

# Lloyd's Register of Shipping.

## SURVEYS FOR FREEBOARD.

(COMPUTATION FOR ~~STEAMER, SAILING SHIP, TANKER.~~) 28 JAN 1952

Ship's Name <b>M.V. "GRONLAND."</b> <b>DEUTSCHE WERFT A.G.</b> <b>(YARD N° 635.)</b>	Official Number	Nationality and Port of Registry <b>DANISH.</b> <b>COPENHAGEN</b>	Gross Tonnage <b>11385.</b>	Date of Build <b>1952</b>	Port of Survey <b>HAMBURG</b>
Moulded Dimensions: Length <b>511'-0"</b> Breadth <b>68'-0"</b> Depth <b>39'-0"</b> <b>TO CR. RUDDER STOCK.</b>					Date of Survey <b>WHILST BUILDING</b>
Moulded displacement at moulded draught = 85 per cent. of moulded depth (ie $33'-1\frac{5}{8}"$ ) = <b>24,199 tons</b>					Surveyor's Signature <b>E. Hume</b>
Coefficient of fineness for use with Tables <b>.74</b>					Particulars of Classification <b>100 A.1</b> <b>CARRYING PETROLEUM IN BULK.</b>

DEPTH FOR FREEBOARD (D).  
Moulded depth **39.00'** ... = ... **39.00'**  
Stringer plate **(21mm) .07'** ... = ... **.07'**  
Sheathing on exposed deck  
 $T \left( \frac{L-S}{L} \right) = \text{NIL}$   
Depth for Freeboard (D) = **39.07'**

DEPTH CORRECTION.  
(a) Where D is greater than Table depth  
(D - Table depth) R = **(39.07 - 34.07) 3 = +15.00"**  
(b) Where D is less than Table depth (if allowed)  
(Table depth - D) R = **3.00**  
If restricted by superstructures ✓

ROUND OF BEAM CORRECTION.  
Moulded Breadth (B) **68.00'**  
Standard Round of Beam =  $\frac{B \times 12}{50} = \mathbf{16.32"}$   
Ship's Round of Beam = **14 $\frac{3}{8}"$**   
Difference = **-1.94"**  
Restricted to ✓  
Correction =  $\frac{\text{Diff}}{4} \times \left(1 - \frac{S_1}{L}\right) = \frac{1.94}{4} \times \frac{523}{4} = \mathbf{+.25"}$

## DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S <sub>1</sub> )	Height	Height Correction	Effective Length (E)
Poop enclosed	116.26	116.26	8.0	-	116.26
" overhang (SEE SPECIM)	.42	.21	"	-	.21
R.Q.D. enclosed					
" overhang					
Bridge enclosed	36.44	36.44	8.0	-	36.44
" overhang aft 2.5 FT.					
" overhang forward NIL					
F'cle enclosed	55.33	55.33	7.50	-	55.33
" overhang					
Trunk aft		35.48	8.0	-	35.48
" forward					
Tonnage opening aft					
" " forward					
Total	208.45	243.72			243.72

Standard Height of Superstructure **7.50'**  
" " R.Q.D. **-**  
Deduction for complete superstructure **42.00"**  
Percentage covered  $\frac{S}{L} = \mathbf{40.80\%}$   
" "  $\frac{S_1}{L} = \mathbf{47.70\%}$   
Percentage from Table, Line **A. TANKER**, **38.70%**  
(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 =  $42.00 \times 38.70 = \mathbf{-16.25"}$

## SHEER CORRECTION.

Station	Standard Ordinate	S M	Product	Actual Ordinate	Effective Ordinate	S M	Product
A.P. ...	61.10	1	61.10	44.88	44.88	1	44.88
$\frac{1}{4}$ L from A.P. ...	27.19	4	108.76	3.00	3.00	4	12.00
$\frac{3}{4}$ L " ...	6.72	2	13.44	-	0	2	0
Amidships ...	-	4	-	-	-	4	-
$\frac{3}{4}$ L from F.P. ...	13.44	2	26.88	-	0	2	0
$\frac{1}{4}$ L " ...	54.38	4	217.52	12.00	12.00	4	48.00
F.P. ...	22.20	1	22.20	93.75	93.75	1	93.75
Total ...			549.90				198.63

Correction =  $\frac{\text{Difference between sums of products}}{18} = \frac{351.27}{18} = \mathbf{+19.52"$   
If limited on account of midship superstructure. ✓

Mean actual sheer aft = **Deficient**  
Mean standard sheer aft =

Mean actual sheer forward = **Deficient**  
Mean standard sheer forward =

Length of enclosed superstructure forward of amidships =

" " aft of " =

**Deficient Sheers.**

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

Depth to Freeboard Deck = **39.07'**  
Summer freeboard = **8.79'**  
Moulded draught (d) = **30.28'**

Deduction for Tropical freeboard and addition for Winter freeboard =  $\frac{d}{4}$  inches = **7.57" = 196.4**

Addition for Winter North Atlantic Freeboard (if required) = **7.57" = 12.68" = 320.4**

Deduction for Fresh Water.

EXT. Displacement in salt water at summer load water line **22460**  
 $\Delta = \mathbf{22,460 TONS}$   
Tons per inch immersion at summer load water line  
T = **69.75.**

Deduction =  $\frac{\Delta}{40 T}$  inches  
= **8.05"**

= **205**

TABULAR FREEBOARD corrected for Flush Deck (if required)

Correction for coefficient

Depth Correction

Deduction for superstructures

Sheer correction

Round of Beam correction

Correction for Thickness of Deck amidships

Other corrections, scantlings, etc. to correspond

To a summer moulded draught of **30.28'**

**90.03**

**94.00**

**15.00**

**16.25**

**10.65**

**.25**

**1.85**

**27.75**

**16.25**

**+ 11.50**

**Summer Freeboard = 105.56**

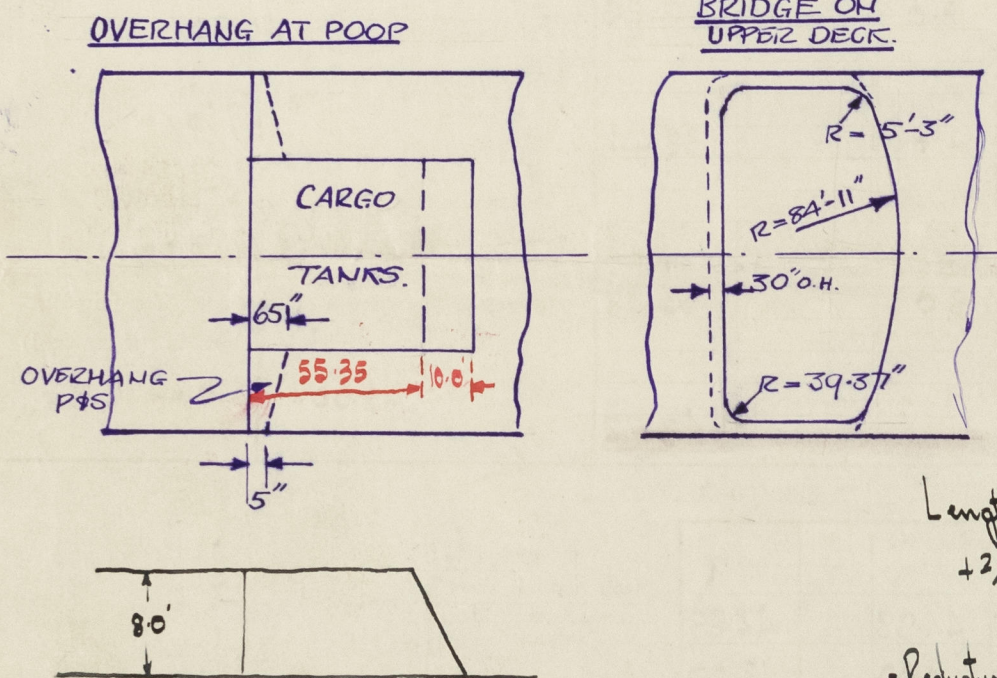
SUMMER FREEBOARD amidships from Centre of Disc to top of Deck Line, Wood, Steel, Deck :-

Tropical Fresh Water Line above Centre of Disc **395**  
Fresh Water Line " " **205**  
Tropical Line " " **198**  
Winter Line below " " **198**  
Winter North Atlantic Line " " **320**

Tropical Fresh Water Freeboard **2285**  
Fresh Water " " **2475**  
Tropical " " **2490**  
Winter " " **2879**  
Winter North Atlantic " " **3000**



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.



$$\begin{aligned} \text{Area} &= 6.56^2 - \frac{(\pi \times 3.28^2)}{2} \\ &= \frac{(43.035 - 33.90)}{2} = \frac{9.235}{2} = 4.618 \end{aligned}$$

$$\frac{4.618}{66.0} = .071 \quad \checkmark$$

$$\frac{11.83}{66.00} = .18'$$

Length of Bridge at side = 31.92

$$+ \frac{2}{3} \times 8.80 = 5.87$$

37-79 ✓

- Reduction for rounded corners.

$$37.54 \times \frac{66}{68} = 36.44 \checkmark$$

$$\begin{aligned} \text{Length of Tank } 8'0'' \text{ high} &= 55.35 \\ - \text{Pool Deck O/H} &= \underline{21} \\ &55.14 \\ + (10 - \frac{10 \times 7.5}{8}) = 10 - 9.37 &= \underline{.63} \\ + 9.37 &= \underline{4.69} \\ &\underline{60.46} \times \frac{39.90}{68} = 35.48 \end{aligned}$$

Trade of ship INTERNATIONAL.

Names of sister ships

Builder's name and yard number DEUTSCHE WERFT A.G. (HAMBURG) - YARD. N° 635.

Owners A/S DET. DANSK-FRANSKE DAMPSKIBSSELSKAB.

Fee £ WILL BE CHARGED ON FIRST ENTRY REPORT.