i> <i>1.07</i>
Depth to Freeboard Deck = <i>16.86</i> <i>✓</i>	$\Delta =$ <i>3710</i>	<i>1.36</i>
Summer freeboard = <i>0.28</i>	Tons per inch immersion at summer load water line	Depth Correction <i>0.63</i> <i>✓</i>
Moulded draught (d) = <i>16.58</i> <i>✓</i>	T = <i>20.2</i>	Deduction for superstructures <i>30.48</i> <i>x</i>
Correction for Tropical freeboard and addition for Winter North Atlantic Freeboard (if required) = <i>2.00 - (2')</i>	Deduction = $\frac{\Delta}{40T}$ inches = <i>4.59</i> <i>✓</i> <i>= 4 1/2"</i>	Sheer correction <i>1.28</i> <i>x</i>
		Round of Beam correction <i>✓</i>
		Correction for Thickness of Deck amidships <i>✓</i>
		Other corrections, scantlings, etc. <i>✓</i>
		<i>0.63 31.46 - 31.13</i>
		Summer Freeboard = <i>3.35</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>5 3/4</i>	Tropical Fresh Water Freeboard ...	<i>0' 3 1/4"</i> <i>x</i>
Fresh Water Line " " ...	<i>4 1/2</i>	Fresh Water " " ...	<i>0' 2 1/2"</i>
Tropical Line " " ...	<i>1 1/4</i>	Tropical " " ...	<i>0' 1 1/4"</i>
Winter Line below " " ...	<i>4 1/4</i>	Winter " " ...	<i>0' 2"</i>
Winter North Atlantic Line " " ...	<i>6 1/4</i>	Winter North Atlantic " " ...	<i>0' 4 1/2"</i>

Lloyd's Register Foundation