

Rpt. C.11 (Comp.)
SIMILAR. BRITISH.
44116.

LLOYD'S REGISTER OF SHIPPING

UNITED WITH THE BRITISH CORPORATION REGISTER

SURVEYS FOR FREEBOARD

(COMPUTATION FOR STEAMER, SAILING SHIP, TANKER)

For LONDON OFFICE ONLY

Received
Index No.
Govt. Copy
Owners C11

Ship's Name "HAVJARL"	Official Number	Nationality and Port of Registry NORWEGIAN OSLO	Gross Tonnage 11079 10800	Date of Build 1954	Port of Survey MALMO
Moulded Dimensions: Length 500 Breadth 66.50 Depth 58.83 Freeboard Length 500.83 Moulded displacement at moulded draught = 85 per cent. of moulded depth 24560 tons (excluding bossing) Coefficient of fineness for use with Tables .782					Date of Survey WHILST BUILDING
Surveyor's Signature					Particulars of Classification +100 A1 CARRYING PETROLEUM IN TANK.

DEPTH FOR FREEBOARD (D).	DEPTH CORRECTION.	ROUND OF BEAM CORRECTION.
Moulded depth 38.83	(a) Where D is greater than Table depth (D-Table depth) R = (38.91 - 33.39) 3.0 = 16.56	Moulded Breadth (B) 66.50
Stringer plate ... 26.0008	(b) Where D is less than Table depth (if allowed) (Table depth-D) R =	Standard Round of Beam = $\frac{B \times 12}{50} =$ 15.96
Wood Sheathing on exposed deck $T \left(\frac{L-S}{L} \right) =$	If restricted by superstructures ✓	Ship's Round of Beam 475.12 = 18.70
Depth for Freeboard (D) = 38.91		Difference 2.74
		Restricted to
		Correction = $\frac{\text{Diff}^2}{4} \times \left(1 - \frac{S_1}{L} \right) = \frac{2.74^2}{4} \times .5891 = -.40$

DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S ₁)	Height	Height Correction	Effective Length (E)
Poop enclosed EQUIV. ...	103.03	103.03	7'-10.9"	✓	103.03
" overhang ...					
R.Q.D. enclosed ...					
" overhang ...					
Bridge enclosed EQUIV. ...	43.00	43.00	7'-11"	✓	43.00
" overhang aft ...					
" overhang forward ...					
Fore enclosed ...	59.76	59.76	9'-0"	✓	59.76
" overhang ...					
Trunk aft ...					
" forward ...					
Tonnage opening aft ...					
" " forward ...					
Total ...	205.79	205.79			205.79

Standard Height of Superstructure **7.50** ✓
" " R.Q.D.
Deduction for complete superstructure **42.00** ✓
Percentage covered $\frac{S}{L} =$
" " $\frac{S_1}{L} =$ **41.09** ✓
" " $\frac{E}{L} =$
Percentage from Table, Line A. TANKER, **32.09** ✓
(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 × .3209 = 13.48** ✓

SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product
A.P. ...	60.08	1		60.08	35.83	35.83	1		35.83
$\frac{1}{8}L$ from A.P. ...	26.735	4		106.94	4.45	4.45	4		17.80
$\frac{2}{8}L$ " ...	6.61	2		13.22	✓	✓	2		✓
Amidships ...	0	4		0	0	0	4		0
$\frac{3}{8}L$ from F.P. ...	13.22	2		26.44	✓	✓	2		✓
$\frac{4}{8}L$ " ...	53.47	4		213.88	✓	✓	4		✓
F.P. ...	120.17	1		120.17	64.53	64.53	1		64.53
Total ...				540.73					118.16

Mean actual sheer aft
Mean standard sheer aft = } **DEFICIENT.** ✓
Mean actual sheer forward
Mean standard sheer forward = }
Length of enclosed superstructure forward of amidships = } **TANKER.** ✓
" " aft of " = }

Correction = $\frac{\text{Difference between sums of products}}{18} \left(\frac{.75 - S}{2L} \right) = \frac{422.57}{18} \times \left(\frac{.75 - .2055}{.5445} \right) = + 12.78$ ✓
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.

LINE 915mm BELOW
Depth to Freeboard Deck **35.91** ✓
Summer freeboard = **6.15** ✓
Moulded draught (d) = **29.76** ✓
Keel allowance =
Extreme draught =
Deduction for Tropical freeboard and addition for =

Winter freeboard = $\frac{d}{4}$ inches = **7.44** = **7 1/2** ✓

Addition for Winter North Atlantic Freeboard (if required) = **7.44 + 5.91 = 12.45** = **12 1/2** ✓

Deduction for Fresh Water.

Displacement in salt water at summer load water line
 $\Delta =$ **21375**
Tons per inch immersion at summer load water line
T = **69.93** ✓
Deduction = $\frac{\Delta}{40 T}$ inches
= **7.82** ✓
= **7 3/4** ✓

TABULAR FREEBOARD corrected for Flush Deck (if required)

Correction for coefficient	$\frac{.782 + .68}{1.36} = \frac{1.462}{1.36}$	87.69 ✓ 94.28 ✓
Depth Correction	16.56	✓
Deduction for superstructures	13.48	✓
Sheer correction	12.78	✓
Round of Beam correction	.40	✓
Correction for Thickness of Deck amidships	✓	
Other corrections, scantlings, etc. TO ...	✓	
CORRESPOND WITH DECK LINE 915mm BELOW CONTINUATION OF DECK LINE TO SHIP SIDE.	29.34	49.90 - 20.56 ✓
Summer Freeboard =	78.72	✓

SUMMER FREEBOARD amidships from Centre of Disc to top of Deck Line, Wood, Steel, Deck CONT TO SHIP SIDE.

Tropical Fresh Water Line above Centre of Disc	15 1/4 = 38.75 ✓	Tropical Fresh Water Freeboard	4.10 = 14.86 ✓
Fresh Water Line " "	7 3/4 = 19.75 ✓	Fresh Water " "	5.6 = 16.76 ✓
Tropical Line " "	7 1/2 = 19.00 ✓	Tropical " "	5.6 = 16.83 ✓
Winter Line below " "	7 1/2 = 19.00 ✓	Winter " "	6.9 = 20.63 ✓
Winter North Atlantic Line " "	12 1/2 = 31.25 ✓	Winter North Atlantic " "	7.1 = 21.90 ✓

Harlan.

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 - TONS PER INCH.

MOULDED DRAFT.	TOTAL	TONS/INCH
% OF FLD DRAFT.	DISP.	1.025.
m.m.	1.025	
85	10061	24,650
80	9469	22,990
75	8877	21,340
70	8285	19,7150
		68.56.

FALL IN DECK LINE.

$$= \frac{1.64^2}{4} \left(\frac{4-\pi}{22.50} \right)$$

$$= .099'$$

NEGLLECT.

NOTE. DECK LINE TO BE PLACED 915 mm. FROM TOP OF STEEL DECK PRODUCED.

UPPER DECK.

26 mm

CAMBER. 475 mm.

RAD. 500 mm.

SHEER STRAKE.

POOP.

LENGTH TO FR. 30 = 26530 mm.

$$+ \frac{4875}{31405}$$

$$= 103.03 \text{ FT.}$$

ROUND OF POOP FRONT.

2.100	1/4	1.525
2.990	1	2.990
3.493	1/2	1.747
3.827	1	3.827
4.072	1 1/4	5.090
4.895	4	19.580
5.460	2	10.920
5.797	4	23.188
5.900	1	5.900
	15	73.767

$$\text{MEAN} = \frac{73.767}{15} \times \frac{10000}{10135} = 4.852$$

$$+ \frac{.135 \times 1700}{10135} = \frac{23}{4.875}$$

BRIDGE.

FR. 57-59 = 6.750

+ = 3.538

+ = 3.147

$$13.435 \times \frac{9885}{10135}$$

$$= 13.105 \text{ m.}$$

$$= 43.00 \text{ FT.}$$

AFT. ROUND.

0	1/4	0
2000	1	2000
2663	1/2	1332
3050	1	3050
3308	1 1/4	4135
3694	4	14776
3875	2	7750
3995	4	15980
4035	1	4035
	15	53,058

$$\text{MEAN} = \frac{53,058}{15}$$

$$= 3.538$$

FORWARD. ROUND.

0	1/4	0
1320	1	1320
1976	1/2	988
1380	1	1380
2640	1 1/4	3300
3249	4	12,996
3694	2	7388
3950	4	15800
4035	1	4035
	15	47,207

$$\text{MEAN} = \frac{47,207}{15}$$

$$= 3.147$$

Trade of ship ALL SEAS.

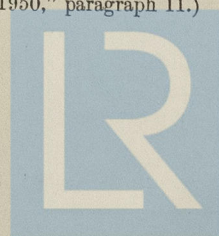
Names of sister ships AMPHION. 363.

Builder's name and yard number KOCKUMS MEK. VERKSTADS. R-B. MIALMÖ. YARD No 366.

Owners P. MEYER. OSLO.

Fee £ : :

List of plans forwarded for reference. (See "Instructions to Surveyors, Part 4, 1950," paragraph 11.)



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