

Lloyd's Register of Shipping.

SURVEYS FOR FREEBOARD.

Computation of Freeboard for Steamer, Sailing Ship, Tanker
having POOP, BRIDGE AND FORECASTLE

(Type of Superstructures.)

Ship's Name "HILVERSUM" Nationality and Port of Registry Dutch, Amsterdam Gross Tonnage 3720 Date of Build 1920/9

Moulded Dimensions: Length 109.43 Breadth 14.63 x 17 Depth 7.696 m
Moulded displacement at moulded draught = 85 per cent. of moulded depth 8615 tons
Coefficient of fineness for use with Tables .82

Port of Survey Rotterdam
Date of Survey 23-8-32
Name of Surveyor L.H. WEHAMIJER
Particulars of Classification +100 A1
S.S. Ref. No. 2-29

Depth for Freeboard (D) Moulded depth ... 7.696 m
Stringer plate ... 0.012
Sheathing on exposed deck $T \left(\frac{L-S}{L} \right) =$
Depth for Freeboard (D) = 4.408

Depth correction (a) Where D is greater than Table depth (D-Table depth) R = 8.33 (4.408 - 7.315) 27.707 = (+) 91
(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) 14.63 x 17
Standard Round of Beam = $\frac{B \times 12}{50} =$ 293
Ship's Round of Beam = 0.305 m
Difference 12
Restricted to
Correction = $\frac{\text{Diff}}{4} \times \left(1 - \frac{S_1}{L} \right) = \frac{12}{4} \times 2102 = (-) 1$

DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S ₁)	Height	Height Correction	Effective Length (E)
Poop enclosed ...	<u>9.220</u>	<u>9.22</u>	<u>2.210</u>	-	<u>9.22</u>
" overhang ...	<u>0.616</u>	<u>.46</u>	<u>2.210</u>	-	<u>.46</u>
R.Q.D. enclosed ...	<u>68.45</u>	<u>68.45</u>	<u>2.210</u>	-	<u>68.45</u>
" overhang ...	<u>0.616</u>	<u>.30</u>	<u>2.210</u>	-	<u>.30</u>
Bridge enclosed...	<u>7.390</u>	<u>7.44</u>	<u>2.134</u>	<u>2.134/2.166</u>	<u>8.11</u>
" overhang aft ...	<u>0.616</u>	<u>.46</u>	<u>2.134</u>	-	<u>.46</u>
" overhang forward	<u>0.616</u>	<u>.46</u>	<u>2.134</u>	-	<u>.46</u>
F'cle enclosed ...	<u>10.768</u>	<u>10.768</u>	<u>2.134</u>	-	<u>10.768</u>
" overhang ...	<u>0.616</u>	<u>.46</u>	<u>2.134</u>	-	<u>.46</u>
Trunk aft ...	<u>0.616</u>	<u>.46</u>	<u>2.134</u>	-	<u>.46</u>
" forward ...	<u>0.616</u>	<u>.46</u>	<u>2.134</u>	-	<u>.46</u>
Tonnage opening aft ...	<u>0.616</u>	<u>.46</u>	<u>2.134</u>	-	<u>.46</u>
" forward	<u>0.616</u>	<u>.46</u>	<u>2.134</u>	-	<u>.46</u>
Total ...	<u>84.12</u>	<u>86.66</u>			<u>86.54</u>

Standard Height of Superstructure 2166
" " R.Q.D. ✓
Deduction for complete superstructure 999
Percentage covered $\frac{S}{L} =$ 49.40
" $\frac{S_1}{L} =$ 48.98
" $\frac{E}{L} =$ 48.86
Percentage from Table, Line A.
(corrected for absence of forecastle (if required))
Percentage from Table, Line B. 43.89
(corrected for absence of forecastle (if required))
Interpolation for bridge less than 2L (if required) ✓
Deduction = 4389 x 999 = 438

SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product
A.P. ...	<u>1168</u>	<u>1</u>	<u>1168</u>	<u>1376</u>	<u>1376</u>	<u>1376</u>	<u>1</u>	<u>1376</u>	<u>1376</u>
$\frac{1}{4}$ L from A.P. ...	<u>519</u>	<u>4</u>	<u>2076</u>	<u>588</u>	<u>588</u>	<u>588</u>	<u>4</u>	<u>2352</u>	<u>2352</u>
$\frac{2}{4}$ L " ...	<u>130</u>	<u>2</u>	<u>260</u>	<u>140</u>	<u>140</u>	<u>140</u>	<u>2</u>	<u>280</u>	<u>280</u>
Amidships ...	<u>-</u>	<u>4</u>	<u>-</u>	<u>0</u>	<u>-</u>	<u>-</u>	<u>4</u>	<u>-</u>	<u>-</u>
$\frac{3}{4}$ L from F.P. ...	<u>260</u>	<u>2</u>	<u>520</u>	<u>236</u>	<u>236</u>	<u>236</u>	<u>2</u>	<u>472</u>	<u>472</u>
$\frac{1}{4}$ L " ...	<u>1038</u>	<u>4</u>	<u>4152</u>	<u>1230</u>	<u>1230</u>	<u>1230</u>	<u>4</u>	<u>4920</u>	<u>4920</u>
F.P. ...	<u>2336</u>	<u>1</u>	<u>2336</u>	<u>2605</u>	<u>2605</u>	<u>2605</u>	<u>1</u>	<u>2605</u>	<u>2605</u>
Total ...			<u>10512</u>					<u>12005</u>	

$$\text{Correction} = \frac{\text{Difference between sums of products}}{18} \left(.75 - \frac{S}{2L} \right) = \frac{1493}{18} \left(.75 - \frac{.353}{2.166} \right) = (-) 29$$

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 = 4408
Summer freeboard = 990
Moulded draught (d) = 6418

Deduction for Tropical freeboard and addition for

Winter freeboard = $\frac{d}{48}$ inches = 140

Addition for Winter North Atlantic Freeboard (if required)=

Deduction for Fresh Water.

Displacement in salt water at summer load water line

 $\Delta =$ 9164 TONN.

Tonnage per inch immersion at summer load water line

T = 14.32Deduction = $\frac{\Delta}{40T}$ inches = 16.

TABULAR FREEBOARD corrected for Flush Deck (if required)

Correction for coefficient $\frac{.82 + .68}{1.36} = \frac{1.50}{1.36}$

Depth Correction ... 91
Deduction for superstructures ... 438
Sheer correction ... 29
Round of Beam correction ... 1
Correction for Thickness of Deck amidships ...
Other corrections, scantlings, etc. ...

Summer Freeboard = 986SUMMER FREEBOARD amidships from Centre of Disc to top of Deck Line, Steel, Deck:—

Tropical Fresh Water Line above Centre of Disc ... 30 c.m.
Fresh Water Line " " ... 16
Tropical Line " " ... 14
Winter Line below " " ... 14

Tropical Fresh Water Freeboard ... 69
Fresh Water " " ... 83
Tropical " " ... 85
Winter " " ... 113

31 AUG 1932

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MARKING FORM
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PARTICULARS OF PROTECTION TO OPENINGS, ETC.

HATCHWAYS ON FREEBOARD AND SUPERSTRUCTURE DECKS											
Description of Hatchway			N ^o 1	N ^o 2	N ^o 3	N ^o 4	N ^o 5	N ^o 2	N ^o 3	N ^o 2	
Dimensions of Hatchway			30'-7 1/8" 18'-0"	30'-7 1/8" 18'-0"	18'-4 1/2" 16'-0"	30'-7 1/8" 18'-0"	30'-7 1/8" 18'-0"	30'-7 1/8" 18'-0"	18'-4 1/2" 16'-0"	30'-7 1/8" 18'-0"	
COAMINGS	{	Height above Deck	36"	C 9 1/2 x 3 1/2	as N ^o 2	36"	30"	30"	30"	30"	
		Thickness { Sides	.52			.52	.52	.44	.52		
		{ Ends	.44			.44	.44	.44	.44		
		Stiffeners	C 7 x 3 x .40			C 7 x 3 x .40					
		Brackets, Stays	2			2					
HATCH BEAMS	{	Number	5	5	3	5	5	5	3	5	
		Spacing	equal								
		Scantling and Sketch									
		Bearing Surface	3 1/2	3 1/2	3 1/2	3 1/2	3 1/2	3 1/2	3 1/2	3 1/2	
FORE AND AFTERS	{	Number									
		Spacing									
		Unsupported Lengths Scantling* and Sketch									
		Bearing Surface									
HATCH COVERS	{	Material	as N ^o 1								
		Thickness	3"	2 1/2"	2 1/2"	2 1/2"	3"	3"	3"	3"	
		How fitted	L 3	N 9	I T	U D	N 7	L	as N ^o 1	3"	3"
		Bearing Surface	3"	3"	3"	3"	3"	3"	3"	3"	3"
Spacing of Cleats			2 1/2 x 6"								
Number of Tarpaulins			2	2	2	2	2	2	2	2	

*Are wood fore and afters steel shod at all bearing surfaces? ☒

Are battens and wedges efficient and in good condition? ☒

Are tarpaulins in good condition and in accordance with rule requirements? ☒

Are lashings provided in accordance with rule requirements? ☒

Particulars of fiddley, funnel and ventilator coamings:—

Stakehold gratings covered by strong steel hinged covers.
Fidley and funnel ventilators in efficient condition.
Engine skylight of steel strongly constructed.

Particulars of Flush Bunker Scuttles:—

I scuttles on bridge deck of cast-steel fitted with bayonet joints and secured by bolted flat iron across.

Particulars of Companionways :—

Featherhinged door operated from both sides. ^{to clear space in prop.}
 sill 18" ^{width of opening 4'-10 x 2}

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

On bridge deck
4 vents $\phi = 1\frac{1}{2}$ examing $10' \times 10' \times 30$ supported still vents closed by wooden plugs
6 vents $\phi = 1\frac{1}{2}$ " $36' \times 30$ and canvas covers
2 vents $\phi = 1\frac{1}{2}$ " $20' \times 30 \times 30$ stays filled Connection to deck pitch of rivets $4 \times$ diam
On foreward deck in wells
2 vents $\phi = 1\frac{1}{2}$ examing $36' \times 30$
2 vents $\phi = 1\frac{1}{2}$ " $9' 4' \times 24$ supported.

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

2 airpipes in forward 36" high
10 airpipes on bridge deck 30" high.
one airpipe on poop deck 6" high.

Particulars of Gangway Cargo and Coaling Ports:—

Particulate of Gangway Cargo and Coaming Ports: none filled.

Particulars of Scuppers and Sanitary Discharge Pipes :—

Particulars of Side Scuttles:—

Sanitary discharge pipes above foreward deck strong valves fitted on ship's side
(marked x) - all scuppers are required by the Conservator
Two scuppers fore and aft. side of Bridge lower Deck placed to the
Belges outside the Machinery space, efficiently closed at the deck by
rusted plate
Two Scuppers one on each well on port & starboard side, set overhead 12" below
foreward deck
Side scuttles above foreward deck in poop fitted with hinged
deadlights
Scuttles of substantial construction.

Particulars of Side Scuttles :—

deadlights. Sentences of substantial construction.

Particulars of Guard Rails :—

Particulars of Guard Rails:— Guard rail on fore castle and poop with 3 rods height 3'-0"
 Stanchions 4'-6" apart Bulwark on bridge height 3'-9" stanchions 5'-6" apart
 To fore and aft gunwell bulwark see sketch.
 5' spunging posts on each side in bulwark on bridge deck line. 36x18" with 2 rods
 edge above deck 8"

Particulars of Gangways, Lifelines, etc. :—

In fore and afterwell fitted on each side of hatchways supported by stanchions.

2 1/2" x 3 x .50. BULWARK IN FORE AND
AFTER WALL.
slanchions 2 1/2 frame spaces apart

Particulars of Freeing Arrangements.						
	Length of Bulwark	Height of Bulwark	Size of Freeing Ports	Number each side	Area each side	Rule area each side
After Well	10.58 Ms 38'-10"	4'-6"	36" x 20"	2	744 ² 929 M ²	926 M ²
Forward Well	12.03 Ms 41'-3"	4'-6"	36" x 21 1/2" 36" x 20"	1 1	744 ² 966 M ²	969 M ²

State position of each freeing port } After Well:— for position see sketch height above deck 13"
(P. and A. position and height above deck edge) } Forward Well:—

State whether the freeing ports are fitted with shutters, bars, or rails, and give particulars of such:— shutters with one bar on each freeing port.

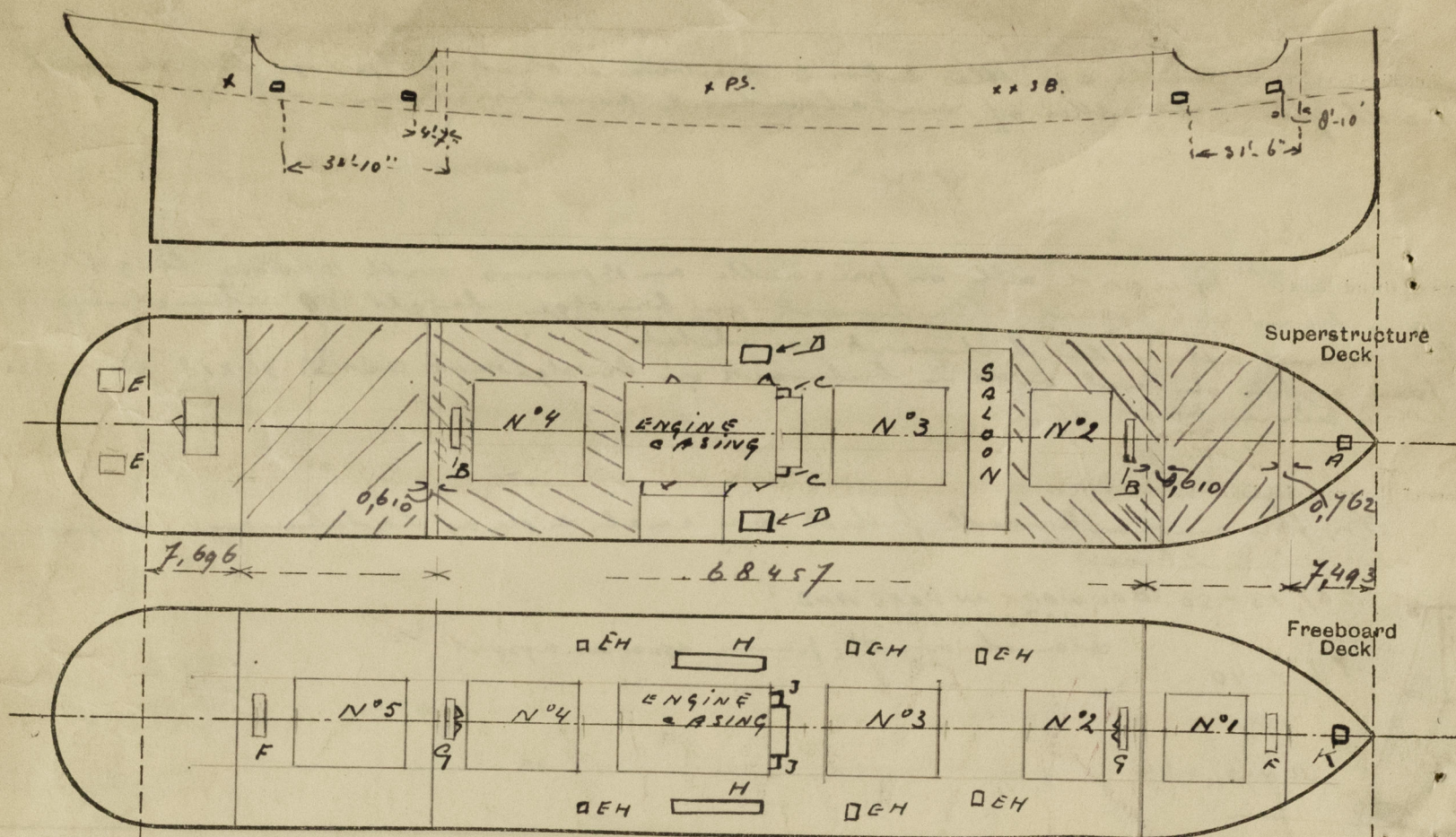
Additional area where sheer is less than standard.

	Coaming	Plating	Stiffeners	Spacing	End Attachments of Stiffeners	Size of Openings	Height of Sills	Height of Casings
Poop Bulkhead	v	. 30	46 x 3 x .8	30"	bottom lugs	v	v	7'-3"
Raised Quarter Deck Bulkhead ...	v	v	v	v	v	4'-6" x 3'6"	18"	7'-3"
Bridge, After Bulkhead	v	. 30	45 x 3 x .30	30"	none	4'-6" x 3'6"	18"	7'-3"
Bridge, Forward Bulkhead	v	. 40	L 8 x 3 x .50	29"	top and bottom brackets	4'-6" x 3'6"	18"	7'-3"
Forecastle Bulkhead	v	. 34	43 x 2 1/2 x .32	30"	none	4'-6" x 3'0"	16"	7'-0"
Trunk, Aft	v	v	v	v	v	v	v	v
Trunk, Forward	v	v	v	v	v	v	v	v
Exposed Machinery Casings on Free- board or Raised Quarter Decks ...	v	v	v	v	v	v	v	v
Exposed Machinery Casings on Super- structure Decks	28" x .32	. 30	4 x 2 1/2 x .40	35"	top bracket	4'-6" x 2'1"	19	7'-4 1/2"
Machinery Casings within Superstruc- tures not fitted with Class I Closing Appliances	20" x .36	. 30	4 x 2 1/2 x .40	35"	none filled	4'-6" x 2'1"	19	7'-3"
Deckhouses on Flush Deck Ships ...	v	v	v	v	v	v	v	v

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

Poop Bulkhead	...	...	✓
Raised Quarter Deck Bulkhead	...	...	✓
Bridge, After Bulkhead	...	...	steel plates fitted with hookbolts not passing through bulkhead
Bridge, Forward Bulkhead	...	...	steel hinged doors with cross channel bars secured by bolts in Bulkhead
Forecastle Bulkhead	...	...	steel hinged doors closed by animal bolts worked from outside only
Exposed Machinery Casings on Freeboard or Raised Quarter Decks	...	...	✓
Exposed Machinery Casings on Superstructure Decks	...	...	steel hinged doors operated from both sides
Machinery Casings within Superstructures not fitted with Class I Closing Appliances	...	...	steel hinged doors operated from both sides
Deckhouses on Flush Deck Ships	...	...	✓

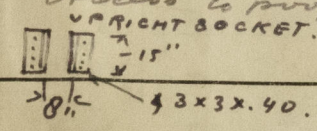
Superstructure bulkheads, trunks, deckhouses, casings, cargo and coaling hatchways, extent and thickness of sheathing on the freeboard deck, gangway, cargo and coaling ports, and any other openings, etc., which would affect the seaworthiness of the ship are to be shown on the following sketches:—



HATCH A.	SIZE	12" x 20"	evening	18" x 36"
" B	SIZE	3'10" x 22"	"	36" x 36"
" C	SIZE	24" x 24"	"	30" x 36"
" D	SIZE	5'1" x 5'0"	"	36" x 40"
" E	SIZE	4'9" x 35"	"	18" x 36"
" F	SIZE	3'10" x 20"	"	36" x 36"
" G H	SIZE	33'5" x 3'1"	"	29 1/2" x 3 1/2" x 50"
" I	SIZE	36" x 24"	"	36" x 32"
" J	SIZE	1'9" x 24"	"	10" x 32"
" K	SIZE	1'9" x 24"	"	7 x 3 x 38"

wood hatches 2 1/2" Rearranging surfaces of all covers to the main deck. Hatchways are 2 1/2" x 3" on floor deck and 3" on superstructure deck. Q. steel boxes giving access to foreward deck and spaces below with steel doors operated from both sides. Side of opening 5'0" x 16" sill 13".

State any special features in the construction of the ship:—
 Particulars for this report have been taken whilst vessel was lying afloat. The owners propose to carry timber deck cargo in both mells (and on the fore and after part of the bridgedeck as shown on sketch). It is a practice never to load higher in mells than 7'0". The height on the bridgedeck varies with the density of the wood carried. Wood uprights are fitted in strong socketed lugs riveted to the stringer plates and spaced not more than allowed by the Rules (viz. 10'0" and 6'6" from each other). Bulwark stanchions and profile are fitted with holes to receive the lashings for the uprights. It is a practice to use 3" steel wire ropes for overall lashings passing through eyeplates riveted to top of chumstrake and in equal number to that of the uprights. In connection with the steel wire lashings short length of 3/8" open link chain are used each fitted with a shalting screw with shiphook. The whole lashing arrangement assures safe and quick releasing of the deck at any time together with a secure lashing. All double bottom tanks have a W.T. centerline (except from frames N° 80 to 89). Permanent bulwarks are fitted see sketch. Access will be available at all time to all parts necessary for crew and for handling the vessel. Lifelines will be lashed to the uprights 4'0" above deck cargo. The stern glands are efficiently protected in way of the deck cargo by steel gun plates. There is a hand steering gear on the poop. Access to poop quarters through companion are report.



Builder's name and yard number A. VUIJK & ZONEN. Capelle de Yssel
 Names of sister ships "Ootmarsum", "Wolsum",
 Owners Stoomv. Maats. Oostree
 Fee £ fl. 142,00 will be received by me J. H. Wehrmeijer
 exp. fl. 2,00.