

Lloyd's Register of Shipping.

SURVEYS FOR FREEBOARD.

*Computation of Freeboard for Steamer, Sailing Ship, Tanker

having _____					Port of Survey _____
(Type of Superstructures.) _____					Date of Survey 14/5/34
Ship's Name Netherlands S.B. Co's Yacht No's 232 & 233	Nationality and Port of Registry	Official Number	Gross Tonnage	Date of Build	Name of Surveyor _____
Moulded Dimensions: Length 102.106 Breadth 17.070 Depth 4.509					Particulars of Classification 7100 A1 carrying petroleum in bulk (Contingent)
Moulded displacement at moulded draught = 85 per cent. of moulded depth _____ tons					
Coefficient of fineness for use with Tables 832					

Depth for Freeboard (D)		Depth correction		Round of Beam correction	
Moulded depth ...	4.509	(a) Where D is greater than Table depth (D-Table depth) R =		Moulded Breadth (B) 17.070	
Stringer plate ...	11	(b) Where D is less than Table depth (if allowed) (Table depth-D) R =	833 (6.807-4.520) * 25.78 = -491	Standard Round of Beam = $\frac{B \times 42}{50} = 341$	
Sheathing on exposed deck $T \left(\frac{L-S}{L} \right) =$	✓	If restricted by superstructures		Ship's Round of Beam = 357	
Depth for Freeboard (D) =	4.520			Difference 16	
				Restricted to ✓	
				Correction = $\frac{\text{Diff}^2}{4} \times \left(1 - \frac{S_1}{L}\right) = \frac{16^2}{4} \times 2342 = -1$	

DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S ₁)	Height	Height Correction	Effective Length (E)
Poop enclosed ...	26.412	26.412	2.210	✓	26.412
" overhang ...					
R.Q.D. enclosed ...					
" overhang ...					
Bridge enclosed ...					
" overhang aft ...					
" overhang forward ...					
F'cle enclosed ...	12.008	12.008	2.210	✓	12.008
" overhang ...					
Trunk 63.646		39.775	2.210	✓	39.775
" forward ...					
Tonnage opening aft ...					
" forward ...					
Total ...	38.420	78.195			78.195

Standard Height of Superstructure **2090**" " R.Q.D. **✓**Deduction for complete superstructure **957**Percentage covered $\frac{S}{L} = 37.63$ " " $\frac{S_1}{L} = 76.58$ " " $\frac{E}{L} = 76.58$ Percentage from Table, Line A. **Tanker 7109**

(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 = **957 * 7109 = -680**

SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product
A.P. ...	1105	1	1105	450	450	1	450		
$\frac{1}{8}L$ from A.P. ...	491	4	1964	-	-	4	-		
$\frac{2}{8}L$ " ...	123	2	246	-	-	2	-		
Amidships ...	-	4	-	-	-	4	-		
$\frac{3}{8}L$ from F.P. ...	245	2	490	-	-	2	-		
$\frac{4}{8}L$ " ...	982	4	3928	125	125	4	500		
F.P. ...	2210	1	2210	1372	1372	1	1372		
Total ...			9943				2322		

Mean actual sheer aft = **Deficient**Mean actual sheer forward = **Deficient**Length of enclosed superstructure forward of amidships = **✓**" " aft of " = **✓**Correction = $\frac{\text{Difference between sums of products}}{18} \left(.75 - \frac{S}{2L} \right) = \frac{7621}{18} (.75 - .1881) = +238$

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 = **4.520** Ft.
Summer freeboard = **430**
Moulded draught (d) = **4.090**

Deduction for Tropical freeboard and addition for

Winter freeboard = $\frac{d}{48} \text{ inches} = 85 \text{ inches} = 9 \text{ cm}$ Addition for Winter North Atlantic Freeboard (if required) = $85 + 84 = 169 = 17 \text{ cm}$

Deduction for Fresh Water.

Displacement in salt water at summer load water line

 $\Delta =$

Tons per inch immersion at summer load water line

T =

Deduction = $\frac{\Delta}{40T}$ inches $d/48 = 9 \text{ cm}$

TABULAR FREEBOARD corrected for Flush Deck (if required)

Correction for coefficient $\frac{832 + .68}{1.36} = \frac{1.512}{1.36}$

	+	-
Depth Correction ...	-	491
Deduction for superstructures ...	-	680
Sheer correction ...	238	-
Round of Beam correction ...	-	-
Correction for Thickness of Deck amidships ...	-	-
Other corrections, scantlings, etc. ...	-	-
	238	1172

Summer Freeboard = **425**SUMMER FREEBOARD amidships from Centre of Disc to top of Deck Line, **Steel, Deck**:-

Tropical Fresh Water Line above Centre of Disc ...	18 cm	Tropical Fresh Water Freeboard ...	25
Fresh Water Line " " ...	9	Fresh Water " " ...	34
Tropical Line " " ...	9	Tropical " " ...	34
Winter Line below " " ...	9	Winter " " ...	52
Winter North Atlantic Line " " ...	17	Winter North Atlantic " " ...	60