

Lloyd's Register of Shipping.

SURVEYS FOR FREEBOARD.

Index. No.
(For London Office only).

(COMPUTATION FOR STEAMER, ~~SAILING SHIP, TANKER~~)

Ship's Name S/RUDOLF	Official Number 8582	Nationality and Port of Registry Swedish Gothenburg	Gross Tonnage 1969	Date of Build 1943 6	Port of Survey Gothenburg
Moulded Dimensions: Length 40' 0" = 12.500 M Breadth 20' 11" = 6.375 M					Date of Survey While building
Moulded displacement at moulded draught = 85 per cent. of moulded depth 4116 tons = 4079 M³					Surveyor's Signature Bertrand Grauer
Coefficient of fineness for use with Tables = .7875					Particulars of Classification 100 A1

Depth for Freeboard (D). Moulded depth 6.375 Stringer plate 15 Sheathing on exposed deck $T \left(\frac{L-S}{L} \right) =$ Depth for Freeboard (D) = 6.390	Depth correction. (a) Where D is greater than Table depth (D—Table depth) R = 8.33 (6.390 - 5.098) 19.31 = +208 $\frac{m}{m}$ (b) Where D is less than Table depth (if allowed) (Table depth—D) R = If restricted by superstructures	Round of Beam correction. Moulded Breadth (B) 12.500 M Standard Round of Beam = $\frac{B \times 11}{50} =$ 250 $\frac{m}{m}$ Ship's Round of Beam = 260 Difference Excess 10 Restricted to Correction = $\frac{\text{Diff}^e}{4} \times \left(1 - \frac{S_1}{L} \right) =$ <math>\frac{10}{4} \times .3128 = -1 $\frac{m}{m}$</math>
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DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S) M.	Equivalent Enclosed Length (S ₁) M.	Height m	Height Correction	Effective Length (E) M.	
Equ. Poop enclosed	16.781	16.781	2180		16.781	Standard Height of Superstructure 1.833 M.
» overhang	3.744	1.872			1.872	» R.Q.D. 1.224 M.
R.Q.D. enclosed	26.230	26.230	1217	1217/1224	26.080	Deduction for complete superstructure 790 $\frac{m}{m}$
» overhang						Percentage covered $\frac{S}{L} =$ 72.08%
Bridge enclosed						» $\frac{S_1}{L} =$ 68.72%
» overhang aft						» $\frac{E}{L} =$ 68.52%
» overhang forward						Percentage from Table, Line A. 60.48% (corrected for absence of forecastle [if required])
Fore enclosed	5.550	5.550	2837		5.550	Percentage from Table, Line B. (corrected for absence of forecastle [if required])
» overhang	1.220	.610			.610	Interpolation for bridge less than .2L (if required)
Trunk aft						Deduction = 790 × .6048 = -478 $\frac{m}{m}$
» forward						
Tonnage opening aft	1.220	1.224 = diff. .384			1.224	
» forward	.380	.285			.285	
Total	55.125	52.552			52.402	

SHEER CORRECTION.

Station	Standard Ordinate $\frac{m}{m}$	S M	Product	Actual Ordinate $\frac{m}{m}$	Effective Ordinate	S M	Product	
A.P.	891	1	891	230	480	1	480	Mean actual sheer aft = Deficient Mean standard sheer aft
1/6 L from A.P.	396	4	1584	15	124	4	496	Mean actual sheer forward = Deficient < 50% Mean standard sheer forward
2/6 L	99	2	198	0	0	2	0	Length of enclosed superstructure forward of amidships = Deficient L aft of amidships = Deficient
Amidships	0	4	0	0	0	4	0	
2/6 L from F.P.	198	2	396	0	0	2	0	
1/6 L	792	4	3168	2	2	4	8	
F.P.	1782	1	1782	260	260	1	260	
Total			8019				1224	

Correction = $\frac{\text{Difference between sums of products}}{18} \left(.75 - \frac{S}{2L} \right) = \frac{8019-1224}{18} \left(.75 - \frac{.7208}{2} \right) = +147 $\frac{m}{m}$$
If limited on account of midship superstructure. If limited to maximum allowance of 1 1/2 ins. per 100 ft.

Deduction for Tropical Freeboard.
Addition for Winter and Winter North Atlantic Freeboard.

R.Q.
Depth to Freeboard Deck = **7.607**
Summer freeboard = **1.983**
Moulded draught (d) = **5.624**

Deduction for Tropical freeboard and addition for Winter freeboard = $\frac{d}{48} = \frac{5.624}{48} = 117 $\frac{m}{m}$$
Addition for Winter North Atlantic Freeboard (if required) = **51 + 117 = 168 $\frac{m}{m}$**

Deduction for Fresh Water.

Displacement in salt water at summer load water line
 $\Delta = 4325 \text{ tons}$
Tons per inch immersion at summer load water line
 $T = 21.46$
Deduction = $\frac{\Delta}{40 T} = \frac{4325}{40 \times 21.46} = 5.04" = 128 $\frac{m}{m}$$

TABULAR FREEBOARD corrected for Flush Deck (if required)

Correction for coefficient $\frac{.7875 + .68}{1.36} \times 825 = 890$

	+	-	
Depth Correction	208	-	825 890 15.5.43
Deduction for superstructures	-	478	
Sheer correction	147	-	
Round of Beam correction	-	1	
Correction for Thickness of Deck amidships	-	-	
Other corrections, scantlings, etc.	1217	-	
	1572	479	1093
Summer Freeboard =	1983		

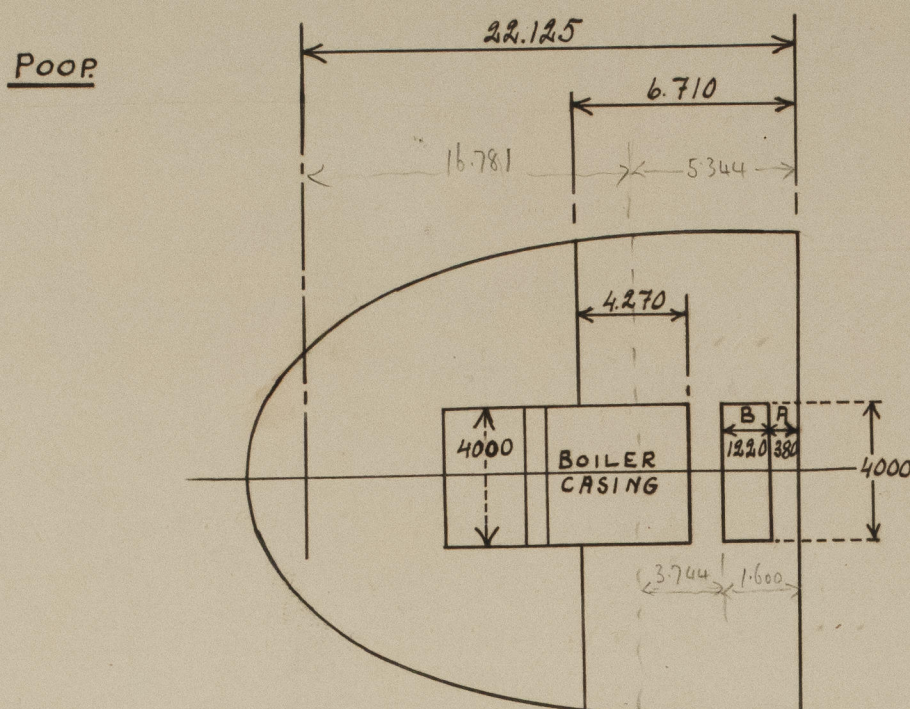
SUMMER FREEBOARD amidships from Centre of Disc to top of Deck Line, ~~Wood, Steel, Deck~~ — **1983**

Tropical Fresh Water Line above Centre of Disc **245 $\frac{m}{m}$**
Fresh Water Line **128**
Tropical Line **117**
Winter Line below **117**
Winter North Atlantic Line **168**

Tropical Fresh Water Freeboard **1738 $\frac{m}{m}$**
Fresh Water **1855**
Tropical **1866**
Winter **2100**
Winter North Atlantic **2151**

Rudolf.

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.



Sheer of Upper Dk. at Poop Front = 0.
 Height of Poop deck at Poop Front = 2.180.
 Height of Poop deck above Upper Deck:-
 At A.P. = 2.660 m.
 At 1/6 L. from A.P. = 2.304 m.
 Virtual Sheer at A.P. = 2.660 - 2.180 = 480 m.
 Virtual Sheer at 1/6 L. A = 2.304 - 2.180 = 124 m.

TOTAL LENGTH OF POOP = 22.125
 POOP FRONT TO ACCOM. BHD = 6.710
 15.415
 EQUIV. LENGTH OF BOIL. CAS $(\frac{4.270 \times 4.000}{12.500}) = + 1.366$
 EQUIV. POOP ENCLOSED = 16.781
 22.125

LENGTH FROM POOP FRONT TO EQUIV. BHD. = 5.344
 " " " " " OPENING (A) = .380
 " OF TONNAGE OPENING (B) = 1.220
 1.600
 5.344
 EQUIVALENT POOP OVERHANG (C) = 3.744
 75% (A) $.75 \times .380 = .285$
 50% (C) $.50 \times 3.744 = 1.872$
 2.157

$$\frac{B-b}{B} [(A+B+C) - (.75A + .50C)] = \frac{12.500 - 7.700}{12.500} [5.344 - 2.157] = 1.224.$$

Displacements in salt water incl. shell plating.

75% of moulded depth = 3602 tons.
 85% " " " = 4149 "
 95% " " " = 4696 "

Tons per inch immersion in salt water

75% of moulded depth = 20.9
 85% " " " = 21.3
 95% " " " = 21.8

Trade of ship

Names of sister ships

None.

Builder's name and yard number

A. B. Lindholmens Varv, Gothenburg, Yard No. 973.

Owners

Rederi A. B. Dofrost (G. Karlberg, Mgr), Gothenburg.

Fee £



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Foundation