

Lloyd's Register of Shipping.  
SURVEYS FOR FREEBOARD.Index. No. 35151  
(For London Office only.)

13 JAN 1937

Computation of Freeboard for Steamer, ~~Sailing Ship, Tanker~~

having RAISED QUARTERDECK AND FORECASTLE

Port of Survey ROTTERDAM

(Type of Superstructures.)

Date of Survey BUILDING

Ship's Name	Nationality and Port of Registry	Official Number	Gross Tonnage	Date of Build
M/S "DENBIGH COAST"	BRITISH LIVERPOOL	164312	<del>508.69</del> 484	1937
Moulded Dimensions: Length 159.12' Breadth 26.25' Depth 11.81'				
Moulded displacement at moulded draught = 85 per cent. of moulded depth 916.2 tons				
Coefficient of fineness for use with Tables .465				

Name of Surveyor C. LODDER

Particulars of Classification 100/11  
(CONTEMP.)

Depth for Freeboard (D)				
Moulded depth	...	...	...	11.81
Stringer plate	...	...	...	.03
Sheathing on exposed deck				
$T \left( \frac{L-S}{L} \right) =$				
Depth for Freeboard (D) = 11.84				

Depth correction	
(a) Where D is greater than Table depth (D-Table depth) R =	$(11.84 - 10.61) \times 1.224 = +1.51$
(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)	26.25
Standard Round of Beam = $\frac{B \times 12}{50}$	6.30
Ship's Round of Beam	9.05
Difference	2.75
Restricted to	✓
Correction = $\frac{\text{Diff}}{4} \times \left(1 - \frac{S_1}{L}\right)$	$\frac{2.75}{4} \times .5957 = -.41$

## DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S <sub>1</sub> )	Height	Height Correction	Effective Length (E)
Poop enclosed ...					
„ overhang ...					
R.Q.D. enclosed ...	42.91	42.91	3.50	-	42.91
„ overhang ...					
Bridge enclosed ...					
„ overhang aft ...					
„ overhang forward ...					
F'cle enclosed ...	21.42	21.42	6.55	-	21.42
„ overhang ...					
Trunk aft ...					
„ forward ...					
Tonnage opening aft ...					
„ „ forward ...					
Total ...	64.33	64.33			64.33

Standard Height of Superstructure	6.0
„ „ R.Q.D.	3.394
Deduction for complete superstructure	21.91
Percentage covered $\frac{S}{L} =$	40.43
„ „ $\frac{S_1}{L} =$	40.43
„ „ $\frac{E}{L} =$	40.43
Percentage from Table, Line A.	23.86
(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 =	$21.91 \times 2.386 = -5.23$

## SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product
A.P. ...	25.91	1		25.91	27.56	27.56	1		27.56
$\frac{1}{8}$ L from A.P. ...	11.53	4		46.12	12.40	12.40	4		49.60
$\frac{2}{8}$ L „ ...	2.85	2		5.70	3.15	3.15	2		6.30
Amidships ...	-	4		-	-	-	4		-
$\frac{2}{8}$ L from F.P. ...	5.70	2		11.40	6.30	6.30	2		12.60
$\frac{1}{8}$ L „ ...	23.06	4		92.24	24.80	24.80	4		99.20
F.P. ...	51.82	1		51.82	55.12	55.12	1		55.12
Total ...				233.19					250.38

Mean actual sheer aft = *sum*  
Mean standard sheer aftMean actual sheer forward = *sum*  
Mean standard sheer forwardLength of enclosed superstructure forward of amidships =  
L  
„ „ aft of „ = *Nil.*Correction =  $\frac{\text{Difference between sums of products}}{18} \left( .75 - \frac{S}{2L} \right) = \frac{17.19}{18} (.75 - .2021) = -.52$ 

If limited on account of midship superstructure.

*Yes. Nil.*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	=	11.84
Summer freeboard	=	1.14
Moulded draught (d)	=	10.70

Deduction for Tropical freeboard and addition for

Winter freeboard =  $\frac{d}{4}$  inches =  $2.675 = 2\frac{3}{4}$ Addition for Winter North Atlantic Freeboard (if required) =  $4\frac{3}{4}$ 

Deduction for Fresh Water.

Displacement in salt water at summer load water line

 $\Delta = 986.1$ 

Tons per inch immersion at summer load water line

T = 8.59

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

= 2.87

=  $2\frac{3}{4}$ 

TABULAR FREEBOARD corrected for Flush Deck (if required)

Correction for coefficient  $\frac{765 + .68}{1.36} = \frac{1.445}{1.36} =$ 

Depth Correction	...	1.51	-
Deduction for superstructures	...	-	5.23
Sheer correction	...	-	-
Round of Beam correction	...	-	.41
Correction for Thickness of Deck amidships	...	-	-
Other corrections, scantlings, etc.	...	-	-

Summer Freeboard = 13.70

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

Tropical Fresh Water Line above Centre of Disc	...	5 $\frac{1}{2}$
Fresh Water Line	...	2 $\frac{3}{4}$
Tropical Line	...	2 $\frac{3}{4}$
Winter Line below	...	2 $\frac{3}{4}$
Winter North Atlantic Line	...	4 $\frac{3}{4}$

Tropical Fresh Water Freeboard	...	0 $\frac{1}{2}$ 8 $\frac{1}{4}$
Fresh Water	...	0 $\frac{1}{2}$ 11
Tropical	...	0 $\frac{1}{2}$ 11
Winter	...	1 $\frac{1}{2}$ 4 $\frac{1}{2}$
Winter North Atlantic	...	1 $\frac{1}{2}$ 6 $\frac{1}{2}$

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# PARTICULARS OF PROTECTION TO OPENINGS, ETC.

HATCHWAYS ON FREEBOARD AND SUPERSTRUCTURE DECKS.									
Description of Hatchway		N <sup>o</sup> 1.	N <sup>o</sup> 2.						
Dimensions of Hatchway		34'-6" x 16'-5"	34'-6" x 16'-5"						
COAMINGS	Height above Deck	4'-0"							
	Thickness	.40"							
	Sides	.40"							
	Ends	.40"							
Stiffeners		L 4 x 3 x .40							
Brackets, Stays		9 7/8 FL.							
HATCH BEAMS	Number	6							
	Spacing	5'-4 1/4"							
	Scantling and Sketch	16" x 36"							
	Bearing Surface	4 1/2 x 3 x .44							
FORE AND AFTERS	Number								
	Spacing								
	Unsupported Lengths								
	Scantling and Sketch								
Bearing Surface									
HATCH COVERS	Material	PINE							
	Thickness	2 1/2"							
	How fitted	F & A							
	Bearing Surface	4" x 3"							
Spacing of Cleats		24"							
Number of Tarpaulins		2							

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

Are battens and wedges efficient and in good condition? ☒ YES.

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

Are lashings provided in accordance with rule requirements? ☒ YES. ARRANGEMENTS FOR ADDITIONAL LASHINGS MADE.

Particulars of fiddley, funnel and ventilator coamings:—

FIDDLEY, FUNNEL AND VENTILATOR COAMINGS IN EFFICIENT CONDITION.  
ENGINE ROOM SKYLIGHT OF STEEL, STRONGLY CONSTRUCTED AND FITTED WITH HINGED STEEL COVERS.

Particulars of Flush Bunker Scuttles:— NONE FITTED.

Particulars of Companionways:—

ON FORECASTLE DECK: 1 STEEL COMPANIONWAY LEADING TO FORECASTLE SPACE; SILL 25"; STL. HINGED DOORS, OPERATED FROM BOTH SIDES.  
ON RAISED QUARTER DECK: 2 STRONG TEAK HINGED DOORS IN EXTENSION OF CASING, GIVING ACCESS TO CREWSPACE AFT; DOORS OPERATED FROM BOTH SIDES; SILL 20".

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

ON FORECASTLE: 2 VENTS. 36" x 6" DIA. TO FORECASTLE.  
ON "TRUNK": 2 " 36" x 14" " " HOLD.  
ON A.Q. DECK: 2 " 33" x 6" " " CREW SPACES; 4 MUSHROOM VENTS AND 3 GOOSENECK VENTS 30" HIGH.  
WOOD PLUGS & CANVAS COVERS SUPPLIED FOR ALL COAMINGS & GOOSENECK VENTS.  
COAMINGS CONSTRUCTED AS PER RULE.

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

ON FORECASTLE: 1 AIR PIPE TO F.P. TANK 30" HIGH.  
IN WELL: 12 AIR PIPES TO DBM TANKS 36" " "  
2 " " ON "TRUNK" TO DBM TANKS, 6 FT. HIGH AND EFFICIENTLY SUPPORTED.  
ON A.Q. DECK: 1 " PIPE TO FRESH WATER TANK 31 1/2" HIGH; 1 AIR PIPE TO O.F. TANK, 58" HIGH & SUPPORTED.  
1 " " TO A.P. TANK, 30" HIGH.  
WOOD PLUGS & CANVAS COVERS SUPPLIED FOR ALL AIR PIPES.

Particulars of Gangway Cargo and Coaling Ports:—

NONE FITTED.



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Particulars of Scuppers and Sanitary Discharge Pipes :—

ALL SANITARY DISCHARGE PIPES FROM CREW SPACE AFT BELOW R.Q. DECK FITTED WITH 2 STORM VALVES OR WITH SCREW DOWN VALVE. DISCHARGES FROM SPACES ABOVE R.Q. DECK FITTED WITH STORM VALVE.

Particulars of Side Scuttles :—

SUBSTANTIAL SIDE LIGHTS IN FORECASTLE AND CREW SPACE AFT FITTED WITH STRONG HINGED DEADLIGHTS.

Particulars of Guard Rails :—

ON FORECASTLE: OPEN RAIL, 40" HIGH, 3 RODS, STANCHIONS RIVETED TO DECK, 4 FT. APART. IN WELL: STL. BULWARK, 40" , STAYS 5"x.32", 2-3 FRAME SPACES APART. ON R.Q. DECK : OPEN RAIL AS ON FLE, STANCHIONS 4' 6" APART AND STL. BULWARK FORW.

Particulars of Gangways, Lifelines, etc. :—

SUITABLE PROVISION MADE FOR RIGGING LIFELINES IN ANY PART OF THE SHIP WHICH MAY HAVE TO BE USED BY THE CREW IN THE REGULAR WORKING OF THE VESSEL.

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 ... ..	94.79'	40"	7.8' x .69'	6.	32.3 ft. <sup>2</sup>	18.96 sf.
Forward Well ... ..						

State position of each freeing port ... .. { After Well:— SEE SKETCH ; LOWER EDGE 8" ABOVE DECK.  
(F. and A. position and height above deck edge) { Forward Well:— P. 4  
State whether the freeing ports are fitted with shutters, bars, or rails, and give particulars of such :— NONE FITTED.

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 ...	.30	.30	4 5 x 3 x .40	29"	LUGS.			
Bridge, After Bulkhead ... ..								
Bridge, Forward Bulkhead ... ..								
Forecastle Bulkhead ... ..	.24	.24	4 3 x 2 1/2 x .30	30"	NONE	49" x 36 1/2"	24"	
Trunk, Aft ... ..								
Trunk, Forward ... ..								
Exposed Machinery Casings on ...								
Exposed Machinery Casings on Superstructure Decks ... ..	.28	.28	4 3 x 2 1/2 x .28	30"	BKTS.	4'-6" x 1'-10"	19 1/2"	6'-4"
Machinery Casings within Superstructures not fitted with Class I Closing Appliances ... ..								
Deckhouses on Flush Deck Ships ...								

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

Poop Bulkhead ... ..	
Raised Quarter Deck Bulkhead ...	NO OPENINGS.
Bridge, After Bulkhead ... ..	
Bridge, Forward Bulkhead ... ..	
Forecastle Bulkhead ... ..	PORTABLE PLATES WITH HOOK BOLTS, NOT PASSING THRO' BULKHEAD.
Exposed Machinery Casings on ...	STEEL HINGED DOORS, OPERATED FROM BOTH SIDES.
Exposed Machinery Casings on Superstructure Decks ... ..	
Machinery Casings within Superstructures not fitted with Class I Closing Appliances ... ..	
Deckhouses on Flush Deck Ships ...	

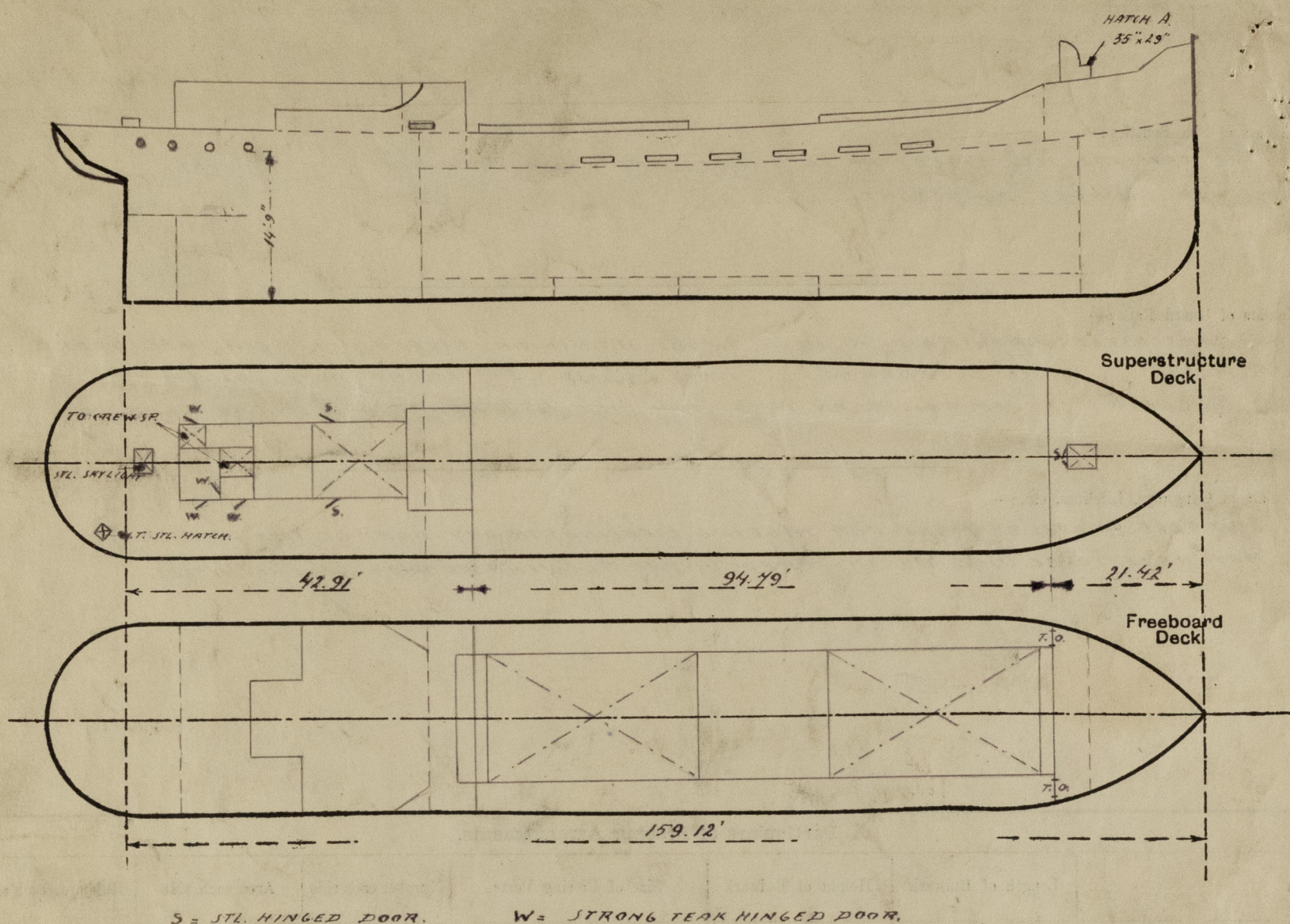


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Superstructure bulkheads, trunks, deckhouses, casings, cargo and coaling hatchways, extent and thickness of sheathing on the freeboard deck, gangway, cargo and coaling ports, and any other openings, etc., which would affect the seaworthiness of the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



HATCHWAY "A"; COAMING 27½" HIGH; COVERS 2¼"; 2 TARPAULINS, CLEATS, BATTENS & WEDGES AS PER RULE.

State any special features in the construction of the ship:—

THIS VESSEL HAS BEEN BUILT IN ACCORDANCE WITH THE APPROVED PLANS.

PARTICULARS FOR TIMBER FREEBOARDS:

AN OUTFIT FOR TIMBER DECK CARGOES IS FITTED ON THE FREEBOARD DECK. STRONG ANGLE SOCKETS FOR UPRIGHTS (L 16"x3" ANGLE) ARE RIVETED TO THE STRINGER PLATE AND ARE SPACED AS REQUIRED BY THE REGULATIONS. BULWARK STANCHIONS & RAIL FITTED WITH HOLES TO RECEIVE THE LASHINGS FOR UPRIGHTS. OVERALL LASHINGS ARE FASTENED TO STRONG EYEPLATES RIVETED TO THE SHEER STRAKE. IN CONNECTION WITH THE OVERALL LASHINGS STRETCHING SCREWS WITH SLIPHOOKS AND LENGTHS OF LONG LINK CHAIN ARE FITTED ENABLING A QUICK RELEASE OF THE DECK CARGO. A HAND STEERING GEAR IS FITTED ON THE P.Q. DECK. CENTRE GIRDER OF DBM. IS WATERTIGHT ALL FORE & AFT. ENTRANCES FOR CREW ON P.Q. DECK AND FORECASTLE.

Builder's name and yard number N.V. INDUSTRIEEL MAATSCHAPPY "DE NOORD" N° 562

Names of sister ships M/S "EDENVALE" (SAME BUILDERS: N° 559)

Owners COAST LINES LTD

Fee £ 42:- : WILLB Received by me