

Lloyd's Register of Shipping.

SURVEYS FOR FREEBOARD.

(COMPUTATION FOR STEAMER, SAILING SHIP, TANKER.)

Spec. Rpt. No. 21380.

Ship's Name NOARDERHAVEN Ex "EMPIRE FORD"	Official Number 167108	Nationality and Port of Registry Netherlands	Gross Tonnage 319.74	Date of Build 1941	Port of Survey Grimsby
Moulded Dimensions: Length 130.0 Breadth 24.5 Depth 9.68 To centre of deck 130.35				Date of Survey 25/4, 5/6 and 14/8/41	
Moulded displacement at moulded draught = 85 per cent. of moulded depth 538 tons				Surveyor's Signature L. J. Palmer	
Coefficient of fineness for use with Tables 7.5				Particulars of Classification 100AL	

Depth for Freeboard (D).	Depth correction.	Round of Beam correction.
Moulded depth ... 9.68	(a) Where D is greater than Table depth $\frac{130}{15} = 8.66$ (D - Table depth) R = $(9.68 - 8.66) \times \frac{1.003}{130} = +1.01''$	Moulded Breadth (B) 24.50
Stringer plate03	(b) Where D is less than Table depth (if allowed) (Table depth - D) R =	Standard Round of Beam = $\frac{B \times 12}{50} = 5.88$
Sheathing on exposed deck $T \left(\frac{L-S}{L} \right) =$	If restricted by superstructures	Ship's Round of Beam = 7
Depth for Freeboard (D) = 9.69		Difference 1.12
		Restricted to
		Correction = $\frac{\text{Diff}}{4} \times \left(1 - \frac{S_1}{L} \right) = \frac{1.12}{4} \times \frac{6131}{130} = -1.17''$

DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S ₁)	Height	Height Correction	Effective Length (E)
Poop enclosed Equis	38.18	38.18	6'-8"	✓	38.18
„ overhang ...					
R.Q.D. enclosed					
„ overhang					
Bridge enclosed...					
„ overhang aft					
„ overhang forward					
F'cle enclosed Equis	12.25	12.25	5'-0"	50/6.0	10.21
„ overhang					
Trunk aft					
„ forward					
Tonnage opening aft					
„ forward					
Total	50.43	50.43			48.39

Standard Height of Superstructure	6.0
R.Q.D.	✓
Deduction for complete superstructure	19.035
Percentage covered $\frac{S}{L} =$	38.69
„ $\frac{S_1}{L} =$	38.69
„ $\frac{E}{L} =$	37.12
Percentage from Table, Line A.	21.05
(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 = $19.035 \times 21.05 =$	-4.01''

SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product
A.P. ...	23.00	4	1	23.00	24.00	24.00	1	4	24.00
$\frac{1}{2}$ L from A.P. ...	10.25	4	4	41.00	11.00	11.00	4	4	44.00
$\frac{2}{8}$ L „ ...	2.53	2	2	5.06	3.00	3.00	2	2	6.00
Amidships ...		4					4		
$\frac{2}{8}$ L from F.P. ...	5.06	2	2	10.12	6.00	6.00	2	2	12.00
$\frac{1}{2}$ L „ ...	10.50	4	4	42.00	11.00	11.00	4	4	44.00
F.P. ...	46.00	1	1	46.00	48.00	48.00	1	4	48.00
Total				159.60					222.00

Correction = $\frac{\text{Difference between sums of products}}{18} = \frac{14.69}{18} = .816$
If limited on account of midship superstructure. **Yes, nil.**

Mean actual sheer aft = **Excess**
Mean standard sheer aft

Mean actual sheer forward = **Excess**
Mean standard sheer forward

Length of enclosed superstructure forward of amidships = **Nie.**
aft of „ =

Correction = $\frac{\text{Difference between sums of products}}{18} = \frac{14.69}{18} = .816$
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 = **9.70**
Summer freeboard = **.85**
Moulded draught (d) = **8.85**

Deduction for Tropical freeboard and addition for Winter freeboard = $\frac{d}{4}$ inches = **2.21 = 2 1/4**Addition for Winter North Atlantic Freeboard (if required) = **4 1/4**

Deduction for Fresh Water.

Displacement in salt water at summer load water line

 $\Delta =$ **594**

Tons per inch immersion at summer load water line

 $T =$ **6.46**Deduction = $\frac{\Delta}{40T}$ inches**= 2.30****= 2 1/4**

TABULAR FREEBOARD corrected for Flush Deck (if required)

Correction for coefficient

717 + 1.36 = 1397/1.36

Depth Correction ...

Deduction for superstructures ...

Sheer correction ...

Round of Beam correction ...

Correction for Thickness of Deck amidships ...

Other corrections, scantlings, etc. ...

Summer Freeboard = **10.22**SUMMER FREEBOARD amidships from Centre of Disc to top of Deck Line, **Wood, Steel, Deck** :-Tropical Fresh Water Line above Centre of Disc ... **4 1/2**Fresh Water Line „ „ ... **2 1/4**Tropical Line „ „ ... **2 1/4**Winter Line below „ „ ... **2 1/4**Winter North Atlantic Line „ „ ... **4 1/4**Tropical Fresh Water Freeboard ... **0'-10 1/4**Fresh Water „ „ ... **0'-8**Tropical „ „ ... **0'-8**Winter „ „ ... **1'-0 1/2**Winter North Atlantic „ „ ... **1'-2 1/4**

A new form should be prepared if any alterations that affect the freeboard have been made. If no such alterations have been made, the Surveyor should endorse the form on this side with his signature and the date.

Pooh equivalent bulkhead

39'-0" at centre ✓

35'-6" at side ✓

3'-6" diff ✓

1'-4" = $\frac{2}{3}$ ✓

35'-6"

37'-10" = equivalent length to A.P. ✓

37.83

35

38.18 = equivalent length to centre of huller stock.

Trade of ship

Coasting

Names of sister ships

Umsu Richards Lowmores Ave 280/1.

Builder's name and yard number

Umsu J. S. Watson (Gainsborough) Ltd: No 1520

Owners

Ministry of Shipping. (Robert Rice & Sons, Rull. Wgre)

Fee £

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