

# LLOYD'S REGISTER OF SHIPPING

UNITED WITH THE BRITISH CORPORATION REGISTER

## SURVEYS FOR FREEBOARD.

(COMPUTATION FOR STEAMER, SAILING SHIP, TANKER.)

Ship's Name <b>KAA.</b> <b>EX GALATEE.</b>	Official Number	Nationality and Port of Registry <b>FRENCH.</b>	Gross Tonnage	Date of Build	Port of Survey
Moulded Dimensions: Length <b>199.00'</b> Breadth <b>33.00'</b> Depth <b>21.25'</b>					Date of Survey <b>23/3/53.</b>
Moulded displacement at moulded draught = 85 per cent. of moulded depth (excluding bossing)					Surveyor's Signature
Coefficient of fineness for use with Tables <b>.709</b>					Particulars of Classification <b>+100 A.I.</b>

DEPTH FOR FREEBOARD (D).	DEPTH CORRECTION.	ROUND OF BEAM CORRECTION.
Moulded depth ... <b>21.25</b>	(a) Where D is greater than Table depth (D-Table depth) R = <b>(21.25 - 13.27) 1.531 = 12.26"</b>	Moulded Breadth (B) <b>33.00</b>
Stringer plate ... <b>.03</b>	(b) Where D is less than Table depth (if allowed) (Table depth-D) R = <b>8.01</b>	Standard Round of Beam = $\frac{B \times 12}{50} = \frac{33 \times 12}{50} = 7.92$
Sheathing on exposed deck $T \left( \frac{L-S}{L} \right) =$	If restricted by superstructures	Ship's Round of Beam = <b>8.25</b>
Depth for Freeboard (D) = <b>21.28</b>		Difference <b>.33</b>
		Restricted to
		Correction = $\frac{\text{Diff}^e}{4} \times \left( 1 - \frac{S_1}{L} \right) = \frac{.33 \times .9038}{4} = .07"$

DEDUCTION FOR SUPERSTRUCTURES.					
	Mean Covered Length (S)	Equivalent Enclosed Length (S <sub>1</sub> )	Height	Height Correction	Effective Length (E)
Poop enclosed ...					
" overhang ...					
R.Q.D. enclosed ...					
" overhang ...					
Bridge enclosed ...					
" overhang aft ...					
" overhang forward ...					
F'cle enclosed OPEN ...	<b>22.25</b>	<b>19.15</b>	<b>7'-7"</b>	<b>—</b>	<b>19.15</b>
" overhang ...					
Trunk aft ...					
" forward ...					
Tonnage opening aft ...					
" " forward ...					
Total ...	<b>22.25</b>	<b>19.15</b>			<b>19.15</b>

Standard Height of Superstructure **6.00'**

" " R.Q.D. **25.90'**

Deduction for complete superstructure **25.90'**

Percentage covered  $\frac{S}{L} = 11.13$

" "  $\frac{S_1}{L} = 9.62$

" "  $\frac{E}{L} = 4.81$

Percentage from Table, Line A. **4.81**

(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 = **25.90 x .0481 = -1.25"**

SHEER CORRECTION.									
Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product
A.P. ...	<b>29.90</b>	<b>1</b>	<b>29.90</b>	<b>27.00</b>	<b>27.00</b>	<b>1</b>	<b>27.00</b>	<b>1</b>	<b>27.00</b>
$\frac{1}{2}$ L from A.P. ...	<b>13.305</b>	<b>4</b>	<b>53.32</b>	<b>12.00</b>	<b>12.00</b>	<b>4</b>	<b>48.00</b>	<b>4</b>	<b>48.00</b>
$\frac{3}{8}$ L " ...	<b>3.29</b>	<b>2</b>	<b>6.58</b>	<b>3.00</b>	<b>3.00</b>	<b>2</b>	<b>6.00</b>	<b>2</b>	<b>6.00</b>
Amidships ...	<b>—</b>	<b>4</b>	<b>—</b>	<b>0</b>	<b>0</b>	<b>4</b>	<b>0</b>	<b>4</b>	<b>0</b>
$\frac{3}{8}$ L from F.P. ...	<b>6.58</b>	<b>2</b>	<b>13.16</b>	<b>6.00</b>	<b>6.00</b>	<b>2</b>	<b>12.00</b>	<b>2</b>	<b>12.00</b>
$\frac{1}{2}$ L " ...	<b>26.61</b>	<b>4</b>	<b>106.44</b>	<b>24.00</b>	<b>24.00</b>	<b>4</b>	<b>96.00</b>	<b>4</b>	<b>96.00</b>
F.P. ...	<b>59.80</b>	<b>1</b>	<b>59.80</b>	<b>54.00</b>	<b>54.00</b>	<b>1</b>	<b>54.00</b>	<b>1</b>	<b>54.00</b>
Total ...			<b>269.10</b>				<b>243.00</b>		

Correction =  $\frac{\text{Difference between sums of products}}{18} \left( .75 - \frac{S}{2L} \right) = \frac{26.10 (.75 - .0659)}{18} = +1.01"$

If limited on account of midship superstructure.

Mean actual sheer aft = **27.00**

Mean standard sheer aft = **27.00**

Mean actual sheer forward = **54.00**

Mean standard sheer forward = **54.00**

DEFICIENT.

FOR SHEER = **14.4 = .9036**

159.37

Length of enclosed superstructure forward of amidships = **19.74**

aft of " = **79.83**

DEFICIENT SHEERS.

FORWARD SHEERS:-

STANDARD **6.58 3 19.74** ACTUAL **6.00 3 18.00**

**26.61 3 79.83** **24.00 3 72.00**

**59.80 1 59.80** **54.00 1 54.00**

**159.37** **144.00**

If limited to maximum allowance of 1 1/2 ins. per 100 ft.

<b>Deduction for Tropical Freeboard.</b> <b>Addition for Winter and Winter North Atlantic Freeboard.</b> Ft. Depth to Freeboard Deck = <b>21.28</b> Summer freeboard = <b>7.75</b> Moulded draught (d) = <b>13.53</b> Keel allowance = <b>—</b> Extreme draught = <b>—</b> Deduction for Tropical freeboard and addition for Winter freeboard = $\frac{d}{4}$ inches = <b>3.38 = 3 1/2"</b> Addition for Winter North Atlantic Freeboard (if required) = <b>5 1/2" = 140 mm.</b>	<b>Deduction for Fresh Water.</b> Displacement in salt water at summer load water line $\Delta = 1716$ Tons per inch immersion at summer load water line $T = 12.5$ Deduction = $\frac{\Delta}{40 T}$ inches = <b>3 1/2" = 89 mm.</b>	<b>TABULAR FREEBOARD</b> corrected for Flush Deck (if required) Correction for coefficient $\frac{.709 + .68}{1.36} = 1.339$ Depth Correction ... <b>12.26</b> Deduction for superstructures ... <b>1.25</b> Sheer correction ... <b>1.01</b> Round of Beam correction ... <b>.07</b> Correction for Thickness of Deck amidships ... <b>—</b> Other corrections, <del>amidships</del> , etc. ... <b>51.52</b> <b>70.79</b> <b>1.32</b> <b>+ 69.47</b> <b>13.53 ft.</b> Summer Freeboard = <b>93.00</b>
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SUMMER FREEBOARD amidships from Centre of Disc to top of Deck Line, ~~11~~, Steel, Deck :-

Tropical Fresh Water Line above Centre of Disc	...	89 mm
Fresh Water Line	"	89 mm
Tropical Line	"	NIL
Winter Line below	"	89 mm
Winter North Atlantic Line	"	140 mm

Tropical Fresh Water Freeboard	2362 mm
Fresh Water	2273 mm
Tropical	2362 mm
Winter	2451 mm
Winter North Atlantic	2502 mm



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.

$$\text{CHANGE OF CB} = .85 \left[ 1 - \frac{13.67}{21.25} \right] \cdot 1.9$$

$$= .85 \times .19 \times \frac{7.58}{21.25}$$

$$= .058$$

$$\therefore \text{NEW CB} = .651 + .058$$

$$= .709$$

EQUIV. LENGTH OF FOLE

$$\frac{L}{10} = 19.90$$

$$S = 22.25$$

$$\text{DIFF.} = 2.35$$

$$\therefore S' = 19.90 \times .9036 + 2.35 \times .5$$

$$= 17.98 + 1.17$$

$$= 19.15$$

PARTIAL FLUSH DECK PENALTY

$$\frac{1.99 \times 3}{2} \times \frac{.1 - .0962}{.1} = 1.99 \times 1.5 \times .038 = .11$$

Trade of ship \_\_\_\_\_

Names of sister ships \_\_\_\_\_

Builder's name and yard number \_\_\_\_\_

Owners \_\_\_\_\_

Fee £ \_\_\_\_\_



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