

Lloyd's Register of Shipping.
SURVEYS FOR FREEBOARD.

Computation of Freeboard for Steamer, Sailing Ship, Tanker having <u>prop, bridge and forecastle</u>					Port of Survey <u>Malmö</u>
<u>HAVSBORG</u> (Type of Superstructures.)					Date of Survey <u>21/5 - 22/7. 1935.</u>
Ship's Name <u>M/S "HAVPRINS"</u>	Nationality and Port of Registry <u>Norwegian Oslo</u>	Official Number <u>✓</u>	Gross Tonnage <u>8066</u>	Date of Build <u>1935</u>	Name of Surveyor <u>Aekindén</u>
Moulded Dimensions: Length <u>460'-0"</u> Breadth <u>59'-6"</u> Depth <u>34'-7"</u>					Particulars of Classification <u>100A1</u> <u>Carrying Petroleum in Bulk</u> <u>(Contemplated.)</u>
Moulded displacement at moulded draught = 85 per cent. of moulded depth <u>18530</u> tons					
Coefficient of fineness for use with Tables <u>.806</u>					
Depth for Freeboard (D)		Depth correction		Round of Beam correction	
Moulded depth <u>34.583</u>		(a) Where D is greater than Table depth (D - Table depth) R = <u>(34.64 - 30.67) × 3 = +11.91</u>		Moulded Breadth (B) <u>59.5'</u>	
Stringer plate <u>.67" =</u> <u>.056</u>		(b) Where D is less than Table depth (if allowed) (Table depth - D) R = <u>✓</u>		Standard Round of Beam = $\frac{B \times 12}{50} =$ <u>14.28"</u>	
Sheathing on exposed deck $T \left(\frac{L-S}{L} \right) =$		If restricted by superstructures		Ship's Round of Beam = <u>14.57"</u>	
Depth for Freeboard (D) = <u>34.639</u>				Difference <u>.29</u>	
				Restricted to	
				Correction = $\frac{\text{Diff}^e}{4} \times \left(1 - \frac{S_1}{L} \right) =$ <u>$\frac{.29}{4} \times .6034 = -.04$</u>	

DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S ₁)	Height	Height Correction	Effective Length (E)	
Poop enclosed	97.02'	97.02	7.75'	✓	97.02	Standard Height of Superstructure <u>7.5</u>
" overhang	5.0'	2.50			2.50	" " R.Q.D. <u>✓</u>
R.Q.D. enclosed						Deduction for complete superstructure <u>42.0'</u>
" overhang						Percentage covered $\frac{S}{L} =$ <u>40.20</u>
Bridge enclosed	37.07	37.07	7.75'	✓	37.07	" " $\frac{S_1}{L} =$ <u>39.66</u>
" overhang aft						" " $\frac{E}{L} =$ <u>39.66</u>
" overhang forward	45.82					Percentage from Table, Line A. <u>Tankers 30.66</u>
Side enclosed <u>equivalents</u>	39.75'	45.82	7.5'	✓	45.82	(corrected for absence of fore-castle (if required))
" overhang	7.42					Percentage from Table, Line B. <u>-</u>
Trunk aft						(corrected for absence of fore-castle (if required))
" forward						Interpolation for bridge less than 2L (if required)
Tonnage opening aft						Deduction = <u>42 × .3066 = -12.88</u>
" " forward						
Total	184.91	182.41			182.41	

SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product	
A.P.	56.00	1		56.00	43.9"	43.9	1		43.9	Mean actual sheer aft = <u>Deficient</u>
$\frac{1}{8}$ L from A.P.	24.92	4		99.68	10.3"	10.3	4		41.2	Mean actual sheer forward = <u>Deficient</u>
$\frac{2}{8}$ L "	6.16	2		12.32	0	-	2		-	Mean standard sheer forward
Amidships	-	4		-	0	-	4		-	Length of enclosed superstructure forward of amidships = <u>Tankers</u>
$\frac{3}{8}$ L from F.P.	12.32	2		24.64	1.3"	1.3	2		2.6	" " aft of " = <u>Tankers</u>
$\frac{1}{8}$ L "	49.84	4		199.36	39.8"	39.8	4		159.2	
F.P.	112.00	1		112.00	92.9"	92.9	1		92.9	
Total				504.00					339.8	

Correction = $\frac{\text{Difference between sums of products}}{18} \left(.75 - \frac{S}{2L} \right) = \frac{164.2}{18} \left(.75 - \frac{201}{549} \right) = +5.01$

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.

$$\begin{aligned}\text{Depth to Freeboard Deck} &= 34.64 \\ \text{Summer freeboard} &= 7.42 \\ \text{Moulded draught (d)} &= 27.22\end{aligned}$$

Deduction for Tropical freeboard and addition for

Winter freeboard = $\frac{d}{4}$ inches = $6.80 = 6\frac{3}{4}$

Addition for Winter North Atlantic Freeboard (if required) = $4\frac{1}{2} + 6\frac{3}{4} = 11\frac{1}{4}$

Deduction for Fresh Water.

Displacement in salt water at summer load water line

$$\Delta = 17183$$

Tons per inch immersion at summer load water line

$$T = 5753$$

Deduction = $\frac{\Delta}{40 T}$ inches

$$= 7.47$$

$$= 7\frac{1}{2}$$

TABULAR FREEBOARD corrected for Fresh Deck (if required)

Correction for coefficient

$$\frac{806 + .68}{1.36} = \frac{1.486}{1.36} =$$

	+	-
Depth Correction	11.91	-
Deduction for superstructures	-	12.88
Sheer correction	5.01	-
Round of Beam correction	-	.04
Correction for Thickness of Deck amidships	-	-
Other corrections, scantlings, etc.	-	-
	16.92	12.92

Summer Freeboard = 88.90

SUMMER FREEBOARD amidships from Centre of Disc to top of Deck Line, ~~Wood~~, Steel, Deck: 7'-5" = 2261

Tropical Fresh Water Line above Centre of Disc ...	14 1/4" = 361	Tropical Fresh Water Freeboard ...	6'-2 3/4" = 1900
Fresh Water Line " " ...	7 1/2" = 190	Fresh Water " " ...	6'-9 1/2" = 2071
Tropical Line " " ...	6 3/4" = 171	Tropical " " ...	6'-10 1/4" = 2090
Winter Line below " " ...	6 3/4" = 171	Winter " " ...	7'-11 3/4" = 2432
Winter North Atlantic Line " " ...	11 1/4" = 286	Winter North Atlantic " " ...	8'-4 1/4" = 2547

Tropical Fresh Water Freeboard ...	6'-2 3/4" = 1900
Fresh Water " " ...	6'-9 1/2" = 2071
Tropical " " ...	6'-10 1/4" = 2090
Winter " " ...	7'-11 3/4" = 2432
Winter North Atlantic " " ...	8'-4 1/4" = 2547

"HAYPRINS"

Particulars of fiddley, funnel and ventilator coamings :—

Particulars of Flush Bunker Scuttles:— *None fitted.* ✓

Particulars of Companionways :-

Particulars of Ventilators in exposed positions on freeboard and superstructure decks :—

Particulars of Air Pipes in exposed positions on freeboard, raised quarter, or superstructure decks :—

Particulars of Gangway Cargo and Coaling Ports:— *None*

Particulars of Side Scuttles :—

Particulars of Guard Rails :—

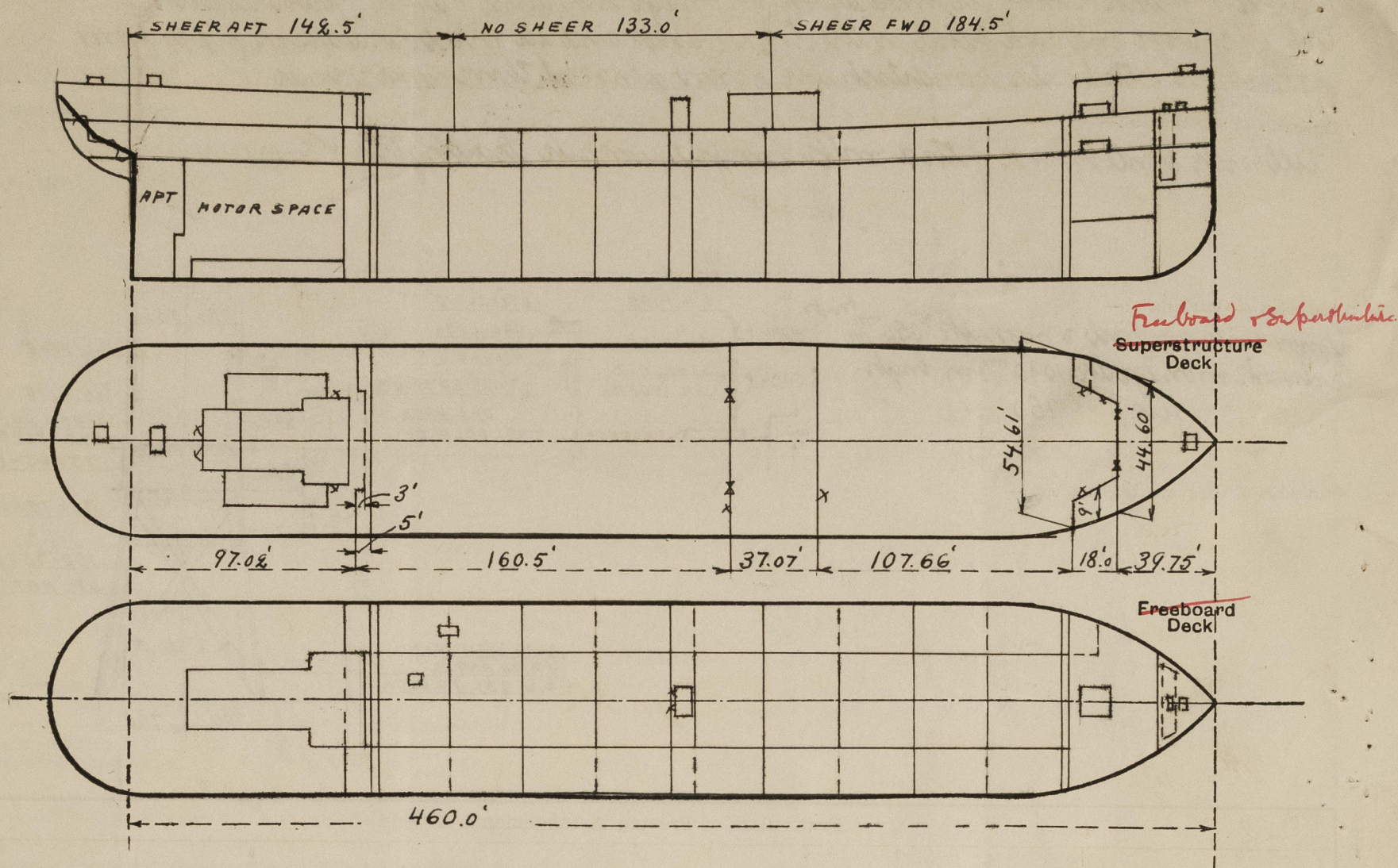
Particulars of Gangways, Lifelines, etc. :—

Particulars of Superstructures, Trunks, Casings, Deckhouses.									
	Coaming	Plating	Stiffeners	Spacing	End Attachments of Stiffeners	Size of Openings	Height of Sills	Height of Casings	
Poop Bulkhead	S 75x90x11 F C 150x150x11 F	47"	250x90x135 F 250x90x11 F	600-900 600	T. long. B. long. T. 8 ft. B. 6 ft.	None	✓ ✓	7'-9"	
Raised Quarter Deck Bulkhead									
Bridge, After Bulkhead	90x90x10 F	34"	130x65x8 F	850-967	None	1245 x 940 1780 x 635	600 ✓	7'-9"	
Bridge, Forward Bulkhead	90x90x12 F	47"	250x90x11 F	850-967	T. 10 ft. long. B. 8 ft. long.	1525 x 877 1245 x 940	460 ✓	7'-9"	
Forecastle Bulkhead	65x75x9 F	30"-34"	130x65x8 F		T. 10 ft. long.	1530 x 625	560 ✓ 460	7'-6"	
Trunk, Aft									
Trunk, Forward									
Exposed Machinery Casings on Free-board or Raised Quarter Decks	75x90x11 F	32"-34"	90x75x9 F	600-660	None	1440 x 845	610 ✓	7'-9"	
Exposed Machinery Casings on Superstructure Decks									
Machinery Casings within Superstructures not fitted with Class I Closing Appliances	130x65x8 F	32	90x65x8 F	600	B. to P.D. long.	1600 x 635	410 ✓	10'-6"	
Deckhouses on Flush Deck Ships									

Particulars of Closing Appliances (state if capable of being manipulated from both sides).

Deck Bulkhead	Side side frames	Hinged W.T. steel doors capable of being manipulated from both sides
Mid. fwd. compartment		
Raised Quarter Deck Bulkhead		
Bridge, After Bulkhead		3" shifting boards in riveted channels, one hinged steel door, manip. from both sides.
Bridge, Forward Bulkhead		One hinged W.T. steel door, capable of being manipulated from both sides.
Forecastle Bulkhead		3" shifting boards in riveted channels, hinged steel doors, manip. from both sides.
Exposed Machinery Casings		Hinged W.T. steel doors, capable of being manipulated from both sides.
board on Raised Quarters Decks		" " " " " " " " " "
Exposed Machinery Casings on Superstructure Decks		
Machinery Casings within Superstructures not fitted with Class I Closing Appliances		
Poop		
Deckhouses on Poop Deck		48 mm. thick teak doors, capable of being manipulated from both sides.

Superstructure bulkheads, trunks, deckhouses, casings, cargo and coaling hatchways, extent and thickness of sheathing on the freeboard deck, gangway, cargo and coaling ports, and any other openings, etc., which would affect the seaworthiness of the ship are to be shewn on the following sketches:—



State any special features in the construction of the ship:— Longitudinal framing. Bracketless system.

Back bars fitted at ends of longitudinals in all tanks and in pump room.

Displacement in salt water & tons/inch immersion at 27'-0" mld. draught = 17025 & 57.46 tons/inch.

"	"	"	"	"	"	"	27'-3"	"	"	= 17205	57.53	"	"
"	"	"	"	"	"	"	27'-6"	"	"	= 17385	57.60	"	"

Builder's name and yard number *Kockumns Mek. Verkstads Aktiebol., Yard No. 183.*

Names of sister ships *M/s "Eagerfjell", Kockumns Yard No. 182*

Owners *M/s Harpurns, Oslo.*

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