

# 1966 LOAD LINE CONVENTION

Rpt. C.11 (Comp.)

## LLOYD'S REGISTER OF SHIPPING SURVEYS FOR FREEBOARD (COMPUTATION FOR STEAMER, SAILING SHIP, TANKER)

For LONDON OFFICE ONLY

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Ship's Name	Official Number	Nationality and Port of Registry	Gross Tonnage	Date of Build
RAPHAEL	261	RUSSIAN NOVOROSSISK	31133	4/1965

Port of Survey LONDON H.O.

Date of Survey 10/5 - 1966

Surveyor's Signature Tully J. J. J.

Particulars of Classification +100 A1 OIL TANKER  
ICE CLASS 3

Moulded Dimensions: Length 31.000 Breadth 15.527 (15.527 - 0.850 = 13.198)  
Freeboard Length 215.233 (TO & OF BUDDERSTOCK)  
Moulded displacement at moulded draught = 85 per cent. of moulded depth 72324 M. tons  
(excluding bossing)  
Coefficient of fineness for use with Tables .801

### DEPTH FOR FREEBOARD (D).

Moulded depth ... 15.527  
Stringer plate ... 33.5 ... .034  
Wood Sheathing on exposed deck  
 $T \left( \frac{L-S}{L} \right) =$   
Depth for Freeboard (D) = 15.561

### DEPTH CORRECTION.

(a) Where D is greater than Table depth  
(D - Table depth) R =  
(15.561 - 14.349) 250 = +303 M/M  
(b) Where D is less than Table depth (if allowed)  
(Table depth - D) R =  
If restricted by superstructures

### ROUND OF BEAM CORRECTION.

Moulded Breadth (B)  
Standard Round of Beam =  $\frac{B \times 12}{50} =$   
Ship's Round of Beam =  
Difference  
Restricted to  
Correction =  $\frac{\text{Diff}}{4} \times \left( 1 - \frac{S}{L} \right) =$

### DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S <sub>1</sub> )	Height	Height Correction	Effective Length (E)
Poop enclosed EQUIV.	46.636		2570/3210		46.636
" overhang ...					
R.Q.D. enclosed ...					
" overhang ...					
Bridge enclosed EQUIV.	15.130		3000		14.832
" overhang aft ...					
" overhang forward ...					
F'cle enclosed EQUIV.	28.628		2770/4258		28.628
" overhang ...					
Trunk aft ...					
" forward ...					
Tonnage opening aft ...					
" " forward ...					
Total	90.894				90.096

Standard Height of Superstructure 2300 M

" " R.Q.D. 1070 M/M

Deduction for complete superstructure

Percentage covered  $\frac{S}{L} = 42.00$

" "  $\frac{S_1}{L} = 41.86$   
" "  $\frac{E}{L} =$

Percentage from Table, Line A, TYPE A 32.86

(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 =  $1070 \times 32.86 = -352$  M/M

### SHEER CORRECTION.

Station	Standard Ordinate	S M	Product	Actual Ordinate	Effective Ordinate	M	Product
A.P. ...	2044	1	2044	518	518	1	518
1/4 L from A.P. ...	907	3/4	2721	78	78	3/4	234
1/2 L ...	229	3/2	687	0	0	3/2	0
Amidships ...	0	2	0	0	0	2	0
3/4 L from F.P. ...	458	3/4	1374	0	0	3/4	0
1/4 L ...	1815	3/4	5445	115	115	3/4	345
F.P. ...	4087	1	4087	832	832	1	832
Total			16358				1929

Correction =  $\frac{\text{Difference between sums of products}}{16} \left( .75 - \frac{S}{2L} \right) = \frac{16358 - 1929}{16} = 153$

If limited on account of midship superstructure.

Mean actual sheer aft

Mean standard sheer aft

Mean actual sheer forward

Mean standard sheer forward

Length of enclosed superstructure forward of amidships =

" " aft of " =

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### Deduction for Tropical Freeboard.

Addition for Winter and Winter North Atlantic Freeboard.

Depth to Freeboard Deck = 15.561  
Summer freeboard = 3.352  
Moulded draught (d) = 12.209  
Keel allowance =  
Extreme draught =  
Deduction for Tropical freeboard and addition for = 254 M/M

Winter freeboard =  $\frac{d}{48}$  inches = 254 M/M

Addition for Winter North Atlantic Freeboard (if required) = INAPPLICABLE

### Deduction for Fresh Water.

Displacement in salt water at summer load water line  
 $\Delta = 66710$   
Tons per inch immersion at summer load water line  
T = 59.15  
Deduction =  $\frac{\Delta}{40 T}$  inches = 282 M/M

### TABULAR FREEBOARD corrected for Flush Deck (if required)

Correction for coefficient

Depth Correction ... 303  
Deduction for superstructures ... 352  
Sheer correction ... 405  
Round of Beam correction ...  
Correction for Thickness of Deck amidships ...  
Other corrections, scantlings, etc. ...

Summer Freeboard = 3352 M/M

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

Tropical Fresh Water Line above Centre of Disc ... 536 M/M  
Fresh Water Line " " ... 282 M/M  
Tropical Line " " ... 254 M/M  
Winter Line below " " ... 254 M/M  
Winter North Atlantic Line " " ... INAPPLICABLE

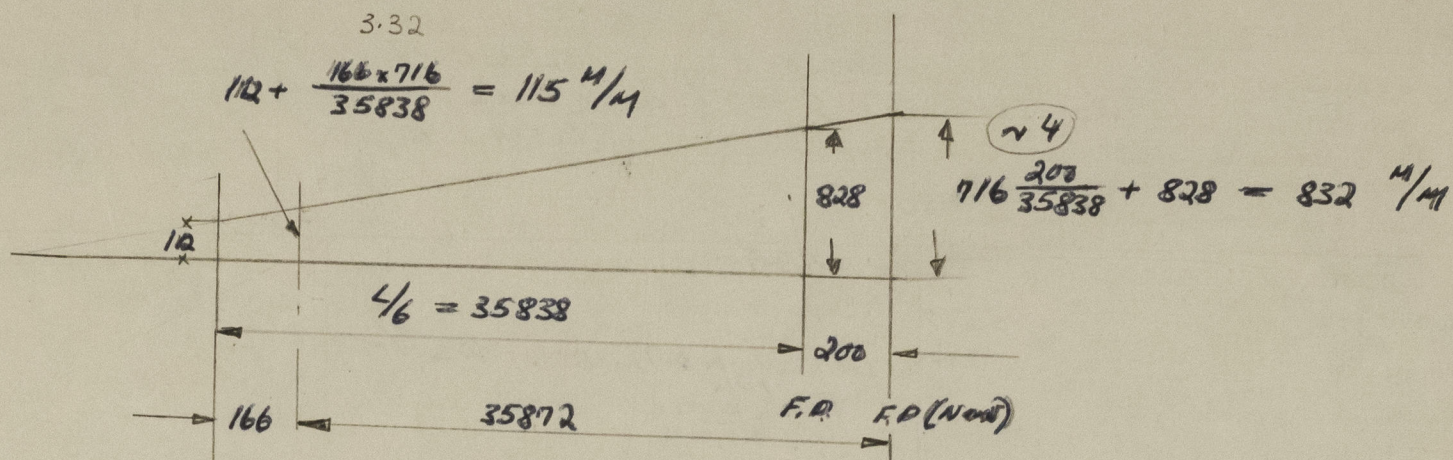
### Tropical Fresh Water Freeboard

Fresh Water ... 2816 M/M  
Tropical ... 3090 M/M  
Winter ... 3098 M/M  
Winter North Atlantic ... INAPPLICABLE



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.

SHEER :

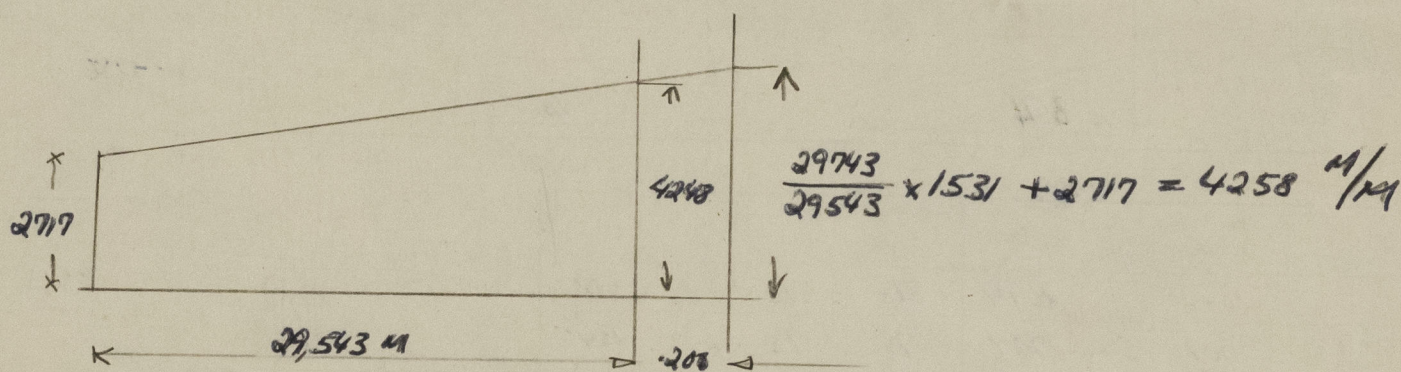


FREEBOARD LENGTH:

$$L_{pp} \text{ at } .850 = 215.033 + .200 = 215.233 \text{ m}$$

$$L \text{ of W.L. at } .850 = 215.233 \text{ m} + 7.000 = 222.233 \text{ m} \quad (.96 L = 213 \text{ m} < 215.233)$$

FOCSLE



Bow height:

$$\begin{array}{rcl} \text{Regd} & - & 20.7 \text{ feet} \\ \text{Actual} & - & 3352 \text{ m} \\ & & 832 \\ & & 4258 \\ \hline & & 8442 \text{ m} \sim 27.6 \text{ feet} \end{array}$$

Trade of Ship.....

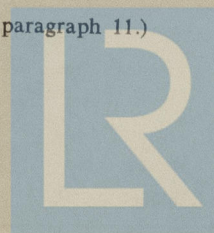
Names of sister ships.....

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

Owners.....

Fee £.....

List of plans forwarded for reference. (See "Instructions to Surveyors, Part 4, 1950", paragraph 11.)



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