

Lloyd's Register of Shipping.

SURVEYS FOR FREEBOARD.

(COMPUTATION FOR STEAMER, SAILING SHIP, TANKER.)

Ship's Name "OTIS"	Official Number 8117	Nationality and Port of Registry Swedish Gothenburg	Gross Tonnage ~ 1160	Date of Build 1936 11 Mo Lengthened 1950-12 Mo	Port of Survey KIEL
Moulded Dimensions: Length 70.415 Breadth 9.75 Depth 4.57					Date of Survey 18th December, 1950
Moulded displacement at moulded draught = 85 per cent. of moulded depth 2090 tons					Surveyor's Signature <i>A. J. J. J.</i>
Coefficient of fineness for use with Tables .777					Particulars of Classification + 100 A 1 Carrying Petroleum in Bulk Strengthened for Nav. in Ice

DEPTH FOR FREEBOARD (D). Moulded depth ... 4.57 Stringer plate010 Sheathing on exposed deck $T \left(\frac{L-S}{L} \right) =$ Depth for Freeboard (D) = 4.580	DEPTH CORRECTION. (a) Where D is greater than Table depth (D-Table depth) R = (b) Where D is less than Table depth (if allowed) (Table depth-D) R = $8.33 (4.644 - 4.580) 17.78 = - 17 \text{ m/m.}$ If restricted by superstructures 80	ROUND OF BEAM CORRECTION. Moulded Breadth (B) 9.75 m. Standard Round of Beam = $\frac{B \times 15}{50} = 195$ Ship's Round of Beam = 7.75 Difference 195 Restricted to Correction = $\frac{\text{Diff.}}{4} \times \left(1 - \frac{S_1}{L} \right) = \text{NIL.}$
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DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S ₁)	Height	Height Correction	Effective Length (E)
Poop enclosed ... M	16.310	16.310	2.134		16.310
„ overhang ...					
R.Q.D. enclosed ...					
„ overhang ...					
Bridge enclosed ...					
„ overhang aft ...					
„ overhang forward ...					
F'cle enclosed ... M	8.640	8.640	2.134		8.640
„ overhang ...					
Trunk aft ...		1.528	2.134		1.528
„ forward ...		2.840	1.150	1.830	15.082
Tonnage opening aft ...		23.840			14.982
„ forward ...		52.318			4
Total ... M	24.950	50.478			41.460

Standard Height of Superstructure **1.830 m.**

„ „ R.Q.D. **✓**

Deduction for complete superstructure **740 m/m.**

Percentage covered $\frac{S}{L} = 35.44$

„ „ $\frac{S_1}{L} = 71.67$

„ „ $\frac{E}{L} = 59.02$

Percentage from Table, Line A. **44.43**
(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 = $740 \times 44.43 = 329 \text{ m/m.}$

SHEER CORRECTION.

Station	Standard Ordinate	S M	Product	Actual Ordinate	Effective Ordinate	S M	Product
A.P. ...	841.	1	841.	895	895	1	895
1/2 L from A.P. ...	374.	4	1496.	305	305	4	1220.
1/4 L „ ...	93.	2	186.	65	65	2	130.
Amidships ...	✓	4	✓	0	✓	4	✓
3/4 L from F.P. ...	187	2	374	58	58	2	116.
1/2 L „ ...	747.	4	2988	610	610	4	2440.
F.P. ...	1681	1	1681.	1535	1535	1	1535
Total ...			7566				6336.

Mean actual sheer aft =
Mean standard sheer aft =

DEFICIENT.

Mean actual sheer forward =
Mean standard sheer forward =

Length of enclosed superstructure forward of amidships = DEFICIENT
aft of „ = SHEER.

Correction = $\frac{\text{Difference between sums of products}}{18} \left(.75 - \frac{S}{2L} \right) = \frac{1236}{18} (.75 - .1772) = + 39 \text{ m/m.}$
If limited on account of midship superstructure. **.5728** 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 = **4.580**
Summer freeboard = **.470**
Moulded draught (d) = **4.110**

Deduction for Tropical freeboard and addition for

Winter freeboard = $\frac{d}{48} \text{ inches} = 86 \text{ m/m.}$ Addition for Winter North Atlantic Freeboard (if required) = **86 + 51 = 137 m/m.**

Deduction for Fresh Water.

Displacement in salt water at summer load water line
 $\Delta = 2250$
Tons per inch immersion at summer load water line
 $T = 16.03$

Deduction = $\frac{\Delta}{40 T} \text{ inches}$ **89 m/m.**

TABULAR FREEBOARD corrected for Flush Deck (if required)

Correction for coefficient

Depth Correction

Deduction for superstructures

Sheer correction

Round of Beam correction

Correction for Thickness of Deck amidships

Other corrections, scantlings, etc.

729
781

	+	-
✓	17.	
✓	330.	
39	329	
✓	✓	
✓	✓	
✓	✓	
39.	350.	

Summer Freeboard = **470**

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

Tropical Fresh Water Line above Centre of Disc	17.5 m/m
Fresh Water Line	89
Tropical Line	86
Winter Line below	86
Winter North Atlantic Line	137

Tropical Fresh Water Freeboard

Fresh Water

Tropical

Winter

Winter North Atlantic

474 m/m.**299****385****388****560****611**

6tis.

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.

Draught in meters:	3,30 m	3,60 m	3,91 m
Displacement in saltwater:	1735 tons	1921 tons	2103 tons
T :	15,2 tons	15,5 tons	15,8 tons
6:	0,753	0,764	0,77

Trade of ship..... No restrictions

Names of sister ships..... Unknown

Builder's name and yard number..... Deutsche Werft A.G., Betr. Reiherstiegwerft, Hamburg.
Now being lengthened at Howaldtswerke Kiel in accordance with approved plan SKR 1 (14/12/50)

Owners..... A/B Aug. Leffler & Son (Otto Kihlström, Mgr.)

Fee £..... 34 : 0 : 0



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