

Lloyd's Register of Shipping.

SURVEYS FOR FREEBOARD.

(COMPUTATION FOR STEAMER, SAILING SHIP, TANKER.)

Ship's Name "IRTISH" Official Number Nationality and Port of Registry Russian Gross Tonnage About 1100 Date of Build 1.1951 Port of Survey Norrköping

Date of Survey Whilst building

Surveyor's Signature H. O. Albertson

Particulars of Classification +100A1 Carrying Petroleum in Bulk.

Moulded Dimensions: Length 62.280m Breadth 10.360 m. Depth 4.520 m. to CL of Rudder stock

Moulded displacement at moulded draught = 85 per cent. of moulded depth 1735 metric tons

Coefficient of fineness for use with Tables .683 ✓

DEPTH FOR FREEBOARD (D). mm.

Moulded depth ... 4520 ✓

Stringer plate ... 9.5 10

Sheathing on exposed deck

$T \left(\frac{L-S}{L} \right) =$

Depth for Freeboard (D) = 4530 ✓

DEPTH CORRECTION.

(a) Where D is greater than Table depth
(D - Table depth) R = $833(4530 - 4152)/5.728 = +50.4$ ✓

(b) Where D is less than Table depth (if allowed)
(Table depth - D) R = ✓

If restricted by superstructures ✓

ROUND OF BEAM CORRECTION. mm.

Moulded Breadth (B) 10360

Standard Round of Beam = $\frac{B \times 12}{50} = 207$ ✓

Ship's Round of Beam Maindeck = 207 ✓

Difference Trunktop = 25 ✓

Restricted to

Correction = $\frac{\text{Diff}}{4} \times \left(1 - \frac{S_1}{L} \right) = \text{NIL}$ ✓

DEDUCTION FOR SUPERSTRUCTURES. mm.

	Mean Covered Length (S)	Equivalent Enclosed Length (S ₁)	Height	Height Correction	Effective Length (E)
Poop enclosed ...	17600 ✓	17600 ✓	2190		17600 ✓
" overhang ...					
R.Q.D. enclosed ...					
" overhang ...					
Bridge enclosed ...					
" overhang aft ...					
" overhang forward ...					
Fore enclosed ...	7686 ✓	7686 ✓	2150		7686 ✓
" overhang ...	230	115			115
Trunk aft ...	33964	16757	1343	1343	12298
" forward ...					
Tonnage opening aft ...					
" forward ...					
Total ...	25516 ✓	42158 ✓			37699 ✓

Standard Height of Superstructure 1830 - 1/2 ✓

" " R.Q.D. ✓

Deduction for complete superstructure 672 - 1/2 ✓

Percentage covered $\frac{S}{L} = 40.97$ ✓

" " $\frac{S_1}{L} = 67.69$ ✓

" " $\frac{E}{L} = 60.53$ ✓

Percentage from Table, Line A. TANKER 52.58 ✓
(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 = $672 \times .5258 = -353$ - 1/2 ✓

SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product
A.P. ...	773 ✓	1		773 ✓	824	824 ✓	1		824 ✓
1/2 L from A.P. ...	343 ✓	4		1372 ✓	355	355 ✓	4		1420 ✓
2/2 L " ...	86 ✓	2		172 ✓	100	100 ✓	2		200 ✓
Amidships ...	✓	4		✓	0	✓	4		✓
2/2 L from F.P. ...	172 ✓	2		344 ✓	203	203 ✓	2		406 ✓
1/2 L " ...	687 ✓	4		2748 ✓	771	771 ✓	4		3084 ✓
F.P. ...	1546 ✓	1		1546 ✓	1928	1928 ✓	1		1928 ✓
Total ...				6955 ✓					7862 ✓

Correction = $\frac{\text{Difference between sums of products}}{18} \left(.75 - \frac{S}{2L} \right) = \frac{907}{18} \times (.75 - .2049) = -27$ - 1/2 ✓

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
L

forward of amidships =
aft of " =

EXCESS

TANKER

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

Deduction for Tropical Freeboard.

Addition for Winter and Winter North Atlantic Freeboard.

Depth to Freeboard Deck = 4530 ✓

Summer freeboard = 276 ✓

Moulded draught (d) = 4254 ✓

Deduction for Tropical freeboard and addition for

Winter freeboard = $\frac{d}{48} \text{ inches} = 89$ - 1/2 ✓

Addition for Winter North Atlantic Freeboard (if required) = 51 + 89 = 140 - 1/2 ✓

Deduction for Fresh Water.

Displacement in salt water at summer load water line

$\Delta =$ see overleaf 2014 ✓

Tons per inch immersion at summer load water line

T = see overleaf 1445 ✓

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

= 89 - 1/2 ✓

TABULAR FREEBOARD corrected for Flush Deck (if required)

Correction for coefficient

$\frac{.683 + .68}{1.36} = \frac{1.363}{1.36}$ ✓

605 ✓

606 ✓

Depth Correction ...

Deduction for superstructures ...

Sheer correction ...

Round of Beam correction ...

Correction for Thickness of Deck amidships ...

Other corrections, scantlings, etc. ...

+	-
50 ✓	
✓	353 ✓
✓	27 ✓
✓	
✓	
✓	
50 ✓	380 ✓

Summer Freeboard = 276 - 1/2 ✓

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

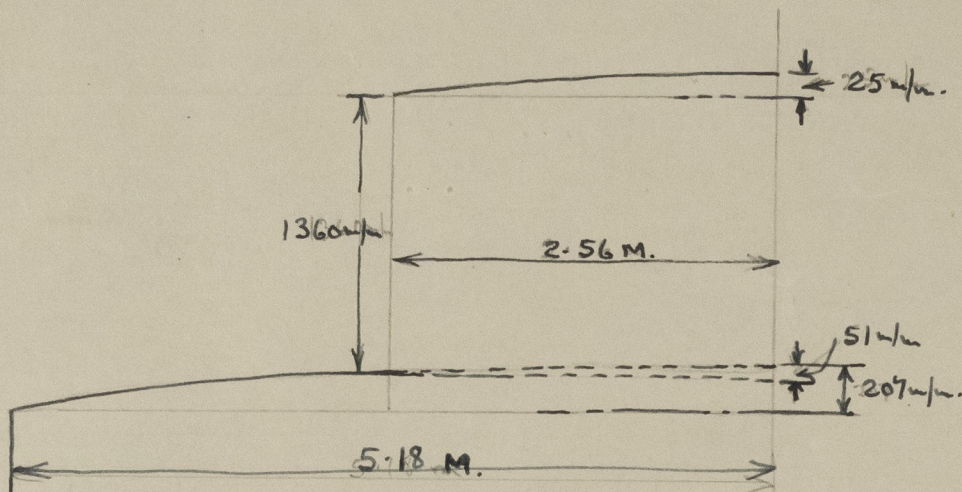
Tropical Fresh Water Line above Centre of Disc	178 - 1/2 ✓
Fresh Water Line	89 - 1/2 ✓
Tropical Line	89 - 1/2 ✓
Winter Line below	89 - 1/2 ✓
Winter North Atlantic Line	140 - 1/2 ✓

Tropical Fresh Water Freeboard	9.8 ✓
Fresh Water	18.7 ✓
Tropical	18.7 ✓
Winter	36.5 ✓
Winter North Atlantic	41.6 ✓

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.

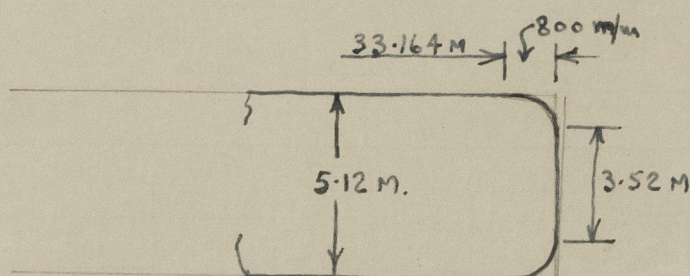
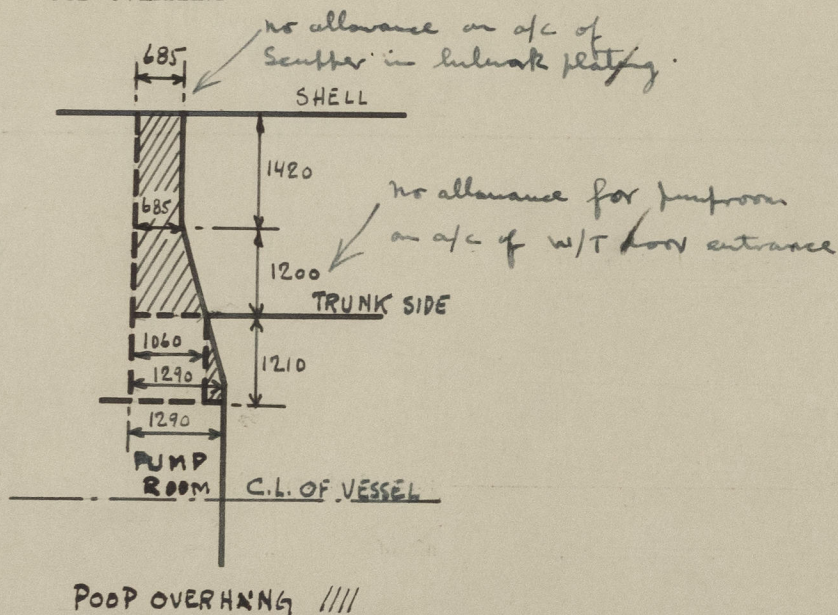
Displacement

Moulded draught	Displacement on shell plating in salt water tons	Tons per inch
94-11 95 %	2036	14.5
85 %	1791	13.9
75 %	1545	13.5



$$\begin{aligned} \text{Reduction of Camber at Trunk side} &= 207 \times \left(\frac{2.56}{5.18} \right)^2 \\ &= 51 \text{ mm.} \\ \text{mean} &= \frac{2}{3} \times 51 = 34 \\ \text{mean of Trunk top Camber} &= \frac{2}{3} \times 25 = 17 \text{ mm.} \\ \therefore \text{Virtual height of Trunk} &= 1360 - 17 \\ &= 1343 \text{ mm.} \end{aligned}$$

POOP OVERHANG



$$\begin{aligned} \text{Length at side} &= 33.164 \\ &+ \frac{(3.52 \times 8) + (3.14 \times 1.6^2)}{5.12} \\ &= \frac{2.816 + 1.0}{5.12} = \frac{.745}{33.909} \end{aligned}$$

$$\begin{aligned} \text{Equivalent length of Trunk} &= \frac{33.909 \times 5.12}{10.36} \\ &= 16.757 \text{ M.} \end{aligned}$$

Trade of ship International, tanker.

Names of sister ships A/B Norrköpings Varv Yard 135, "ISHIM" (except minor alterations).

Builder's name and yard number A/B Norrköpings Varv Yard No. 136.

Owners Russia.

Fee £



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