

Lloyd's Register of Shipping.

SURVEYS FOR FREEBOARD.

Index. No. **32412**
(For London Office only.)

No. 12802

10 DEC 1932

Computation of Freeboard for Steamer, Sailing Ship, Tanker
having a Shelterdeck
(Passengers steamer)
(Type of Superstructures.)

Port of Survey Amsterdam

Date of Survey 30 November

Name of Surveyor H. P. Jonker

Particulars of Classification +100 A1 with freeboard S.S. Amst 10-31

Ship's Name S.S. "COTTICA" Nationality and Port of Registry Dutch AMSTERDAM Gross Tonnage 3800 Date of Build 1927 9 mo

Moulded Dimensions: Length 96.010 Breadth 14.525 Depth 9.296 m/m
Moulded displacement at moulded draught = 85 per cent. of moulded depth 8163 m³ 5486 16³ tons
Coefficient of fineness for use with Tables .751

Depth for Freeboard (D)		Depth correction		Round of Beam correction	
Moulded depth <u>9.296</u>	(a) Where D is greater than Table depth (D - Table depth) R =	<u>8.33(9.572 - 6.401) 24.24 = + 600</u>	Moulded Breadth (B)	<u>14.325</u> m/m
Stringer plate <u>.012</u>	(b) Where D is less than Table depth (if allowed) (Table depth - D) R =	<u>✓</u>	Standard Round of Beam = $\frac{B \times 10}{50} =$	<u>287</u> m/m
Sheathing on exposed deck T $\left(\frac{L-S}{L}\right) =$	<u>.064</u>	If restricted by superstructures	<u>✓</u>	Ship's Round of Beam =	<u>25</u> m/m
Depth for Freeboard (D) =	<u>9.372</u>			Difference	<u>262</u> m/m
				Restricted to	
				Correction = $\frac{\text{Diff}^e}{4} \times \left(1 - \frac{S_1}{L}\right) =$	<u>$\frac{262}{4} = +65$ m/m</u>

DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S ₁)	Height	Height Correction	Effective Length (E)	
Poop enclosed ...						Standard Height of Superstructure
" overhang ...						" " R.Q.D.
R.Q.D. enclosed ...						Deduction for complete superstructure
" overhang ...						Percentage covered $\frac{S}{L} =$
Bridge enclosed ...	<u>96.010</u>		<u>24.46</u>			" " $\frac{S_1}{L} =$
" overhang aft ...						" " $\frac{E}{L} =$
" overhang forward						Percentage from Table, Line A. (corrected for absence of forecastle (if required))
Forecastle enclosed ...						Percentage from Table, Line B. (corrected for absence of forecastle (if required))
" overhang ...						Interpolation for bridge less than 2L (if required)
Trunk aft ...						Deduction =
" forward ...						
Tonnage opening aft ...						
" " forward						
Total ...						

SHEER CORRECTION.

Station	Standard Ordinate	S M	Product	Actual Ordinate	Effective Ordinate	S M	Product	
A.P. ...	<u>1054</u>	1	<u>1054</u>	<u>883</u>	<u>883</u>	1	<u>883</u>	Mean actual sheer aft = Deficient.
$\frac{1}{4}$ L from A.P. ...	<u>468</u>	4	<u>1872</u>	<u>432</u>	<u>432</u>	4	<u>1728</u>	Mean actual sheer forward = Deficient.
$\frac{2}{4}$ L " ...	<u>117</u>	2	<u>234</u>	<u>0</u>	<u>0</u>	2	<u>-</u>	Mean standard sheer forward
Amidships ...	<u>✓</u>	4	<u>-</u>	<u>0</u>	<u>0</u>	4	<u>-</u>	Length of enclosed superstructure forward of amidships =
$\frac{2}{4}$ L from F.P. ...	<u>234</u>	2	<u>468</u>	<u>13</u>	<u>13</u>	2	<u>26</u>	" " aft of " = } Flush Dk.
$\frac{1}{4}$ L " ...	<u>936</u>	4	<u>3744</u>	<u>845</u>	<u>845</u>	4	<u>3380</u>	
F.P. ...	<u>2108</u>	1	<u>2108</u>	<u>1677</u>	<u>1677</u>	1	<u>1677</u>	
Total ...	<u>9486</u>		<u>9480</u>	<u>1786</u>	<u>1786</u>		<u>7694</u>	

Correction = $\frac{\text{Difference between sums of products}}{18} \left(.75 - \frac{S}{2L} \right) = \frac{1786}{18} \times .75 = + 74 \frac{1}{2}$

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 = 9.308 Ft. m.
Summer freeboard = 2.830
Moulded draught (d) = 6.478

Deduction for Tropical freeboard and addition for

Winter freeboard = $\frac{d}{48}$ inches = 13.47 = 13%Addition for Winter North Atlantic Freeboard (if required) = $(13+5) = 18\%$

Deduction for Fresh Water.

Displacement in salt water at summer load water line
 $\Delta = 6760$ tonnes
Tons per inch immersion at summer load water line
T = 11.84 tonnes/cm.

Deduction = $\frac{\Delta}{40T}$ inches
= 143 = 14%

TABULAR FREEBOARD corrected for Flush Deck (if required)

Correction for coefficient

	+	-
Depth Correction ...	<u>600</u>	<u>-</u>
Deduction for superstructures ...	<u>-</u>	<u>-</u>
Sheer correction ...	<u>74</u>	<u>-</u>
Round of Beam correction ...	<u>65</u>	<u>-</u>
Correction for Thickness of Deck amidships ...	<u>-</u>	<u>64</u>
Other corrections, scantlings, etc. ...	<u>771</u>	<u>-</u>
	<u>1510</u>	<u>64</u>

Summer Freeboard = 2830

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

Tropical Fresh Water Line above Centre of Disc ...	<u>27</u> %
Fresh Water Line " " ...	<u>14</u> %
Tropical Line " " ...	<u>13</u> %
Winter Line below " " ...	<u>13</u> %
Winter North Atlantic Line " " ...	<u>18</u> %

Tropical Fresh Water Freeboard ...	<u>256</u> %
Fresh Water " " ...	<u>269</u> %
Tropical " " ...	<u>270</u> %
Winter " " ...	<u>296</u> %
Winter North Atlantic " " ...	<u>301</u> %

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PARTICULARS OF PROTECTION TO OPENINGS, ETC.

HATCHWAYS ON FREEBOARD AND SUPERSTRUCTURE DECKS ON SHELTER DECK										
Description of Hatchway			N1		N2		N3		N4	
Dimensions of Hatchway			20-3 x 12-0		23-6 x 14-0		21-2 x 14-0		21-2 x 14-0	
COAMINGS	Height above Deck ...		30'		30'		flush with top of wood deck		30'	
	Thickness { Sides44'		.44'		.44'		.44'	
	{ Ends44'		.44'		.44'		.44'	
	Stiffeners ...	5	7 x 3 x .40		7 x 3 x .40		.44'		7 x 3 x .40	
Brackets, Stays ...			two		two				two	
HATCH BEAMS	Number ...		3		3		3	4	3	
	Spacing ...		5-0 1/2		5-10 1/2		5-3 1/2	4-2 3/4	5-3 1/2	
	Scantling and Sketch ...							I		
	Top angles ...		3 x 3 x .42		3 1/2 x 3 x .42		3 x 3 x .42	7 x 7 x .36	3 x 3 x .42	
	Plate ...		11 x .30		12 x .32		11 x .30	.36	11 x .30	
	Bottom angles ...		3 x 3 x .42		3 1/2 x 3 x .42		3 x 3 x .42		3 x 3 x .42	
Bearing Surface ...			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 ...		pine		pine		pine	teak	pine	
	Thickness ...		2 1/2"		2 1/2"		2 1/2"	2 1/2"	2 1/2"	
	How fitted ...		long		long		long	long	long	
	Bearing Surface ...		3		3		3	3	3	
Spacing of Cleats ...			24		24		24		24	
Number of Tarpaulins ...			two		two		two		two	
<p>*Are wood fore and afters steel shod at all bearing surfaces? <i>yes</i></p> <p>Are battens and wedges efficient and in good condition? <i>yes</i></p> <p>Are tarpaulins in good condition and in accordance with rule requirements? <i>yes</i></p> <p>Are lashings provided in accordance with rule requirements? <i>yes</i></p>										

Particulars of fiddle, funnel and ventilator coamings:— Tidobley hatches on casing top angle coaming provided with steel covers permanently attached.
Engine room skylight of steel strongly constructed.
Tidobley and funnel ventilators in efficient condition.

Particulars of Flush Bunker Scuttles:—

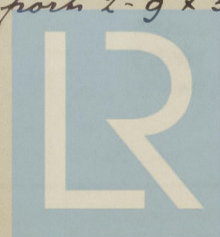
PARTICULARS OF COMPANIONWAYS ON SHELTER DECK
Hatchway on forward deck 2-4 x 2-6 steel coaming 24 x .32 hatches 2 1/2" bearing surface 2 1/2"
batten down arrangement fitted as required.

Particulars of Companionways:— On Shelterdeck: forward steel deck house strongly constructed wood door 30 x 6 3/4 x 1 3/4 inch sill 15 1/2" above wood deck door closed and operated from both sides.
Aftership's steel deck house strongly constructed, steel W.T. door 24 1/2 x 7 1/2" sill 7 1/2" above wood deck door manipulated from one side, also a wooden door 1 3/4" thick closed and operated from both sides.
W.T. steel door in side plating 26 x 70" sill 10" above steel deck manipulated from one side.
On Afterdeck steel deck houses strongly constructed: doors 30 x 60 x 1 3/4 inch sill 10" above wood deck, doors closed and operated from both sides.
On top of midship deck house: steel deck house strongly constructed door 34 x 82 x 1 3/4 inch sill 4" above wood deck door closed and operated from both.

Particulars of Ventilators in exposed positions on freeboard and superstructure decks:— On Shelterdeck vent: to fore peak store rooms 36 x 10" diam x .32 and 36 x 12" diam x .34. Vent on forward deck to holds and shelterdeck space. 36 x 12" diam x .34, 30 x 15" diam x .40, 30 x 10" diam x .40.
Vent: on afterdeck: 30 x 15" diam x .40, 30 x 10" diam x .40 and 30 x 6" diam x .30" to holds and shelterdeck space.
Gooseneck ventilators to accom: in shelterdeck space 24 x 5"
All ventilators are provided with wooden hatches and canvas covers for closing the openings.
Gooseneck ventilars are provided with canvas covers for closing the openings.

Particulars of Air Pipes in exposed positions on freeboard, raised quarter, or superstructure decks:— Air pipes on Shelterdeck to fore and afterpeak tank 24 x 3 diam, To double bottom tank 24 x 2" diam, and 24 x 2 1/2" diam
To oil tank 24 x 3" diam and 24 x 3 1/2" diam and 24 x 4" diam
All air pipes are provided with canvas covers for closing the openings.

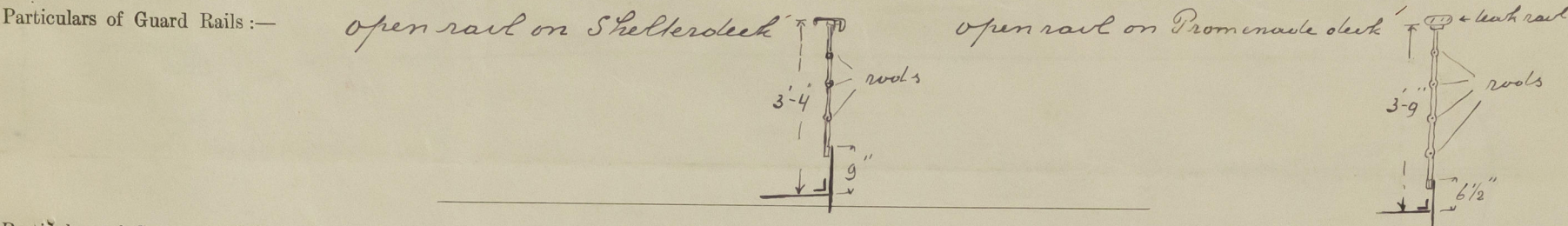
Particulars of Gangway Cargo and Coaling Ports:— Between freeboard and Shelterdeck on P's one W.T. steel gangway door 3-0" x 5-9" sill 12" above freeboard deck strongly constructed.
On S.B. and P.S. between freeboard and shelterdeck four W.T. coaling ports 2-9 x 3-0" sill 9 1/2" below freeboard deck strongly constructed.



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Particulars of Scuppers and Sanitary Discharge Pipes — Shelterdeck discharged through ship side by scupper pipes ended partly just above freeboard deck and partly just below freeboard deck. All sanitary pipes discharged through ship sides below freeboard deck will provided with storm valve's as required.

Particulars of Side Scuttles: Side Scuttles to space below shelterdeck in forward shelterdeck space are provided with cleallights permanently attached. Side Scuttles below shelterdeck: amidships and aft are provided with portable cleallight stowed adjacent to the side scuttles.



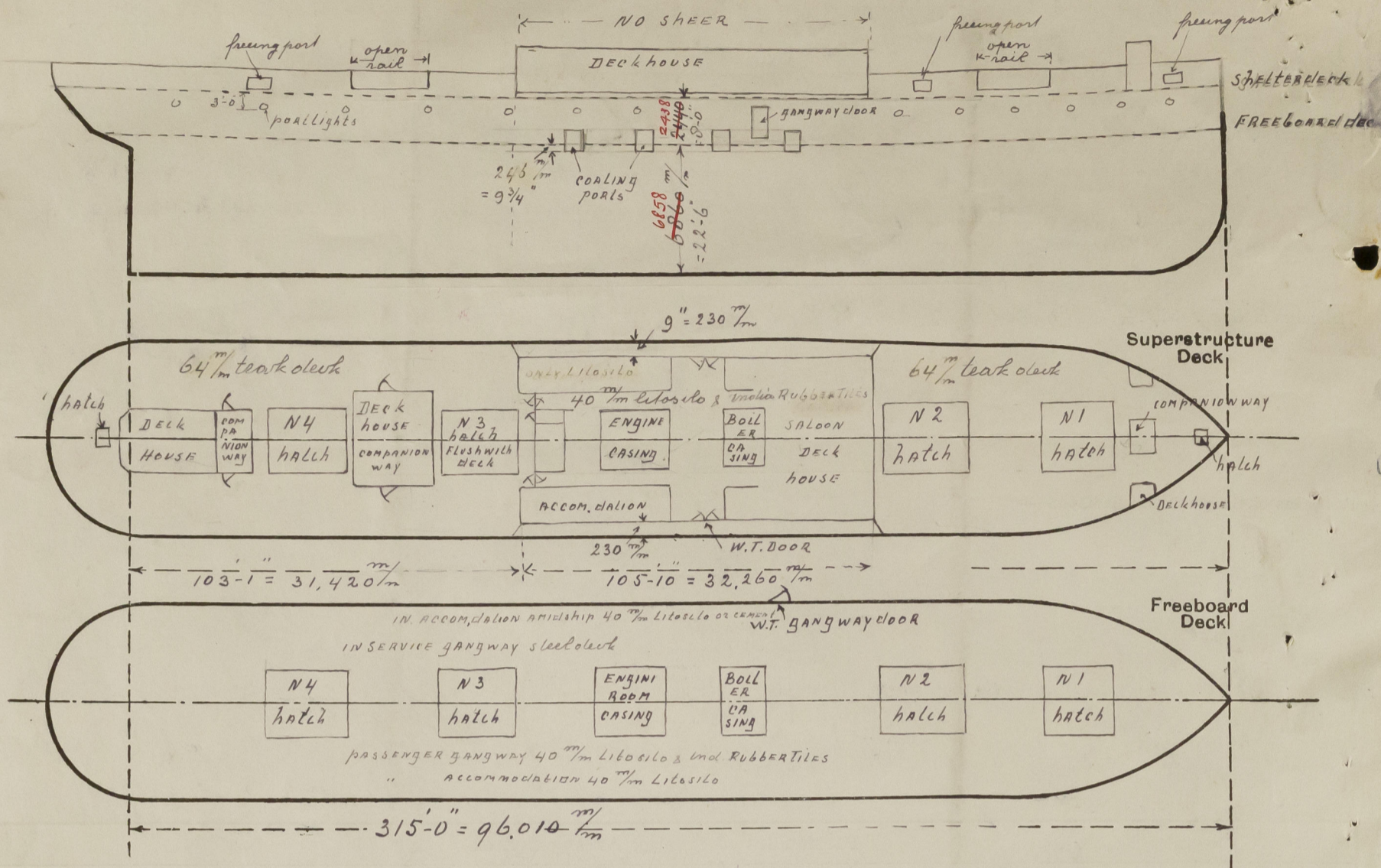
Particulars of Gangways, Lifelines, etc. :—

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	103-1	3'-4"	3-0 x 2-0 17-10 open rail	one	50 ft ²	
Forward Well	106-1	3'-4"	3-0 x 2-0 18-7 open rail	two	58 ft ²	
State position of each freeing port { After Well :— } height above deck edge 9"						
(F. 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 :— bars fitted spaced 8" apart.						
Additional area where sheer is less than standard.						

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								
Raised Quarter Deck Bulkhead ...								
Bridge, After Bulkhead								
Bridge, Forward Bulkhead								
Forecastle Bulkhead								
Trunk, Aft								
Trunk, Forward								
Exposed Machinery Casings on Free-board or Raised Quarter Decks ...								
Exposed Machinery Casings on Super-structure Decks	14 x .20	.24	L 2 1/2 x 2 x .24	20	none	none		8'-0"
Machinery Casings within Superstructures not fitted with Class I Closing Appliances	L							
Deckhouses on Flush Deck Ships	6 x 3 x .36	.28	6 6 x 3 x .40	30 to 24	angle lugs top and bottom	30 x 18	39"	
	6 x 3 x .36	.30	L 3 1/2 x 3 x .32	30 to 24	none	40 x 26 & 30 x 18	10"	8'-0"
Particulars of Closing Appliances (state if capable of being manipulated from both sides).								
Poop Bulkhead								
Raised Quarter Deck Bulkhead ...								
Bridge, After Bulkhead								
Bridge, Forward Bulkhead								
Forecastle Bulkhead								
Exposed Machinery Casings on Free-board or Raised Quarter Decks ...								
Exposed Machinery Casings on Super-structure Decks								
Machinery Casings within Superstructures not fitted with Class I Closing Appliances								
Deckhouses on Flush Deck Ships ...								

2164 1/2

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:—



State any special features in the construction of the ship:— *The vessel has been examined afloat.*
Scale of displacement sent herewith

Builder's name and yard number: **N.V. Machinefabriek & Scheepswerf van P. Smit Jr., Yard No. 410**

Names of sister ships:

Owners: **Koninklijke Nederlandsche Stoomboot My.**

Fee **£ 142** :

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