

Lloyd's Register of Shipping.

SURVEYS FOR FREEBOARD.

(COMPUTATION FOR STEAMER, SAILING SHIP, TANKER.)

30 JUN 1947

GRK REPORT N° 23520.

Ship's Name "YENFOREST"	Official Number 180995	Nationality and Port of Registry BRITISH GLASGOW	Gross Tonnage 1047	Date of Build 1945	Port of Survey PORT GLASGOW
Moulded Dimensions: Length 202'0" Breadth 32'58" Depth 15'7" AT BREAK END OF R.Q.D. 70 CENTRE OF RUDDER STOCK.					Date of Survey JUNE 1947
Moulded displacement at moulded draught = 85 per cent. of moulded depth 1798 tons					Surveyor's Signature J. A. Jameson
Coefficient of fineness for use with Tables .716					Particulars of Classification 100A1 (CONTEMPLATED)

Depth for Freeboard (D).	Depth correction.	Round of Beam correction.
Moulded depth ... 15'71"	(a) Where D is greater than Table depth (D - Table depth) R = (15'75 - 13'47) 1.553 = 3'54"	Moulded Breadth (B) = 32'58"
Stringer plate48	(b) Where D is less than Table depth (if allowed) (Table depth - D) R =	Standard Round of Beam = $\frac{B \times 12}{50} = \frac{32.96 \times 12}{50} = 7.82"$
Sheathing on exposed deck $T \left(\frac{L-S}{L} \right) =$ ✓	If restricted by superstructures ✓	Ship's Round of Beam = $7\frac{7}{8} = 7.875"$
Depth for Freeboard (D) = 15'75"		Difference = + .05"
		Restricted to
		Correction = $\frac{\text{Diff}^*}{4} \times \left(1 - \frac{S_1}{L} \right) = \frac{.05 \times 179}{4} = \text{NIL}$

DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S ₁)	Height	Height Correction	Effective Length (E)
Poop enclosed ...	38.75	38.75	7'0"	✓	38.75
„ overhang ...	-	-	-	-	-
R.Q.D. enclosed ...	94.00	94.00	4'58"	✓	94.00
„ overhang ...	13.33	13.33	6'92"	✓	13.33
Bridge enclosed ...	12.00	12.00	6'92"	✓	12.00
„ overhang aft ...	14.00	-	-	-	-
„ overhang forward ...	-	-	-	-	-
F'cle enclosed ...	23.25	19.76	7'0"	✓	19.76
„ overhang ...	-	-	-	-	-
Trunk aft ...	-	-	-	-	-
„ forward ...	-	-	-	-	-
Tonnage opening aft ...	-	-	-	-	-
„ forward ...	-	-	-	-	-
Total ...	169.33	165.84	-	-	165.84

Standard Height of Superstructure	6'00"
„ „ R.Q.D.	3'68"
Deduction for complete superstructure	26'2"
Percentage covered $\frac{S}{L} =$	83.83
„ „ $\frac{S_1}{L} =$	82.10
„ „ $\frac{E}{L} =$	77.90
Percentage from Table, Line A. (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 = $26.20 \times .779 =$	- 20.41

SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product
A.P. ...	30.20	1		30.20	28.42	28.42	1		28.42
$\frac{1}{2}$ L from A.P. ...	13.44	4		53.76	12.65	12.65	4		50.60
$\frac{1}{2}$ L " ...	3.32	2		6.64	3.13	3.13	2		6.26
Amidships ...	-	4		-	-	-	4		-
$\frac{1}{2}$ L from F.P. ...	6.64	2		13.28	0.87	.87	2		1.74
$\frac{1}{2}$ L " ...	26.88	4		107.52	25.25	25.25	4		101.00
F.P. ...	60.40	1		60.40	67.00	67.00	1		67.00
Total ...				271.80					255.02

Mean actual sheer aft =
Mean standard sheer aft = } deficient

Mean actual sheer forward =
Mean standard sheer forward = }

Length of enclosed superstructure forward of amidships = } deficient
L aft of " = } sheer

Sheer forward
1st actual 1st actual
6.64 0.87 19.92 26.1 145.36
26.88 25.25 80.64 75.75 160.96
60.40 67.00 60.40 67.00
160.96 145.36 = -903 ✓

Correction = $\frac{\text{Difference between sums of products}}{18} \left(.75 - \frac{S}{2L} \right) = \frac{16.78}{18} \left(.75 - \frac{.491}{2} \right) = +.31$
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 = 20'33" Summer freeboard = 5'21" Moulded draught (d) = 15'12" Deduction for Tropical freeboard and addition for Winter freeboard = $\frac{d}{4}$ inches = 3'78" = 3'4" Addition for Winter North Atlantic Freeboard (if required) = 5'3/4"	Deduction for Fresh Water. Displacement in salt water at summer load water line $\Delta =$ 2090 Tons per inch immersion at summer load water line $T =$ 13.17 Deduction = $\frac{\Delta}{40T}$ inches = 3.96 = 4"	TABULAR FREEBOARD corrected for Flush Deck (if required) Correction for coefficient $\frac{716 + .68}{1.36} = \frac{1.36}{1.36}$ <table style="width: 100%;"> <tr> <td>Depth Correction</td> <td>3'54"</td> </tr> <tr> <td>Deduction for superstructures</td> <td>- 20'41"</td> </tr> <tr> <td>Sheer correction</td> <td>.31</td> </tr> <tr> <td>Round of Beam correction</td> <td>55'00"</td> </tr> <tr> <td>Correction for Thickness of Deck amidships</td> <td>-</td> </tr> <tr> <td>Other corrections, scantlings, etc.</td> <td>-</td> </tr> <tr> <td>Summer Freeboard =</td> <td>62'50"</td> </tr> </table>	Depth Correction	3'54"	Deduction for superstructures	- 20'41"	Sheer correction	.31	Round of Beam correction	55'00"	Correction for Thickness of Deck amidships	-	Other corrections, scantlings, etc.	-	Summer Freeboard =	62'50"
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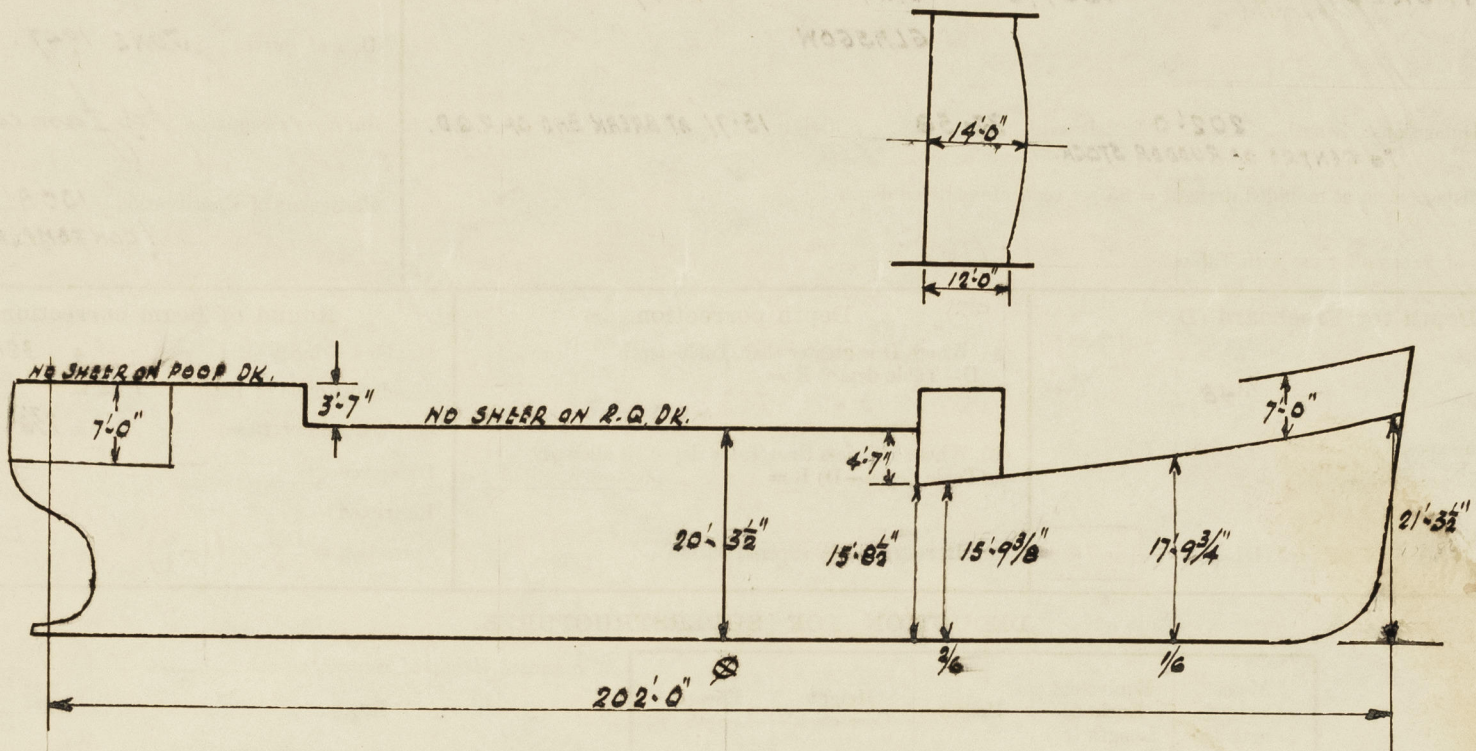
SUMMER FREEBOARD amidships from Centre of Disc to top of Deck Line, Wood, Steel, Deck

Tropical Fresh Water Line above Centre of Disc ...	7'3/4"
Fresh Water Line „ „ ...	4'
Tropical Line „ „ ...	3'3/4"
Winter Line below „ „ ...	3'3/4"
Winter North Atlantic Line „ „ ...	5'3/4"

Tropical Fresh Water Freeboard ...	5'2 1/2"
Fresh Water „ „ ...	4'6 3/4"
Tropical „ „ ...	4'10 1/2"
Winter „ „ ...	4'10 3/4"
Winter North Atlantic „ „ ...	5'8 1/4"

Newforest.

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.



MLR DEPTHS GIVEN ABOVE ARE FROM TOP OF KEEL $\frac{3}{8}$ " BELOW BASE LINE

KEEL ALLOWANCE = $\frac{7}{8}$ "

TONS PER INCH AT 15' 0" EXTREME DRAUGHT = 13.17

FREEBOARD COMPUTATION (PRELIMINARY) ISSUED 4/6/46.

Sheer aft :-

Actual Height of R.Q.D.K. = 4.58'

Standard do $\frac{3.68'}{.90'} = 10.8''$

Virtual sheer at AP = $10.8 \times \left(\frac{101}{62.25} \right)^2 = 28.42$

Virtual sheer	2.37'	MLR depth to R.Q.D.	20.29'
MLR depth	15.71'	Height of Poop	3.58'
	18.08'		23.87'

Freeboard :-

Length = 23.25'

IL = $\frac{20.20}{3.05} = 6.62$

$20.2 \times .903 = 18.24$

$3.05 \times .5 = 1.52$

SL = $\frac{18.24}{1.52} = 12.00$

$23.87 - 18.08 = 5.79'$ (i.e. greater than stand R.Q.D.)

\therefore Virtual sheer is 28.42'

Trade of ship

Names of sister ships *THE EMPEROR (WITH MODIFICATIONS)*

Builder's name and yard number *J. LEWIS & SONS LTD. ABERDEEN.*

Owners *JOHN STEWART & CO SHIPPING LTD.*

Fee, £ *10.0.0.*

ML-D



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Foundation