

DEC 13 1938

Index. No. (For London Office only)

Lloyd's Register of Shipping.
SURVEYS FOR FREEBOARD.
(COMPUTATION FOR STEAMER, ~~SAILING SHIP, TANKER.~~)

N^o 27616

Ship's Name	Official Number	Nationality and Port of Registry	Gross Tonnage	Date of Build	Port of Survey
"SCOTTISH CO-OPERATOR"	167016	BRITISH Lisith	513.27	1938	ROTTERDAM
Moulded Dimensions: Length 200'-0" ✓ Breadth 30'-0" ✓ Depth 11'-0" ✓					Date of Survey BUILDING
Moulded displacement at moulded draught = 85 per cent. of moulded depth 1037.3 tons					Surveyor's Signature <u>O. L. Loddie</u>
Coefficient of fineness for use with Tables .68 (Actual .647) ✓					Particulars of Classification +100A1 "WITH FREEBOARD (CLASS CONTEMPL)

Depth for Freeboard (D).					Depth correction.	Round of Beam correction.
Moulded depth	...	...	...	...	(a) Where D is greater than Table depth (D-Table depth) R =	Moulded Breadth (B)
Stringer plate	...	...	...	...	(b) Where D is less than Table depth (if allowed) (Table depth-D) R =	Standard Round of Beam = $\frac{B \times 12}{50} =$
Sheathing on exposed deck						Ship's Round of Beam =
$T \left(\frac{L-S}{L} \right) =$						Difference =
Depth for Freeboard (D) =						Restricted to
						Correction = $\frac{\text{Diff}^*}{4} \times \left(1 - \frac{S_1}{L} \right) =$

DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S ₁)	Height	Height Correction	Effective Length (E)
Poop enclosed ...	✓ 10.60 ✓	10.60 ✓	4'-0" ✓	✓	10.60 ✓
„ overhang ...	.56 ✓	.28 ✓			.28 ✓
R.Q.D. enclosed ...					
„ overhang ...					
Bridge enclosed ...					
„ overhang aft ...					
„ overhang forward ...					
F'cle enclosed ...	✓ 183.64 ✓	183.64 ✓	MIN. 4'-0" ✓	✓	183.64 ✓
„ overhang ...	1.16 ✓	.87 ✓			.87 ✓
Trunk aft ...					
„ forward ...		Diff. x 444 ✓			
Tonnage opening aft ...	✓ 4.04 ✓	2.05 ✓			2.05 ✓
„ „ forward ...					
Total ...	✓ 200.00 ✓	199.44 ✓			199.44 ✓

STURVES.

Standard Height of Superstructure $6.00'$ ✓

" " R.Q.D. ✓

Deduction for complete superstructure $26.00''$ ✓

Percentage covered $\frac{S}{L} = 100.00$

" " $\frac{S_1}{L} = 98.42$ ✓

" " $\frac{E}{L} = 98.42$ ✓

Percentage from Table, Line A. and B. 98.42 ✓

(corrected for absence of forecastle (if required))

Percentage from Table, Line B. ✓

(corrected for absence of forecastle (if required)) ✓

Interpolation for bridge less than $\cdot 2L$ (if required) ✓

Deduction = $26.00'' \times .9842 = 25.59.$ ✓

SHEER CORRECTION.

Station	Standard Ordnate	S M	Product	Actual Ordnate	Effective Ordnate	S M	Product
A.P. ...	30.00	1	30.00	+12 ¹¹ 30.63	42.63 ✓	1	42.63
$\frac{1}{2}$ L from A.P. ...	18.35	4	53.40	13.40	18.97 ✓	4	75.88
$\frac{3}{8}$ L " ...	3.30	2	6.60	3.46	4.69 ✓	2	9.38
Amidships ...	✓	4	✓	-	✓	4	✓
$\frac{3}{8}$ L from F.P. ...	6.60	2	13.20	6.46	7.77 ✓	2	15.94
$\frac{1}{2}$ L " ...	26.70	4	106.80	27.00	32.22 ✓	4	128.88
F.P. ...	60.00	1	60.00	60.40	72.40 ✓	1	72.40
Total ...			270.00	+12 ¹¹			345.11

TION. Actual height of Superstructure = 7.0'
Standard " " " = 6.0'
 Mean actual sheer aft = Excess Difference Excess = $\frac{1.0'}{2} = 12"$
 Mean standard sheer aft
 Mean actual sheer forward = Excess.
 Mean standard sheer forward
 Length of enclosed superstructure forward of amidships = } Excess.
 " " aft of " = }

Correction = $\frac{\text{Difference between sums of products}}{18} \left(.75 - \frac{S}{2L} \right) = \frac{75 \cdot 11 (.75 - .56)}{18 \cdot 25} = -1.04$

If limited on account of midship superstructure. ✓ If limited to maximum allowance of $1\frac{1}{2}$ ins. per 100 ft. ✓

<p>Deduction for Tropical Freeboard.</p> <p>Addition for Winter and Winter North Atlantic Freeboard.</p> <p>Depth to Freeboard Deck = <u>11.03</u> Ft.</p> <p>Summer freeboard = <u>1.17</u></p> <p>Moulded draught (d) = <u>10.86</u></p> <p>Deduction for Tropical freeboard and Addition for</p> <p>Winter freeboard = $\frac{d}{4}$ inches = <u>2.72 = 2 3/4</u></p> <p>Addition for Winter North Atlantic Freeboard (if required) = <u>2 3/4" + 2" = 4 3/4"</u></p>	<p>Deduction for Fresh Water.</p> <p>Displacement in salt water at summer load water line</p> <p>$\Delta = 1262.8$ tons.</p> <p>Tons per inch immersion at summer load water line</p> <p>T = <u>13.04</u></p> <p>Deduction = $\frac{\Delta}{40 T}$ inches</p> <p>= <u>2.42"</u></p> <p>= <u>2 1/2"</u></p>	<p>TABULAR FREEBOARD <small>corrected for Flush Deck (if required)</small></p> <p>Correction for coefficient</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th></th> <th style="text-align: center;">+</th> <th style="text-align: center;">-</th> </tr> </thead> <tbody> <tr> <td>Depth Correction</td> <td style="text-align: center;">-</td> <td style="text-align: center;">3.54</td> </tr> <tr> <td>Deduction for superstructures</td> <td style="text-align: center;">-</td> <td style="text-align: center;">25.54</td> </tr> <tr> <td>Sheer correction</td> <td style="text-align: center;">-</td> <td style="text-align: center;">1.04</td> </tr> <tr> <td>Round of Beam correction</td> <td style="text-align: center;">-</td> <td style="text-align: center;">-</td> </tr> <tr> <td>Correction for Thickness of Deck amidships</td> <td style="text-align: center;">-</td> <td style="text-align: center;">-</td> </tr> <tr> <td>Other corrections, scantlings, etc.</td> <td style="text-align: center;">-</td> <td style="text-align: center;">-</td> </tr> <tr> <td></td> <td style="text-align: center;">-</td> <td style="text-align: center;">30.17</td> </tr> </tbody> </table> <p>Summer Freeboard = <u>30.17</u></p>		+	-	Depth Correction	-	3.54	Deduction for superstructures	-	25.54	Sheer correction	-	1.04	Round of Beam correction	-	-	Correction for Thickness of Deck amidships	-	-	Other corrections, scantlings, etc.	-	-		-	30.17
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SUMMER FREEBOARD amidships from Centre of Disc to top of Deck Line, [REDACTED], Steel, Deck :--

Tropical Fresh Water Line above Centre of Disc	...	...	✓	2 1/2"	Tropical Fresh Water Freeboard	MINUS	0' - 0 1/2"
Fresh Water Line	"	"	✓	2 1/2"	Fresh Water	MINUS	0' - 0 1/2"
Tropical Line	"	"	...	✓ Nil	Tropical	"	0' - 2" (LIMITED)
Winter Line	below	"	...	✓ 2 3/4"	Winter	"	0' - 4 3/4"
Winter North Atlantic Line	"	"	...	✓ 4 3/4"	Winter North Atlantic	"	0' - 6 3/4"

Scottish Co-Operator.

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.

Tonnage opening. $\frac{B_1 - b}{B_1} = \frac{6.0'}{13.5'} = .444 \checkmark$

Trade of ship _____

Names of sister ships _____

Builder's name and yard number N.V. INDUSTRIEEL MAATSCHAPPIJ "DE NOORD" N° 544.

Owners SCOTTISH CO-OPERATIVE WHOLESALE SOCIETY LTD.

Fee £ 42.-



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Foundation