

19 APR 1932

Lloyd's Register of Shipping.

SURVEYS FOR FREEBOARD.

Index. No. **33423**
(For London Office only.)

22953.

Computation of Freeboard for Steamer, Sailing Ship, Tanker
having *Prop. Bridge & Lancashire*Port of Survey **NEWPORT, MON.****CAPE NELSON** (Type of Superstructures.)Date of Survey **13th April 1932**

Ship's Name **KNIGHT OF ST. MICHAEL** Nationality and Port of Registry **British** Official Number **145656** Gross Tonnage **3807** Date of Build **1929.10**

Name of Surveyor *W. H. M. M. M.*

Moulded Dimensions: Length **357.33** Breadth **50.25** Depth **27.25**
Moulded displacement at moulded draught = 85 per cent. of moulded depth **9100** tons
Coefficient of fineness for use with Tables **.479**

Particulars of Classification **2-100 H1**

Depth for Freeboard (D)		Depth correction		Round of Beam correction	
Moulded depth	27.25	(a) Where D is greater than Table depth (D - Table depth) R =		Moulded Breadth (B)	50.25
Stringer plate	.5	(27.29 - 23.42) x 2.702 =	10.46	Standard Round of Beam = $\frac{B \times 12}{50}$	12.06
Sheathing on exposed deck	.04	(b) Where D is less than Table depth (if allowed) (Table depth - D) R =		Ship's Round of Beam	13
$T \left(\frac{L-S}{L} \right) =$		If restricted by superstructures		Difference	.94
Depth for Freeboard (D) =	27.29			Restricted to	
				Correction = $\frac{\text{Diff}^2}{4} \times \left(1 - \frac{S_1}{L} \right)$	$\frac{.94^2}{4} \times .4918 = (-) .12$

DEDUCTION FOR SUPERSTRUCTURES

	Mean Covered Length (S)	Equivalent Enclosed Length (S ₁)	Height	Height Correction	Effective Length (E)
Poop enclosed ...	34.25	34.25	7.6		34.25
„ overhang ...					
R.Q.D. enclosed					
„ overhang					
Bridge enclosed ...	107.50	107.50	4.6		107.50
„ overhang aft					
„ overhang forward					
Fore enclosed ...	35.57	35.57	7.6		35.57
„ overhang	2.51	1.26			1.26
Trunk aft					
„ forward					
Tonnage opening aft					
„ forward					
Total	179.83	178.58			178.58

Standard Height of Superstructure	4.01
„ „ R.Q.D.	
Deduction for complete superstructure	38.75
Percentage covered $\frac{S}{L} =$	51.14
„ „ $\frac{S_1}{L} =$	50.82
„ „ $\frac{E}{L} =$	50.82
Percentage from Table, Line A. (corrected for absence of forecastle (if required))	
Percentage from Table, Line B. (corrected for absence of forecastle (if required))	36.82
Interpolation for bridge less than 2L (if required)	
Deduction = .3682 x 38.75 =	(-) 14.27

SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product
A.P. ...	45.13	1		45.13	39.00	39.00	1		39.00
$\frac{1}{4}$ L from A.P. ...	20.99	4		80.36	16.95	16.95	4		67.80
$\frac{3}{4}$ L „ ...	4.92	2		9.92	4.23	4.23	2		8.46
Amidships ...	0	4		-	-	-	4		-
$\frac{3}{4}$ L from F.P. ...	9.92	2		19.86	8.45	8.45	2		16.90
$\frac{1}{4}$ L „ ...	33.89	4		160.72	33.89	33.89	4		135.56
F.P. ...	90.27	1		90.27	78.00	78.00	1		78.00
Total				406.26					345.72

Correction = $\frac{\text{Difference between sums of products}}{18} \left(\frac{75-S}{2L} \right) = \frac{60.54}{18} \left(\frac{75-2559}{2} \right) = (+) 1.66$

If limited on account of midship superstructure.

If limited to maximum allowance of 1½ ins. per 100 ft.

Deduction for Tropical Freeboard.

Addition for Winter and Winter North Atlantic Freeboard.

Depth to Freeboard Deck = 27.29
Summer freeboard = 4.90
Moulded draught (d) = 22.39

Deduction for Tropical freeboard and addition for

Winter freeboard = $\frac{d}{4}$ inches = 5.6 = 5½

Addition for Winter North Atlantic Freeboard (if required) =

Deduction for Fresh Water.

Displacement in salt water at summer load water line

 $\Delta = 8844$

Tons per inch immersion at summer load water line

T = 35.6

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

= 6.21

= 6¼

TABULAR FREEBOARD corrected for Flush Deck (if required)

Correction for coefficient $\frac{.779 + .60}{1.36} \times 56.89 =$

+ -

Depth Correction ... 10.46

Deduction for superstructures ... 14.27

Sheer correction ... 1.66

Round of Beam correction12

Correction for Thickness of Deck amidships ...

Other corrections, scantlings, etc. ...

12.1214.39 (-) 2.27

Summer Freeboard = 58.76

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

Tropical Fresh Water Line above Centre of Disc ... 11¼

Fresh Water Line „ „ ... 6¼

Tropical Line „ „ ... 5½

Winter Line below „ „ ... 5½

Winter North Atlantic Line „ „ ...

Tropical Fresh Water Freeboard ...

Fresh Water „ „ ...

Tropical „ „ ...

Winter „ „ ...

Winter North Atlantic „ „ ...

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HATCHWAYS ON FREEBOARD AND SUPERSTRUCTURE DECKS

Particulars of fiddley, funnel and ventilator coamings :—

Stakehold Selly gatings covered by strong hinged cross
Selly. furnace & ventilator casings in good condition
Engine room skylight of steel strongly constructed

Particulars of Flush Bunker Scuttles:—

Done.

Particulars of Companionways :—

house. ✓

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

On Prop. 1 Vent 9" dia coaming 21" high x 32"
" 2 Common port vents, plating 14"
After hull 6 Vents 18" dia coaming 36" x 44"
On Bridge 2 Vents 18" 36" x 38"
" 4 Vents 10" 30" x 32"
See also 5 Vents 18" dia coaming 36" x 44"
Incls. 12" 6" coaming 36" x 30"
All vents fitted with wood plugs &
canvas covers

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

Particulars of Air Pipes in exposed positions on ironboard, raised quarter, or superstructure decks.											
On poop.	2 C.D. air pipes	3" dia	19" high	to	off brack tank	On fore	2 C.D. air pipes	3" dia	15" high	to DB tanks	
After hull.	"	"	3"	26"	"	"	"	"	3"	18"	to F.P.T.
On mcs	2 "	"	3"	20"	"	Do	No sniping holes in air pipes. Wood plugs				
Fore hull.	2 "	"	3 1/2"	24"	"	Do	to canvas cover fitted.				
	1 "	3"	18"	"	Do						

Particulars of Gangway Cargo and Coaling Ports:—

Howe ✓

Rpt. C. 11 (Contd.)

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Lloyd's Register of Shipping.

Ship's Name CAPE NELSON

Official No. 145656

Memorandum of alterations reported since ship was surveyed for assignment of Load Lines
in November, 1932

Bridge after end. Hinged steel door, operating both sides, giving access to Engine Room via steering gear platform.

Opening 4' 6" x 24" Height of Sill 24"

Form C.11 (contd.) having reference to this door has been attached to the C.11 on board.

Noted B 10/8/39

5m.3.37. T.

CAPE NELSON

Particulars of Scuppers and Sanitary Discharge Pipes

Scuppers in way of Bridge space fitted with 4.6 Storm valves at ships side & wood plugs at deck
Deck scuppers at Bridge ends in walls w/ pipes
Sanitary pipes fitted with storm valves at ships side ✓

Particulars of Side Scuttles:

All scuttles fitted with hinged dead lights

Particulars of Guard Rails:—

Guard rails on fore. Bridge & poop decks 3.4 high with three rails & stanchions spaced 4.6 apart.

Particulars of Gangways, Lifelines, etc.:—

~~No life lines fitted.~~

Lifelines are provided for the use of the crew in the regular working of the ship.

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	90.6"	4.3"	3.6" x 1.6"	4	21.6	18.6
Forward Well	81.0"	4.3"	3.6" x 1.6"	4	21.6	16.2

State position of each freeing port { After Well:— from B.B.H. 12.6 - 31.6 = 58.8 - 80.2" — Ports 13" above St
(F. and A. position and height above deck edge) { Forward Well:— " " 12.0 - 29.8 - 47.1 - 65.4" — Round iron bars. ✓
State whether the freeing ports are fitted with shutters, bars, or rails, and give particulars of such:—

Additional area where sheer is less than standard.

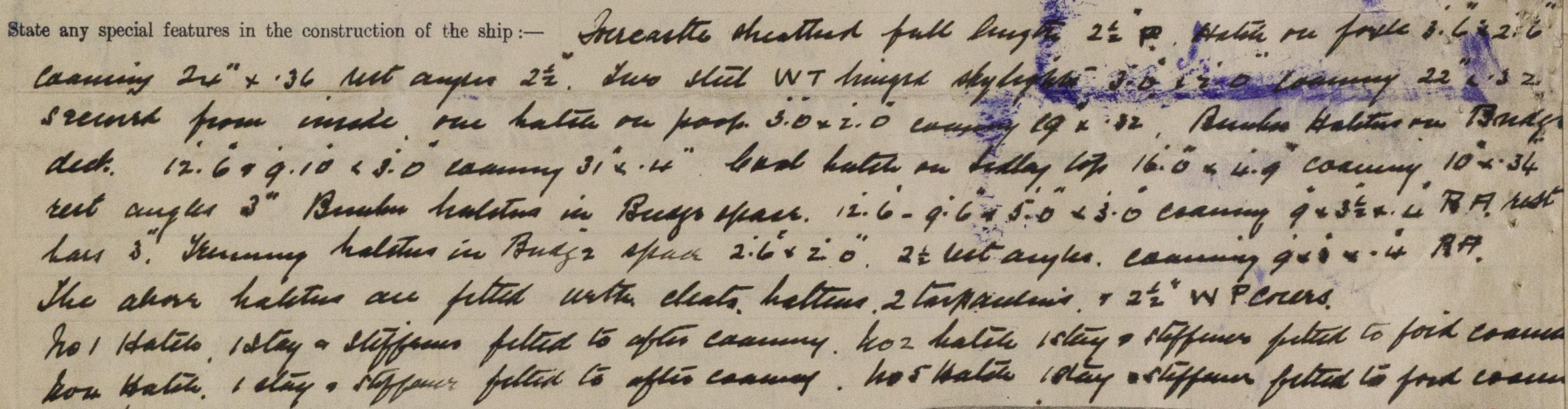
Particulars of Superstructures, Trunks, Casings, Deckhouses.

	Coaming	Plating	Stiffeners	Spacing	End Attachments of Stiffeners	Size of Openings	Height of Sills	Height of Casings
Poop Bulkhead	✓	.36"	3 x 3 x .32"	2.3"	✓	5.0" x 3.6"	19"	7.6"
Raised Quarter Deck Bulkhead ...								
Bridge, After Bulkhead	✓	.36"	3 x 3 x .32"	2.6"	✓	5.0" x 3.6"	21	7.6"
Bridge, Forward Bulkhead44"	.4"	8 1/2 x 3 x .5" B.H.	2.6"	L.T.B	4.1" x 2.11"	19	7.6"
Forecastle Bulkhead	✓	.3	3 x 3 x .25"	2.6"	✓	4.1" x 2.0"	19	7.6"
Trunk, Aft								
Trunk, Forward								
Exposed Machinery Casings on Free-board or Raised Quarter Decks ...								
Exposed Machinery Casings on Super-structure Decks	✓	.32	3 x 3 x .32	2.8"	B.H.T	5.0" x 2.0"	18	7.9"
Machinery Casings within Superstructures not fitted with Class I Closing Appliances32	.32	3 x 3 x .32	2.8"	✓	3.0" x 2.0"	19	7.6"
Deckhouses on Flush Deck Ships ...								

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

Poop Bulkhead	Storm boards full height of opening with Channels 2 1/2" W.P.
Raised Quarter Deck Bulkhead ...	
Bridge, After Bulkhead	Storm boards full height of opening, riveted Channels 2 1/2" W.P.
Bridge, Forward Bulkhead	Steel plates (stiffened) bolted with caps bolts this plate 6" pitch
Forecastle Bulkhead	Teak wood hinged doors 1 1/2" thick. operated from either side
Exposed Machinery Casings on Free-board or Raised Quarter Decks ...	
Exposed Machinery Casings on Super-structure Decks	Steel hinged doors operated from either side.
Machinery Casings within Superstructures not fitted with Class I Closing Appliances	Steel hinged doors operated from either side
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 :-



Displacement		Deadweight		EQUIV. FCL: ENCL.	
19.0	Draft = 7325 tons	tons per inch	35.125	4900 tons	SIDE HOUSES = 1.99
20.0	" = 7775 "	"	35.25	5325 "	41.75
21.0	" = 8210 "	"	35.375	5770 "	ENCL. 35.54
22.0	" = 8620 "	"	35.5	6195 "	TOTAL 38.08
22.6 1/2	" = 8832 "	"	35.6	6420 "	Over Lang 2.51

Builder's name and yard number *Fitzgerald Ltd.*

Names of sister ships. *Knight of St George. Knight of St John*

Owners. Great Western Line Ltd. (Palmer-Turner & Co Ltd mngs.)

Fee £ 11 : 18 : 0

Received by me