

Lloyd's Register of Shipping.

SURVEYS FOR FREEBOARD.

(COMPUTATION FOR STEAMER, SAILING SHIP, TANKER.)

Dings. IN 2/12.

Ship's Name M/T "H A V F R U"	Official Number	Nationality and Port of Registry Norwegian Oslo	Gross Tonnage 10491.	Date of Build 1.52.	Port of Survey M A L M Ö
Moulded Dimensions: Length 152650 ✓ Breadth 19202 ✓ Depth 11735 ✓					Date of Survey Whilst Building
Moulded displacement at moulded draught = 85 per cent. of moulded depth 23010 <i>English</i> tons					Surveyor's Signature <i>James K. Young</i>
Coefficient of fineness for use with Tables 780					Particulars of Classification +100A1 Carrying Petroleum in Bulk.

DEPTH FOR FREEBOARD (D).	DEPTH CORRECTION.	ROUND OF BEAM CORRECTION.
Moulded depth 11735	(a) Where D is greater than Table depth (D - Table depth) R = 8.33 (11.755 - 10.177) 30 = + 394 -/-	Moulded Breadth (B) 19202
Stringer plate 20	(b) Where D is less than Table depth (if allowed) (Table depth - D) R = 1.578	Standard Round of Beam = $\frac{B \times 12}{50} = \frac{384}{50} = 7.68$
Sheathing on exposed deck $T \left(\frac{L-S}{L} \right) =$	If restricted by superstructures ✓	Ship's Round of Beam = 475 m/m
Depth for Freeboard (D) = 11755		Difference +91
		Restricted to
		Correction = $\frac{\text{Diff}^*}{4} \times \left(1 - \frac{S_1}{L} \right) = \frac{91}{4} \times \frac{5883}{19202} = 13.17$

DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S ₁)	Height	Height Correction	Effective Length (E)
Poop enclosed <i>Equip</i> ...	30785 ✓	30.785	2379 ✓	-	30.785
" overhang ...	-	-	-	-	-
R.Q.D. enclosed ...	-	-	-	-	-
" overhang ...	-	-	-	-	-
Bridge enclosed <i>Equip</i> ...	13853 ✓	13.853	2351 ✓	-	13.853
" overhang aft ...	-	-	-	-	-
" overhang forward ...	-	-	-	-	-
F'cle enclosed ...	18205 ✓	18.205	2301 ✓	-	18.205
" overhang ...	-	-	-	-	-
Trunk aft ...	-	-	-	-	-
" forward ...	-	-	-	-	-
Tonnage opening aft ...	-	-	-	-	-
" " forward ...	-	-	-	-	-
Total ...	62843	62.843			62.843

Standard Height of Superstructure **2.290 -**

" " R.Q.D. **-**

Deduction for complete superstructure **1067 -/-**

Percentage covered $\frac{S}{L} =$ **41.17**

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

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

Percentage from Table, Line **A. TANKER.** **32.17**

(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 = **1067 × 32.17 = - 343 -/-**

SHEER CORRECTION.

Station	Standard Ordinate	S ₁ M	Product	Actual Ordinate	Effective Ordinate	S ₁ M	Product
A.P. ...	1526	1	1526	1163 ✓	1163	1	1163
$\frac{1}{2}$ L from A.P. ...	678	4	2712	72 ✓	72	4	288
$\frac{2}{3}$ L " ...	169	2	338	0	0	2	0
Amidships ...	-	4	-	0	-	4	-
$\frac{2}{3}$ L from F.P. ...	339	2	678	0	0	2	0
$\frac{1}{2}$ L " ...	1356	4	5424	523 ✓	523	4	2092
F.P. ...	3051	1	3051	2426 ✓	2426	1	2426
Total ...			13729				5969

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 " =

Correction = $\frac{\text{Difference between sums of products}}{18} \left(\frac{75-S}{2L} \right) = \frac{7760(75-2058)}{18 \times 5442} = + 235 -/-$

If limited on account of midship superstructure.

If limited to maximum allowance of 1½ ins. per 100 ft. ✓

Deduction for Tropical Freeboard.

Addition for Winter and Winter North Atlantic Freeboard.

Depth to Freeboard Deck = **11.755**

Summer freeboard = **2.667**

Moulded draught (d) = **9.088**

Deduction for Tropical freeboard and addition for

Winter freeboard = $\frac{d}{48} \text{ inches} = 190 -/- = 7\frac{1}{2}''$ Addition for Winter North Atlantic Freeboard (if required) = $190 + 125 = 315 (317 -/- = 12\frac{1}{2}'')$

Deduction for Fresh Water.

Displacement in salt water at summer load water line

Δ = **20743 tons**

Tons per inch immersion at summer load water line

T = **66.64**Deduction = $\frac{\Delta}{40 T} \text{ inches} \times 2.54$ = **197 -/- = 7¾''**

TABULAR FREEBOARD corrected for Fresh 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.

2228

2392

+	-
394	-
-	343
235	-
-	13
-	-
-	-
629	356

Summer Freeboard = **2665 -/-**

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

Tropical Fresh Water Line above Centre of Disc

Fresh Water Line " "

Tropical Line " "

Winter Line below " "

Winter North Atlantic Line " "

15¼" = 387 -/-

7¾" = 197 -/-

7½" = 190 -/-

7½" = 190 -/-

12½" = 317 -/-

Tropical Fresh Water Freeboard

Fresh Water " "

Tropical " "

Winter " "

Winter North Atlantic " "

8' 9" = 2667 -/-

7' 5¾" = 2280 -/-

8' 1¼" = 2470 -/-

8' 1½" = 2477 -/-

9' 4½" = 2857 -/-

9' 9½" = 2984 -/-

Star free.

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 in Salt Water & Tons/Ins immersion.		
Moulded Draft	Displacement	Tons/Ins.
85 = 9975	23100	68.05
80 = 9388	21540	67.14
75 = 8801	19980	66.20
70 = 8214	18455	65.25

Deep at side = 28985
 $\frac{2}{3} \times 2700 = 1800$
30785 = Equip Encl.

Bridge at side = 11920
 $\frac{2}{3} \times 2700 = 1933$
13853 = Equip Encl.

1560 x 287
587

9088
8801
287

763
19980
20743

Trade of ship All Seas

Names of sister ships M/T "SIRIUS" Yard No. 336.

Builder's name and yard number Kockums Mek. Verkstads A/B Yard No. 319.

Owners P. Meyer, Oslo.

Fee £



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Foundation