

24 FEB 1933

Cpt. C.11.

Lloyd's Register of Shipping.

SURVEYS FOR FREEBOARD.

Computation of Freeboard for Steamer, Sailing Ship, Tanker
having *a Poop Bridge + Deck*

(Type of Superstructures.)

Ship's Name LYNGENFJORD EX. NIDAROS.	Nationality and Port of Registry <i>Norwegian</i> <i>Oslo</i>	Official Number	Gross Tonnage 5873	Date of Build <i>1913/3</i>
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Port of Survey *Oslo*

Date of Survey *16th February 1933*

Name of Surveyor *Geo. Webster*

Particulars of Classification *+ 100. A.1.*
SS. No. 3-4.25, No. 1.29.

Moulded Dimensions: Length *407.75* Breadth *54.75* Depth *29.17*

Moulded displacement at moulded draught = 85 per cent. of moulded depth *not avail* **2130** tons

Coefficient of fineness for use with Tables *.767*

<p>Depth for Freeboard (D)</p> <p>Moulded depth ... <i>29.17</i></p> <p>Stringer plate ... <i>.04</i></p> <p>Sheathing on exposed deck</p> <p>$T \left(\frac{L-S}{L} \right) =$</p> <p>Depth for Freeboard (D) = <i>29.21</i></p>	<p>Depth correction</p> <p>(a) Where D is greater than Table depth (D-Table depth) R = $(29.21 - 27.18) \times 3 = + 6.09$</p> <p>(b) Where D is less than Table depth (if allowed) (Table depth-D) R =</p> <p>If restricted by superstructures</p>	<p>Round of Beam correction</p> <p>Moulded Breadth (B) <i>54.75</i></p> <p>Standard Round of Beam = $\frac{B \times 12}{50} = 13.14$</p> <p>Ship's Round of Beam = <i>13.50</i></p> <p>Difference <i>.36</i></p> <p>Restricted to</p> <p>Correction = $\frac{\text{Diff}}{4} \times \left(1 - \frac{S_1}{L} \right) = \frac{.36}{4} \times 5076 = .05$</p>
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DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S ₁)	Height	Height Correction	Effective Length (E)
Poop enclosed ...	34.25	34.25	9.0		34.25
" overhang ...	1.17	.58			.58
R.Q.D. enclosed ...					
" overhang ...					
Bridge enclosed...	124.83	124.83	9.0		124.83
" overhang aft ...	2.08	1.56			1.56
" overhang forward	.54	.27			.27
W'cle enclosed ...	38.25	38.25	9.2		38.25
" overhang ...	1.04	1.04			1.04
Trunk aft ...					
" forward ...					
Tonnage opening aft ...					
" " forward					
Total ...	202.16	200.78			200.78

Standard Height of Superstructure *7.50*

" " R.Q.D. *42.0*

Deduction for complete superstructure

Percentage covered $\frac{S}{L} = 49.58$

" " $\frac{S_1}{L} = 49.24$

" " $\frac{E}{L} = 49.24$

Percentage from Table, Line A.
(corrected for absence of forecastle (if required)) *35.35*

Percentage from Table, Line B.
(corrected for absence of forecastle (if required))

Interpolation for bridge less than 2L (if required)

Deduction = *- 14.85*

SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product
A.P. ...	50.77	1		50.77	73"	77.0	1		77.00
$\frac{1}{2}$ L from A.P. ...	22.59	4		90.36	33"	34.37	4		137.48
$\frac{3}{8}$ L " ...	5.58	2		11.16	8"	8.59	2		17.18
Amidships ...		4			0		4		
$\frac{3}{8}$ L from F.P. ...	11.17	2		22.34	13"	12.54	2		25.08
$\frac{1}{2}$ L " ...	45.19	4		180.76	60"	50.16	4		200.64
F.P. ...	101.55	1		101.55	125"	116.0	1		116.00
Total ...	456.93			456.94					573.38

Correction = $\frac{\text{Difference between sums of products}}{18} \left(75 - \frac{S}{2L} \right) = \frac{456.94 - 573.38}{18} \left(75 - \frac{2479}{5021} \right) = - 3.25$

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 = *29.21*

Summer freeboard = *5.54*

Moulded draught (d) = *23.67*

Deduction for Tropical freeboard and addition for Winter freeboard = $\frac{d}{4}$ inches = *5.92 = 6"*

Addition for Winter North Atlantic Freeboard (if required) =

Deduction for Fresh Water.

Displacement in salt water at summer load water line

$\Delta =$ *not available*

Tons per inch immersion at summer load water line

T =

Deduction = $\frac{\Delta}{40T}$ inches = *6*

TABULAR FREEBOARD corrected for Flush Deck (if required)

Correction for coefficient

	+	-
Depth Correction ...	6.09	
Deduction for superstructures ...		14.85
Sheer correction ...		3.25
Round of Beam correction05
Correction for Thickness of Deck amidships		
Other corrections, scantlings, etc. ...		
	6.09	18.15
Summer Freeboard =	66.56	

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

Tropical Fresh Water Line above Centre of Disc ...	12
Fresh Water Line " " ...	6
Tropical Line " " ...	6
Winter Line below " " ...	6
Winter North Atlantic Line " " ...	6

Tropical Fresh Water Freeboard ...	5.6 1/2
Fresh Water " " ...	4.6 1/2
Tropical " " ...	5.0 1/2
Winter " " ...	5.0 1/2
Winter North Atlantic " " ...	5.0 1/2

PARTICULARS OF PROTECTION TO OPENINGS, ETC.

HATCHWAYS ON FREEBOARD AND SUPERSTRUCTURE DECKS										
Description of Hatchway	ON FREEBOARD DECK									
	7'0" x 14'	7'0" x 14'	2 P.S. 2' x 2' x 2'	2 P.S. 2' x 2' x 2'	2 P.S. 2' x 2' x 2'	2 P.S. 2' x 2' x 2'	2 P.S. 2' x 2' x 2'	2 P.S. 2' x 2' x 2'	2 P.S. 2' x 2' x 2'	2 P.S. 2' x 2' x 2'
Dimensions of Hatchway	24'0" x 18'3"	36'0" x 18'3"	5'10" x 8'3"	3'6" x 3'0"	6'5" x 3'8"	3'10" x 4'0"	3'11" x 3'11"	1'7" x 1'11"	4'0" x 3'10"	3'10" x 3'11"
COAMINGS	Height above Deck	37	37	21	7	9 BA	9 BA	none (Pursh)	16	35
	Thickness	36	60	36	36	40	40	30	36	30
	Stiffeners	none	none	✓	✓	✓	✓	✓	✓	✓
	Brackets, Stays, etc.	2	2	✓	✓	✓	✓	✓	✓	✓
HATCH BEAMS	Number	1 plate	2 plate	2 plate	2 plate	2 plate	2 plate	2 plate	2 plate	2 plate
	Spacing	4'0"	4'0"	4'0"	4'0"	4'0"	4'0"	4'0"	4'0"	4'0"
	Scantling and Sketch	5" x 40 (5'0")	5" x 40 (5'0")	5" x 40 (5'0")	5" x 40 (5'0")	5" x 40 (5'0")	5" x 40 (5'0")	5" x 40 (5'0")	5" x 40 (5'0")	5" x 40 (5'0")
	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"	3 1/2"
FORE AND AFTERS	Number	none	✓	✓	✓	✓	✓	✓	✓	✓
	Spacing	none	✓	✓	✓	✓	✓	✓	✓	✓
	Unsupported Lengths	none	✓	✓	✓	✓	✓	✓	✓	✓
	Scantling and Sketch	none	✓	✓	✓	✓	✓	✓	✓	✓
HATCH COVERS	Material	wood	O.T. steel	O.T. steel	wood	wood	wood	wood	wood	wood
	Thickness	2 3/4"	2 3/4"	2 3/4"	2 3/4"	2 3/4"	2 3/4"	2 3/4"	2 3/4"	2 3/4"
	How fitted	F&A	✓	✓	✓	✓	✓	✓	✓	✓
	Bearing Surface	24"	✓	✓	✓	✓	✓	✓	✓	✓
Spacing of Cleats	24	✓	✓	✓	✓	✓	✓	✓	✓	✓
Number of Tarpaulins	2	✓	✓	✓	✓	✓	✓	✓	✓	✓

Particulars of fiddle, funnel and ventilator coamings:— On casing top 7'-0" above boat deck in efficient condition
Fiddle openings closed by hinged steel covers

Particulars of Flush Bunker Scuttles:— 1 P.S. on Bridge Deck

Particulars of Companionways:— On Poop: Steel 4'-6" x 3'-7" x 6'-6" high, wood door 4'-7" x 2'-9", 18" sill.

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

On Poop: 2-16" derrick table vents and 6-8 1/2" x 19" x 30" to accom.
7th deck: 4-18" vents in way of derrick tables aft.
protected + supported
ditto forward.

Bridge Deck: 1 P.S. 20" d. x 27" x 40" to Tm Dk: 25 x 19 1/2" d. x 19 x 30.
1 P.S. 8" d. x 19" x 30" : 1 P.S. 20" d. x 30 x 30.

Incastle Dk: 1-13" d. x 20 x 26
3-5 1/2" d. x 18 x 24
2-15" supports + protected by derrick tables.

all have ~~off~~ means of closing

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

Poop Dk: 1-29" high to opening
Bx Dk: 6 P.S. 32" - - -
2nd Dk: 2-20" - - -
Upper Dk: 1 P.S. 32" - - -
remainder all in way of derrick tables well protected, or flush with deck
all have ~~off~~ means of closing

Particulars of Gangway Cargo and Coaling Ports:—

One P.S. 6'-7" x 6'-0" in Bridge sides in 2 halves
4 strong backs, efficiently supported. + water tight

Particulars of Scuppers and Sanitary Discharge Pipes:— 1 ash shoot on S.S. discharging about 6 ft. below ft. deck.
1 sanitary discharge P.S. from Poop bed on board about 6 ft. below ft. deck - with storm valve
all sanitary discharges from accom. and other discharge on board about 18" over ft. deck - with storm valves
3 scupper P.S. from bridge space discharging on board about 30" below freeboard deck - with storm valves.

Particulars of Side Scuttles:— On Poop. Br. & side ledges - most fitted with pty. deadlights.

Particulars of Guard Rails:— On Poop 4'-1" high 3 rails stanchions about 4'-10" apart
On 2nd 3'-10" "
On Bridge Bulwarks 3'-8" high, 6" BA top rail angle stiffen 4 x 4 x 4 spaced 4'-0" apart.

Particulars of Gangways, Lifelines, etc.:— Arranged as necessary.

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	106.42'	4'-0"	5'-0" x 9"	6	22.5 sq	21.3
Forward Well	104.0'	"	"	6	22.5 sq	20.8

State position of each freeing port ... After Well:— 13.0, 26.0, 44.0, 63.0, 81.5 + 94.0
(F. and A. position and height above deck edge) Forward Well:— 11.5, 24.0, 36.5, 48.5, 66.5
State whether the freeing ports are fitted with shutters, bars, or rails, and give particulars of such:— no shutters or bars

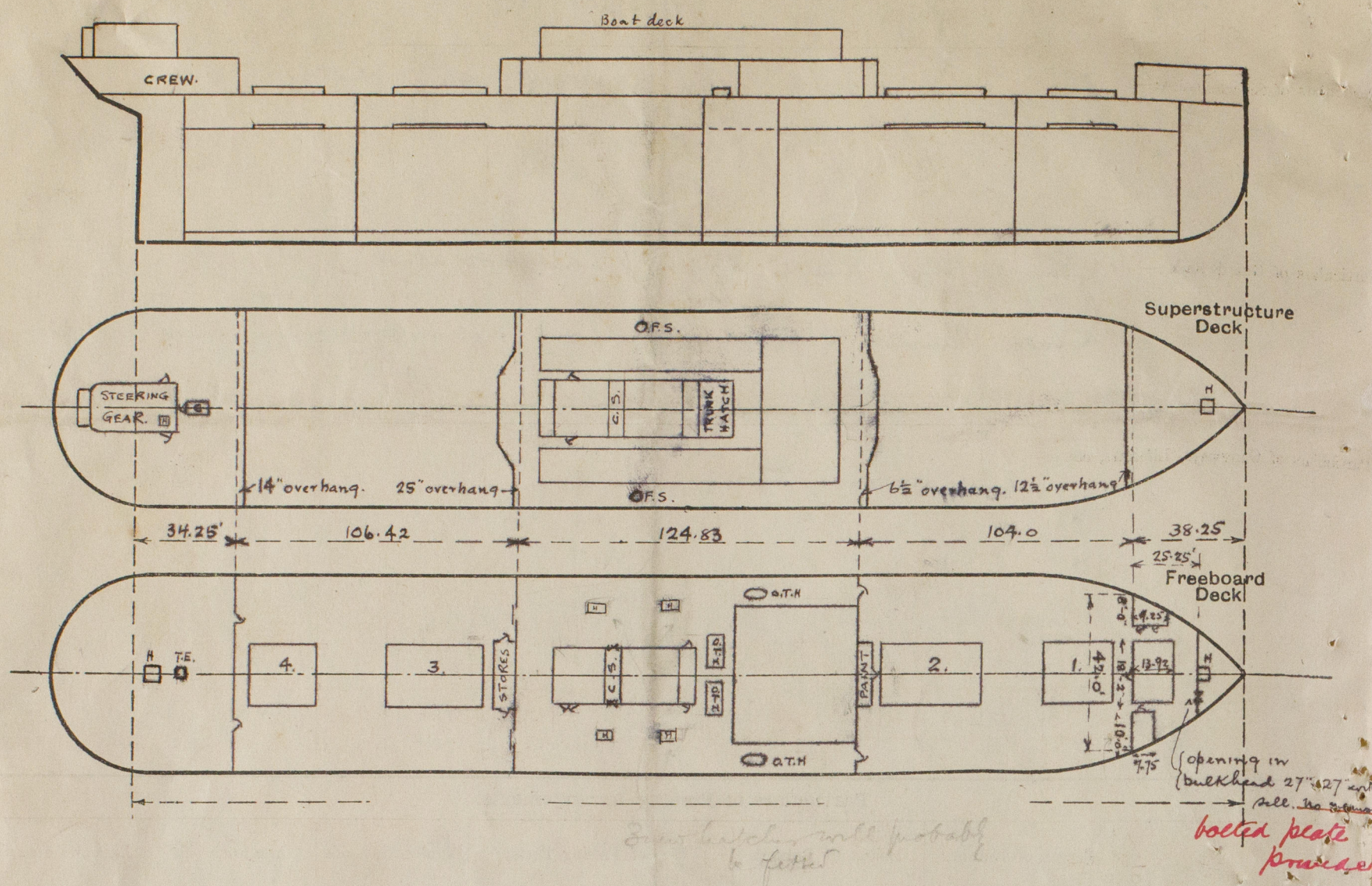
Additional area where sheer is less than standard.

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	49 x 44	.40	angle 6 x 3 x .40	33/37"	Big bracket at top	5'-0" x 1'-11" or 5'-0" x 2'-0"	19" 16 1/2"	9'-0"	
Raised Quarter Deck Bulkhead									
Bridge, After Bulkhead	48 x 44	.40	3 1/2 x 3 1/2 x .40	48	ditto	5'-6" x 4'-9 1/2"	18"	9'-0"	
Bridge, Forward Bulkhead	48 x 48	.40	10" B.A.	42/45"	ditto	5'-5" x 4'-5" or 5'-6" x 2'-11"	18"	9'-0"	
Forecastle Bulkhead	Vel. C	.36	4 x 5 1/2 x .40	31/51"	ditto	4'-10" x 1'-11" or 6'-2" x 1'-11" or 6'-0" x 4'-0"	12" 19"	9'-0"	
Trunk, Aft									
Trunk, Forward									
Exposed Machinery Casings on Freeboard or Raised Quarter Decks									
Exposed Machinery Casings on Superstructure Decks	18 x 40	.40	3 x 3 x .32	29"	none	4'-11" x 2'-0"	18"	8'-0"	
Machinery Casings within Superstructures not fitted with Class I Closing Appliances	18 x 40	.32	17 wks flange 3" 4 1/2 x 3 x .46 hgt.	10 ft. 3 ft.	ditto top	4'-10" x 3'-11" B.A. or 5'-0" x 4'-0" to cast sheet 30" or 4'-6" x 2'-0" 1/2 skeleton 19"	18" 19"	9'-0"	
Deckhouses on Flush Deck Ships									

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

Poop Bulkhead	Hinged steel door P.S. opening from both sides + ditto at center
Raised Quarter Deck Bulkhead	
Bridge, After Bulkhead	Steel plates with hook bolts passing through the plate only. Bolts 12-15" apart.
Bridge, Forward Bulkhead	Hinged steel door P.S. opening from fire side. Steel hinges door at center.
Forecastle Bulkhead	Wood doors P.S. opening from both side. Steel door at center opening from outside.
Exposed Machinery Casings on Freeboard or Raised Quarter Decks	
Exposed Machinery Casings on Superstructure Decks	Steel hinges door P.S. opening from both sides.
Machinery Casings within Superstructures not fitted with Class I Closing Appliances	Ditto steel hinges door P.S. opening from both sides S.S. only. Hinges obstruct steel ... coal shoot opening from bridge top deck space Steel hinges door P.S. to skeleton opening 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 shewn on the following sketches:—



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

Coal hatch on casing top 7'-0" above boat deck 4'-0" x 18'-3" 8" BA casing, battening arrangement complete closing +
 " " boat deck trunked to Bridge deck 9'-6" x 17'-2", 33 x 30 " " " " " "

The Norwegian Authorities have no particulars of freeboard for this vessel - L.R. assignment.

The Owners desire to have a Timber freeboard assignment + a report will be forwarded when the fittings have been arranged on the ship. Please forward the Timber Certificate

The survey was carried out afloat + confined to obtaining the above particulars but the special survey will be completed before the vessel sails.

There are no particulars of displacements &c available

Builder's name and yard number *W. Hamilton & Co Ltd St. Glasgow*

Names of sister ships

Owners *Den norske Amerikalinje A/S.*

Fee *£ 24.7.00*

Received by me



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