

Lloyd's Register of Shipping.

SURVEYS FOR FREEBOARD.

(COMPUTATION FOR ~~STEAMER, SAILING SHIP, TANKER.~~)

Ship's Name M/S "SAGONA"	Official Number	Nationality and Port of Registry NORWEGIAN. XANSAND.	Gross Tonnage 7554	Date of Build 1929	Port of Survey LONDON.
Moulded Dimensions: Length 450.0' Breadth 59.00' Depth 34.12'					Date of Survey 13-10-39.
Moulded displacement at moulded draught = 85 per cent. of moulded depth <input checked="" type="checkbox"/> tons					Surveyor's Signature _____
Coefficient of fineness for use with Tables .80 (ESTIMATED)					Particulars of Classification + 100 AI. CARRYING PETROLEUM IN BULK.

Depth for Freeboard (D).	Depth correction.	Round of Beam correction.
Moulded depth ... 34.12'	(a) Where D is greater than Table depth (D-Table depth) R = (34.12-30.00)3 = + 12.54" 4.18	Moulded Breadth (B) = 59.00'
Stringer plate75"	(b) Where D is less than Table depth (if allowed) (Table depth-D) R = <input checked="" type="checkbox"/>	Standard Round of Beam = $\frac{B \times 12}{50} = \mathbf{14.16"}$
Sheathing on exposed deck $T \left(\frac{L-S}{L} \right) =$ <input checked="" type="checkbox"/>	If restricted by superstructures <input checked="" type="checkbox"/>	Ship's Round of Beam = 14.17"
Depth for Freeboard (D) = 34.18'		Difference EXCESS = .01"
		Restricted to
		Correction = $\frac{\text{Diff}^2}{4} \times \left(1 - \frac{S_1}{L}\right) = \frac{.01^2}{4} \times .5843 = \mathbf{NIL.}$

DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S ₁)	Height	Height Correction	Effective Length (E)
Poop enclosed ...	97.00 ✓	97.00 ✓	7.50	<input checked="" type="checkbox"/>	97.00 ✓
„ overhang ...	4.00 ✓	2.00 ✓	„	<input checked="" type="checkbox"/>	2.00 ✓
R.Q.D. enclosed					
„ overhang					
Bridge enclosed...	34.50 ✓	34.50 ✓	7.50	<input checked="" type="checkbox"/>	34.50 ✓
„ overhang aft					
„ overhang forward					
Fore enclosed EQUIV...	53.55 ✓	53.55 ✓	7.50	<input checked="" type="checkbox"/>	53.55 ✓
„ overhang					
„ overhang aft					
„ forward					
Tonnage opening aft					
„ forward					
Total ...	189.05 ✓	187.05 ✓			187.05 ✓

Standard Height of Superstructure **7.50'**

„ „ R.Q.D. ☒

Deduction for complete superstructure **42.00"**

Percentage covered $\frac{S}{L} = \mathbf{42.01}$ ✓

„ „ $\frac{S_1}{L} = \mathbf{41.57}$ ✓

„ „ $\frac{E}{L} = \mathbf{41.57}$ ✓

Percentage from Table, Line A. **TANKER = 32.57** ✓
(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 = **42.00 × .3257 = 13.68"** ✓

SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate PLOTTED	Effective Ordinate	S	M	Product
A.P. ...	55.00 ✓	1		55.00	54.00	54.00	1		54.00
$\frac{1}{8}$ L from A.P. ...	24.47 ✓	4		97.88	15.50 ✓	15.50	4		62.00
$\frac{3}{8}$ L „ ...	6.05 ✓	2		12.10	2.50	2.50	2		5.00
Amidships ...	-	4		-	-	-	4		-
$\frac{3}{8}$ L from F.P. ...	12.10 ✓	2		24.20	7.00 ✓	7.00	2		14.00
$\frac{1}{8}$ L „ ...	48.95 ✓	4		195.80	29.00 ✓	29.00	4		116.00
F.P. ...	110.00 ✓	1		110.00	109.00	109.00	1		109.00
Total ...				494.98					360.00

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 „ = **SHEER**

Correction = $\frac{\text{Difference between sums of products}}{18} \left(.75 - \frac{S}{2L} \right) = \frac{134.98}{18} (.75 - .21) = \mathbf{+ 4.05"}$
If limited on account of midship superstructure ✓

If limited to maximum allowance of $1\frac{1}{2}$ ins. per 100 ft. ✓

<p>Deduction for Tropical Freeboard.</p> <p>Addition for Winter and Winter North Atlantic Freeboard.</p> <p style="text-align: right;">Ft.</p> <p>Depth to Freeboard Deck = 34.18 ✓</p> <p>Summer freeboard = 7.06 ✓</p> <p>Moulded draught (d) = 27.12 ✓</p> <p>Deduction for Tropical freeboard and addition for Winter freeboard = $\frac{d}{4}$ inches = 6.78 = 6$\frac{3}{4}$"</p> <p>Addition for Winter North Atlantic Freeboard (if required) = 6.78 + 4.50 = 11.28 = 11$\frac{1}{4}$"</p>	<p>Deduction for Fresh Water.</p> <p>Displacement in salt water at summer load water line</p> <p>$\Delta =$ <input checked="" type="checkbox"/></p> <p>Tons per inch immersion at summer load water line</p> <p>$T =$ <input checked="" type="checkbox"/></p> <p>Deduction = $\frac{\Delta}{40T}$ inches</p> <p>$\frac{d}{4} = \mathbf{6\frac{3}{4}"}$</p>	<p>TABULAR FREEBOARD corrected for Flush Deck (if required)</p> <p>Correction for coefficient $\frac{.80 + .68}{1.36} = \frac{1.48}{1.36}$</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th></th> <th>+</th> <th>-</th> </tr> <tr> <td>Depth Correction ...</td> <td>12.54</td> <td>-</td> </tr> <tr> <td>Deduction for superstructures ...</td> <td>-</td> <td>13.68</td> </tr> <tr> <td>Sheer correction ...</td> <td>4.05</td> <td>-</td> </tr> <tr> <td>Round of Beam correction ...</td> <td>-</td> <td>-</td> </tr> <tr> <td>Correction for Thickness of Deck amidships</td> <td>-</td> <td>-</td> </tr> <tr> <td>Other corrections, scantlings, etc. ...</td> <td>-</td> <td>-</td> </tr> <tr> <td></td> <td>16.59</td> <td>13.68</td> </tr> </table> <p style="text-align: right;">+ 2.91"</p> <p>Summer Freeboard = 84.63"</p>		+	-	Depth Correction ...	12.54	-	Deduction for superstructures ...	-	13.68	Sheer correction ...	4.05	-	Round of Beam correction ...	-	-	Correction for Thickness of Deck amidships	-	-	Other corrections, scantlings, etc. ...	-	-		16.59	13.68
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SUMMER FREEBOARD amidships from Centre of Disc to top of Deck Line, ~~Wood~~ Steel, Deck:

Tropical Fresh Water Line above Centre of Disc 13$\frac{1}{2}$" = 342 ✓	Tropical Fresh Water Freeboard ... 5' 11$\frac{1}{4}$" = 1811 ✓
Fresh Water Line " " 6$\frac{3}{4}$" = 171 ✓	Fresh Water " " 6' 6" = 1982 ✓
Tropical Line " " 6$\frac{3}{4}$" = 171 ✓	Tropical " " 6' 6" = 1982 ✓
Winter Line below " " 6$\frac{3}{4}$" = 171 ✓	Winter " " 7' 7$\frac{1}{2}$" = 2324 ✓
Winter North Atlantic Line " " 11$\frac{1}{4}$" = 286 ✓	Winter North Atlantic " " 8' 0" = 2439 ✓

Sagona.

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.

Forecastle Equivalent Bulkhead.

$$56.50^{\checkmark} - \left(\frac{39.50^{\checkmark} \times 4.25^{\checkmark}}{570} \right) = \underline{\underline{53.55^{\checkmark}}}$$

Trade of ship.....

Names of sister ships.....

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

Owners.....

Fee £.....



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Foundation