

Lloyd's Register of Shipping.

SURVEYS FOR FREEBOARD.

198 AUG 1949

(COMPUTATION FOR ~~STEAMER~~, ~~SAILING SHIP~~, TANKER.)

Ship's Name STEINGRIM STANGE	Official Number 10099	Nationality and Port of Registry NORWEGIAN, ØSTO, Vigens	Gross Tonnage 10099	Date of Build 1949	Port of Survey Sunderland
Moulded Dimensions: Length 475.0 Breadth 67.375 Depth 37.388 To & of Rudder Stock				Date of Survey While building	
Moulded displacement at moulded draught = 85 per cent. of moulded depth 22,200 tons				Surveyor's Signature R. Wilson	
Coefficient of fineness for use with Tables .765				Particulars of Classification * 100 A.1. Carrying Petroleum in Bulk (Contemplated)	

DEPTH FOR FREEBOARD (D).

Moulded depth ... **37.388**
Stringer plate **.78** ... **.065**
Sheathing on exposed deck ✓
 $T \left(\frac{L-S}{L} \right) =$
Depth for Freeboard (D) = **37.45**

DEPTH CORRECTION.

(a) Where D is greater than Table depth
(D-Table depth) R =
 $(37.45 - 31.67) 3 = +17.34$
5.78
(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) **67.375**
Standard Round of Beam = $\frac{B \times 12}{50} = 16.17$
Ship's Round of Beam (SEE SKETCH) = **16.89** Equiv.
Difference **+ .72**
Restricted to
Correction = $\frac{\text{Diff}^2}{4} \times \left(1 - \frac{S_1}{L}\right) = \frac{.72^2}{4} \times .6266 = -.16$

DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S ₁)	Height	Height Correction	Effective Length (E)
Poop enclosed Equiv	99.17	99.17	7.75 ✓	✓	99.17
„ overhang					
R.Q.D. enclosed					
„ overhang					
Bridge enclosed Equiv	39.02	39.02	7.50 ✓		39.02
„ overhang aft	3.89	2.92			2.92
„ overhang forward					
F'cle enclosed	36.25	36.25	7.50 ✓		36.25
„ overhang					
Trunk aft					
„ forward					
Ponnage opening aft					
„ „ forward					
Total	178.33	177.36			177.36

Standard Height of Superstructure **7.50**
„ „ R.Q.D.
Deduction for complete superstructure **42.00**
Percentage covered $\frac{S}{L} = 37.54$
„ „ $\frac{S_1}{L} =$
„ „ $\frac{E}{L} =$ } **37.34**
Percentage from Table, Line **A TANKER**, **28.34**
(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 × .2834 = -11.90**

SHEER CORRECTION.

Station	Standard Ordinate	S M	Product	Actual Ordinate	Effective Ordinate	S M	Product
A.P.	57.50	1	57.50	48.00	48.00	1	48.00
$\frac{1}{8}$ L from A.P.	25.59	4	102.36	2.88	2.88	4	11.52
$\frac{2}{8}$ L	6.325	2	12.65	-	-	2	-
Amidships	/	4	/	-	-	4	-
$\frac{3}{8}$ L from F.P.	12.65	2	25.30	-	-	2	-
$\frac{4}{8}$ L	51.18	4	204.72	6.00	6.00	4	24.00
F.P.	115.00	1	115.00	72.00	72.00	1	72.00
Total			317.53				155.52

Correction = $\frac{\text{Difference between sums of products}}{18} \left(\frac{.75 - S}{2L} \right) = \frac{362.01}{18} \left(\frac{.75 - .1877}{.75} \right) = +11.31$
If limited on account of midship superstructure. If limited to maximum allowance of $1\frac{1}{2}$ ins. per 100 ft. ✓

Deduction for Tropical Freeboard.

Addition for Winter and Winter North Atlantic Freeboard.

Depth to Freeboard Deck = **37.45**
Summer freeboard = **8.58**
Moulded draught (d) = **28.87**

Deduction for Tropical freeboard and addition for

Winter freeboard = $\frac{d}{4}$ inches = **7.22 = 7 $\frac{1}{4}$**

Addition for Winter North Atlantic Freeboard (if required) = **7.22 + 4.75 = 11.97 = 12**

Deduction for Fresh Water.

Displacement in salt water at summer load water line
 $\Delta = 19683$
Tons per inch immersion at summer load water line
 $T = 65.52$
Deduction = $\frac{\Delta}{40 T}$ inches
= **7.51**
= **7 $\frac{1}{2}$**

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.

+	-
17.34	-
-	11.90
11.31	-
-	.11
-	-
28.65	12.01
+ 16.64	
Summer Freeboard = 103.12	

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

Tropical Fresh Water Line above Centre of Disc **14 $\frac{1}{4}$ = 374**
Fresh Water Line „ „ **7 $\frac{1}{2}$ = 190**
Tropical Line „ „ **7 $\frac{1}{4}$ = 184**
Winter Line below „ „ **7 $\frac{1}{4}$ = 184**
Winter North Atlantic Line „ „ **12 = 305**

Tropical Fresh Water Freeboard **8 $\frac{1}{4}$ = 2616**
Fresh Water **7 $\frac{1}{4}$ = 2242**
Tropical **7 $\frac{1}{2}$ = 2426**
Winter **7 $\frac{1}{4}$ = 2432**
Winter North Atlantic **9 $\frac{1}{2}$ = 2800**
7 $\frac{1}{2}$ = 2921

Martha.

Steingrim Stange.

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 at 29'-0" draught = 19683 tons

Tons per inch = 65.52 tons.

Poop:- Length at side = 93.50'
 $\frac{2}{3} \times 8.50 = 5.67$
99.17' Expir.

Bridge:- Length at side = 36.33
 $\frac{2}{3} \times 5.67 = 3.78$
 $\frac{3.78}{40.11} \times 65.545 = 39.02'$

o/h = $4.0 \times 65.545 / 67.375 = 3.89'$

Cumbar:-
 $24.58 \times 16.50 = 405.56$
 $21.40 \times 16.50 = 353.09$
 $\frac{758.65}{67.375} \times \frac{3}{2} = 16.89$ Expir.

Trade of ship

Tanker

Names of sister ships

"HEGH ROVER" Sunderland Rpt 1P 35068

"BJØRN STANGE" Sunderland Rpt 1P 35122

Builder's name and yard number

Sir James Laing & Sons Ltd

Yard No 483

Owners

Skibs A/S Armsten

Fee £

Will be charged on T.E.



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Foundation