

Preliminary for Approval of Plans.

Index No. *42383*
(For London Office only.)

Lloyd's Register of Shipping.

SURVEYS FOR FREEBOARD.

(COMPUTATION FOR STEAMER, SAILING SHIP, TANKER.)

7 JUL 1950

Ship's Name <i>Elsmore No 304.</i>	Official Number	Nationality and Port of Registry <i>Danish</i>	Gross Tonnage	Date of Build <i>Proposed</i>	Port of Survey <i>Copenhagen</i>
Moulded Dimensions: Length <i>299.0</i> Breadth <i>44.5</i> Depth <i>21.5</i>					Date of Survey <i>5.7.50</i>
Moulded displacement at moulded draught = 85 per cent. of moulded depth <i>5020</i> tons					Surveyor's Signature <i>EL</i>
Coefficient of fineness for use with Tables <i>.723</i>					Particulars of Classification <i>+100 A1 Contemplated</i>

DEPTH FOR FREEBOARD (D).	DEPTH CORRECTION.	ROUND OF BEAM CORRECTION.
Moulded depth ... <i>21.50</i>	(a) Where D is greater than Table depth (D-Table depth) R = <i>(21.59 - 19.93) 2.3 = +3.82</i>	Moulded Breadth (B) <i>44.5</i>
Stringer plate ... <i>.09</i>	(b) Where D is less than Table depth (if allowed) (Table depth-D) R =	Standard Round of Beam = $\frac{B \times 12}{50} = 10.68$
Sheathing on exposed deck		Ship's Round of Beam = <i>11.41</i>
$T \left(\frac{L-S}{L} \right) =$		Difference <i>0.73</i>
Depth for Freeboard (D) = <i>21.59</i>	If restricted by superstructures	Restricted to
		Correction = $\frac{\text{Diff}^e}{4} \times \left(1 - \frac{S_1}{L} \right) = \frac{0.73}{4} \times \frac{11.22}{11.41} = .02$

See over.

DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S ₁)	Height	Height Correction	Effective Length (E)	
Poop enclosed ...						Standard Height of Superstructure <i>6.49</i>
" overhang ...	<i>40</i>	<i>40</i>			<i>40</i>	" " R.Q.D. <i>4.653</i>
R.Q.D. enclosed ...	<i>187.27</i>	<i>187.27</i>	<i>5.25</i>	-	<i>187.27</i>	Deduction for complete superstructure <i>35.27</i>
" overhang ...						Percentage covered $\frac{S}{L} = 71.435$
Bridge enclosed ...						" " $\frac{S_1}{L} = 88.878$
" overhang aft ...						" " $\frac{E}{L} = 83.25$
" overhang forward ...						Percentage from Table, Line A.
F'cle enclosed ...	<i>25.92</i>	<i>25.92</i>	<i>7.39</i>	-	<i>25.92</i>	(corrected for absence of forecastle (if required))
" overhang ...						Percentage from Table, Line B.
Trunk aft ...		<i>12</i>			<i>58</i>	(corrected for absence of forecastle (if required)) <i>79.27</i>
" forward ...		<i>52.20</i>	<i>4.43</i>	$\times \frac{4.43}{6.49}$	<i>35.63</i>	Interpolation for bridge less than .2L (if required)
Tonnage opening aft ...						Deduction = <i>35.27</i> \times <i>79.27</i> = <i>-27.94</i>
" " forward ...	<i>.32</i>	<i>.44</i>			<i>.90</i>	
Total ...	<i>213.19</i>	<i>265.39</i>			<i>248.82</i>	

See over.

SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product	
A.P. ...	<i>39.90</i>	1			<i>32.70</i>	<i>39.86</i>	1		<i>39.86</i>	Mean actual sheer aft = <i>Deficient</i> $> 75\%$ Standard
$\frac{1}{8}L$ from A.P. ...	<i>17.75</i>	4			<i>12.99</i>	<i>15.84</i>	4		<i>63.36</i>	Mean standard sheer aft = <i>Deficient</i>
$\frac{3}{8}L$ " ...	<i>3.39</i>	2			<i>2.76</i>	<i>3.36</i>	2		<i>6.72</i>	Mean actual sheer forward = <i>Excess</i>
Amidships ...	<i>4</i>	4			-	-	4		-	Mean standard sheer forward = <i>Excess</i>
$\frac{5}{8}L$ from F.P. ...	<i>86.78</i>	2			<i>8.27</i>	<i>8.27</i>	2		<i>16.54</i>	Length of enclosed superstructure forward of amidships = $> .1L$
$\frac{7}{8}L$ " ...	<i>35.50</i>	4			<i>35.43</i>	<i>35.43</i>	4		<i>141.72</i>	" " aft of " = $.5L$
F.P. ...	<i>79.80</i>	1			<i>81.10</i>	<i>81.10</i>	1		<i>81.10</i>	
Total ...				<i>359.10</i>					<i>349.30</i>	

Correction = $\frac{\text{Difference between sums of products}}{18} \left(.75 - \frac{S}{2L} \right) = \frac{9.80}{18} \left(.75 - \frac{.35 \times 7}{18} \right) = +0.21$

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. Depth to Freeboard Deck = <i>26.82</i> Summer freeboard = <i>6.94</i> Moulded draught (d) = <i>19.88</i> Deduction for Tropical freeboard and addition for Winter freeboard = $\frac{d}{4}$ inches = Addition for Winter North Atlantic Freeboard (if required) =	Deduction for Fresh Water. Displacement in salt water at summer load water line $\Delta =$ Tons per inch immersion at summer load water line $T =$ Deduction = $\frac{\Delta}{40 T}$ inches =	TABULAR FREEBOARD corrected for Flush Deck (if required) Correction for coefficient $\frac{723 + .68}{1.36} = 530.2$ Depth Correction ... <i>3.82</i> Deduction for superstructures ... <i>27.94</i> Sheer correction ... <i>0.21</i> Round of Beam correction ... <i>0.02</i> Correction for Thickness of Deck amidships ... <i>62.76</i> Other corrections, scantlings, etc. ... <i>28.00</i> Summer Freeboard = <i>83.35</i>
--	---	--

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

Tropical Fresh Water Line above Centre of Disc ...	Tropical Fresh Water Freeboard ...
Fresh Water Line " " ...	Fresh Water " " ...
Tropical Line " " ...	Tropical " " ...
Winter Line below " " ...	Winter " " ...
Winter North Atlantic Line " " ...	Winter North Atlantic " " ...

Builders mld draught *5.94 m = 19.5 ft.*

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.

Raised Quarter Deck

Total length 57.34 m. (57.30 given by blcks)

$$+ \frac{2}{3} \times 685 \quad \begin{array}{r} 56.655 \\ \cdot 423 \\ \hline 57.078 \\ \hline 57.112 \end{array}$$

187.27.

$$\frac{1}{2} L \quad \begin{array}{r} 149.50 \\ \hline 37.77 \end{array} = 7.14.$$

Forecastle 7.90 = 25.92 x 7.39'

Trunk 26.00 m. = 85.30.

85.81 ⁶⁸ used. - See below

Breadth 8.25 m = 27.07' ✓

Height 1.35 m = 4.43' ✓

$$85.81 \times \frac{27.07}{44.5} = 52.20 \times \frac{4.43}{6.49} = 35.63.$$

Sheer.

830	32.70	+ 7.16	= 39.86 ✓
330	12.99	x 39.86	= 15.84
70	2.76	do	= 3.36
0	-		-
210	8.27		8.27
900	35.43		35.43
2060	81.10		81.10.

R. & dk 5.25 ✓
Standard $\frac{4.653}{.597} \times 12 = 7.164$ ✓

Given by builders

as used

File	7.90 m	25.92 ✓
Trunk	26.00 m	85.81 ⁶⁹ ✓
R. & dk	57.30 m.	187.27 ⁴⁰ ✓
	91.20 m	299.00 ✓
Length	91.13	

Sheer

Standard aft.

39.90	1	39.90 ✓
17.75	3	53.25 ✓
4.39	3	13.17
-	1	-
		<u>103.32</u> ✓

Actual aft.

39.86	1	39.86 ✓
15.84	3	47.52 ✓
4.38	3	13.15 ✓
3.36	3	10.08 ✓
-	1	-
		<u>97.46</u> ✓
		+ 06.235

R. & dk

5.25

str. .07.

5.32

- upper str .09

$$5.23 \times 12 = 62.76''$$

21.59'

5.23'

26.82'

Trade of ship

Names of sister ships

Builder's name and yard number

Owners

Fee £



© 2020

Lloyd's Register
Foundation