

Britannia 35928  
 Germania 35880  
 Italia 36049  
 Gallia 36022

# Lloyd's Register of Shipping.

## SURVEYS FOR FREEBOARD.

(COMPUTATION FOR STEAMER, SAILING SHIP, TANKER.)

Index. No. 36167  
(For London Office only).

Ship's Name <b>SKANDINAVIA</b>	Official Number	Nationality and Port of Registry <b>NORWEGIAN. OSLO.</b>	Gross Tonnage <b>10044</b>	Date of Build <b>1939</b>	Port of Survey <b>HAMBURG</b>
Moulded Dimensions: Length <b>496.25</b> Breadth <b>67.00</b> Depth <b>34.15</b>					Date of Survey <b>2ND. 5TH. DEC. 1939.</b>
Moulded displacement at moulded draught = 85 per cent. of moulded depth <b>21040</b> tons					Surveyor's Signature <b>T.C.C. GOERING</b>
Coefficient of fineness for use with Tables <b>.763</b>					Particulars of Classification <b>+ 100 A1. "CARRYING PETROLEUM IN BULK" CONTEMPLATED.</b>

Depth for Freeboard (D).		Depth correction.		Round of Beam correction.	
Moulded depth	34.15	(a) Where D is greater than Table depth (D - Table depth) R =		Moulded Breadth (B)	67.00'
Stringer plate	.07	(34.22 - 33.08) 3 = + 3.42		Standard Round of Beam = $\frac{B \times 12}{50}$	= 16.08
Sheathing on exposed deck $T \left( \frac{L-S}{L} \right) =$		(b) Where D is less than Table depth (if allowed) (Table depth - D) R =		Ship's Round of Beam	= 16.14
				Difference	EXCESS. .06
Depth for Freeboard (D) =	34.22	If restricted by superstructures		Restricted to	
				Correction = $\frac{\text{Diff}^2}{4} \times \left( 1 - \frac{S_1}{L} \right)$	= $\frac{.06^2}{4} \times .5549 = -.01''$

## DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S <sub>1</sub> )	Height	Height Correction	Effective Length (E)
Poop enclosed ...	123.12	123.12	8.00		123.12
„ overhang ...	2.39	1.19			1.19
R.Q.D. enclosed ...					
„ overhang ...					
Bridge enclosed ...	38.32	38.32	7.25	7.25/7.50	37.04
„ overhang aft ...	2.39	1.79			1.79
„ overhang forward ...	.66	.33			.32
Fore enclosed ...	56.13	56.13	7.51		56.13
„ overhang ...					
Trunk aft ...					
„ forward ...					
Tonnage opening aft ...					
„ „ forward					
Total ...	223.01	220.88			219.53

Standard Height of Superstructure **7.50'**  
 „ „ R.Q.D. ☒  
 Deduction for complete superstructure **42.00''**  
 Percentage covered  $\frac{S}{L} = 44.94$   
 „ „  $\frac{S_1}{L} = 44.51$   
 „ „  $\frac{E}{L} = 44.24$   
 Percentage from Table, Line A. **TANKER 35.24**  
 (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 = **42.00 x .3524 = -14.80''**

## SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product
A.P. ...	59.62	1		59.62	57.80	57.80	1		57.80
$\frac{1}{2}$ L from A.P. ...	26.53	4		106.12	26.89	26.89	4		107.56
$\frac{2}{8}$ L „ ...	6.56	2		13.12	6.61	6.61	2		13.22
Amidships ...	-	4		-	-	-	4		-
$\frac{3}{8}$ L from F.P. ...	13.12	2		26.24	13.39	13.39	2		26.78
$\frac{1}{2}$ L „ ...	53.06	4		212.24	52.28	52.28	4		209.12
F.P. ...	119.25	1		119.25	118.90	118.90	1		118.90
Total ...				536.59					533.38

Correction =  $\frac{\text{Difference between sums of products}}{18} \left( \frac{.75 - S}{2L} \right) = \frac{3.21}{18} \times \frac{(.75 - .2247)}{.5253} = +.09''$   
 If limited on account of midship superstructure.

Mean actual sheer aft = DEFICIENT.  
 Mean standard sheer aft

Mean actual sheer forward = DEFICIENT.  
 Mean standard sheer forward

Length of enclosed superstructure forward of amidships = } TANKER.  
 „ „ aft of „ = }

Deduction for Tropical Freeboard.  
 Addition for Winter and Winter North Atlantic Freeboard.

Depth to Freeboard Deck = **34.22**  
 Summer freeboard = **6.71**  
 Moulded draught (d) = **27.51**

Deduction for Tropical freeboard and addition for Winter freeboard =  $\frac{d}{4}$  inches = **6.88 = 7''**  
 Addition for Winter North Atlantic Freeboard (if required) = **6.88 + 4.96 = 11.84 = 11 3/4''**

Deduction for Fresh Water.

Displacement in salt water at summer load water line  
 $\Delta = 19966$   
 Tons per inch immersion at summer load water line  
 $T = 67.24$   
 Deduction =  $\frac{\Delta}{40T}$  inches = **7.42**  
 = **7 1/2''**

TABULAR FREEBOARD corrected for Flush Deck (if required)

Correction for coefficient  $\frac{.763 + .68}{1.36} = \frac{1.443}{1.36}$

Depth Correction ... **3.42**  
 Deduction for superstructures ... **- 14.80**  
 Sheer correction ... **.09**  
 Round of Beam correction ... **.01**  
 Correction for Thickness of Deck amidships ...  
 Other corrections, scantlings, etc. ...

**86.60**  
**91.89**

Summer Freeboard = **80.59**  
 80.59  
 18.12.32

SUMMER FREEBOARD amidships from Centre of Disc to top of Deck Line, Steel, Deck: **6'-8 1/2'' = 2045 mm**

Tropical Fresh Water Line above Centre of Disc **14 1/2'' = 368 mm**  
 Fresh Water Line „ „ **7 1/2'' = 190 mm**  
 Tropical Line „ „ **7'' = 178 mm**  
 Winter Line below „ „ **7'' = 178 mm**  
 Winter North Atlantic Line „ „ **11 3/4'' = 298 mm**

Tropical Fresh Water Freeboard ... **5'-6'' = 1677 mm**  
 Fresh Water „ „ **6'-1'' = 1855 mm**  
 Tropical „ „ **6'-1 1/2'' = 1867 mm**  
 Winter „ „ **7'-3 1/2'' = 2223 mm**  
 Winter North Atlantic „ „ **7'-8 1/4'' = 2343 mm**

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