

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 Liverpool

Date of Survey Sept 1932

Name of Surveyor _____

Particulars of Classification +1000

Ship's Name KARLSHAMN Nationality and Port of SWE Official Number 3875 Gross Tonnage 3715 Date of Build 1911-11

EX-JURKO TOPIC Stockholm Susak

Moulded Dimensions: Length 347.8 Breadth 49.87 Depth 25.96 8716 tons

Moulded displacement at moulded draught = 85 per cent. of moulded depth

Coefficient of fineness for use with Tables .797

Depth for Freeboard (D)	Depth correction	Round of Beam correction
Moulded depth <u>25.96</u>	(a) Where D is greater than Table depth (D - Table depth) R = <u>(25.99 - 23.9) 2.675 = + 7.49</u>	Moulded Breadth (B) <u>49.87</u>
Stringer plate <u>.03</u>	(b) Where D is less than Table depth (if allowed) (Table depth - D) R =	Standard Round of Beam = $\frac{B \times 12}{50} = \frac{49.87 \times 12}{50} = 11.97$
Sheathing on exposed deck $T \left(\frac{L-S}{L} \right) =$	If restricted by superstructures	Ship's Round of Beam = <u>12</u>
Depth for Freeboard (D) = <u>25.99</u>		Difference <u>.03</u>
		Restricted to
		Correction = $\frac{\text{Diff}}{4} \times \left(1 - \frac{S_1}{L} \right) = \frac{.03}{4} \times \frac{.5689}{1} = .00427$

DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S ₁)	Height	Height Correction	Effective Length (E)
Poop enclosed ...	<u>23.08</u>	<u>23.08</u>	<u>7.3</u>		<u>23.08</u>
" overhang ...	<u>.25</u>	<u>.12</u>			<u>.12</u>
R.Q.D. enclosed ...					
" overhang ...					
Bridge enclosed ...	<u>93.75</u>	<u>93.75</u>	<u>7.0</u>		<u>93.75</u>
" overhang aft ...	<u>.25</u>	<u>.19</u>			<u>.19</u>
" overhang forward ...	<u>1.25</u>	<u>.62</u>			<u>.62</u>
Fore enclosed <u>aper</u> ...	<u>31.95</u>	<u>31.95</u>	<u>7.0</u>		<u>31.95</u>
" overhang ...	<u>.25</u>	<u>.23</u>			<u>.23</u>
Trunk aft <u>wings</u> ...	<u>4.0</u>				
" forward ...					
Tonnage opening aft ...					
" forward ...					
Total ...	<u>150.78</u>	<u>149.96</u>			<u>149.96</u>

Standard Height of Superstructure 6.98

" " R.Q.D. —

Deduction for complete superstructure 38.52

Percentage covered $\frac{S}{L} = \frac{149.96}{347.8} = 43.35$

" " $\frac{S_1}{L} = \frac{149.96}{347.8} = 43.11$

" " $\frac{E}{L} = \frac{149.96}{347.8} = 43.11$

Percentage from Table, Line A. (corrected for absence of forecastle (if required)) TIMBER 64.94%

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

Interpolation for bridge less than 2L (if required)

Deduction = $38.52 \times .6494 = - 25.02$

SHEER CORRECTION.

Station	Standard Ordinate	S M	Product	Actual Ordinate	Effective Ordinate	S M	Product
A.P. ...	<u>44.78</u>	1	<u>44.78</u>	<u>54.5</u>	<u>54.50</u>	1	<u>54.50</u>
$\frac{1}{8}L$ from A.P. ...	<u>19.93</u>	4	<u>79.72</u>	<u>22.71</u>	<u>22.71</u>	4	<u>90.84</u>
$\frac{1}{4}L$ " ...	<u>4.93</u>	2	<u>9.86</u>	<u>5.68</u>	<u>5.68</u>	2	<u>11.36</u>
midships ...	<u>—</u>	4	<u>—</u>	<u>—</u>	<u>—</u>	4	<u>—</u>
$\frac{3}{8}L$ from F.P. ...	<u>9.85</u>	2	<u>19.70</u>	<u>11.85</u>	<u>11.85</u>	2	<u>23.70</u>
$\frac{1}{2}L$ " ...	<u>39.86</u>	4	<u>159.44</u>	<u>47.40</u>	<u>47.40</u>	4	<u>189.60</u>
F.P. ...	<u>89.56</u>	1	<u>89.56</u>	<u>105.00</u>	<u>105.00</u>	1	<u>105.00</u>
Total ...			<u>403.06</u>				<u>473.00</u>

Correction = $\frac{\text{Difference between sums of products}}{18} \left(.75 - \frac{S}{2L} \right) = \frac{71.94}{18} \left(.75 - \frac{216}{347.8} \right) = - 2.13$

If limited on account of midship superstructure.

Mean actual sheer aft = Excess

Mean standard sheer aft

Mean actual sheer forward = Excess

Mean standard sheer forward

Length of enclosed superstructure forward of amidships = .151

" " aft of " = .119

Deduction for Tropical Freeboard.

Addition for Winter and Winter North Atlantic Freeboard.

Depth to Freeboard Deck = 25.99

Summer freeboard = 3.42

Moulded draught (d) = 22.57

Deduction for Tropical freeboard and addition for

Winter freeboard = $\frac{d}{4}$ inches = $\frac{22.57}{4} = 5.64 = 5\frac{3}{4}$

Addition for Winter North Atlantic Freeboard (if required) = $\frac{d}{3} = \frac{22.57}{3} = 7.52 = 7\frac{1}{2}$

Deduction for Fresh Water.

Displacement in salt water at summer load water line

$\Delta = 9033$

Tons per inch immersion at summer load water line

$T = 35.23$

Deduction = $\frac{\Delta}{40T}$ inches

= $\frac{9033}{40 \times 35.23} = 6.41$

= $6\frac{1}{2}$

TABULAR FREEBOARD corrected for Flush Deck (if required)

Correction for coefficient $\frac{.797 + .680}{1.36} = \frac{1.477}{1.36}$

Depth Correction 7.49

Deduction for superstructures 25.02

Sheer correction 2.13

Round of Beam correction —

Correction for Thickness of Deck amidships —

Other corrections, scantlings, etc. —

	+	-
Depth Correction	7.49	—
Deduction for superstructures	—	25.02
Sheer correction	—	2.13
Round of Beam correction	—	—
Correction for Thickness of Deck amidships	—	—
Other corrections, scantlings, etc.	—	—
	7.49	27.15

Summer Freeboard = 41.0

TIMBER SUMMER FREEBOARD amidships from Centre of Disc to top of Deck Line, Wood, Steel, Deck: 3.5 = 104.1

TIMBER Tropical Fresh Water Line above Centre of Disc .635 = .25

" Fresh Water Line " " .489 = 19 1/4

" Tropical Line " " .470 = 18 1/2

" Winter Line below above, .133 = 5 1/4

" Winter North Atlantic Line below, .152 = 6

TIMBER SUMMER LINE above .324 = 12 3/4

TIMBER Tropical Fresh Water Freeboard 2-4 1/4 = 730

" Fresh Water " " 2-10 1/2 = 876

" Tropical " " 2-11 1/4 = 895

" Winter " " 4-0 1/2 = 1232

" Winter North Atlantic " " 4-11 1/4 = 1517