

Lloyd's Register of Shipping.

SURVEYS FOR FREEBOARD.

(COMPUTATION FOR STEAMER, SAILING SHIP, TANKER.)

Ship's Name AARDENBURG N.N. DANAE	Official Number	Nationality and Port of Registry Dutch Amsterdam	Gross Tonnage	Date of Build 1923	Port of Survey Amsterdam.
Moulded Dimensions: Length 73.30m Breadth 11.00m Depth 5.35m					Date of Survey 13 Sept, 2 and 10 Oct '46
Moulded displacement at moulded draught = 85 per cent. of moulded depth					Surveyor's Signature
Coefficient of fineness for use with Tables .755					Particulars of Classification 100 A1 class contemplated.

DEPTH FOR FREEBOARD (D). Moulded depth ... 5.35 Stringer plate011 Sheathing on exposed deck $T \left(\frac{L-S}{L} \right) =$ Depth for Freeboard (D) = 5.361	DEPTH CORRECTION. (a) Where D is greater than Table depth $(D - \text{Table depth}) R =$ $8.33(5.361 - 4.887) 18.509 = +73 \text{ cms.}$ 474 (b) Where D is less than Table depth (if allowed) $(\text{Table depth} - D) R =$ If restricted by superstructures	ROUND OF BEAM CORRECTION. Moulded Breadth (B) 11.00m Standard Round of Beam = $\frac{B \times 12}{50} = 220 \text{ m/m}$ Ship's Round of Beam = 220 Difference Restricted to Correction = $\frac{\text{Diff}^2}{4} \times \left(1 - \frac{S_1}{L} \right) = \text{Nil}$
---	---	---

DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S ₁)	Height	Height Correction	Effective Length (E)	
Poop enclosed ...	3.600	3.600	2.380	-	3.600	
„ overhang ...						
R.Q.D. enclosed (equiv) ...	23.041	23.041	1.200	-	23.041	
„ overhang ...						
Bridge enclosed ...	46.659	46.659	2.200	-	46.659	
„ overhang aft ...						
„ overhang forward ...						
Forecastle enclosed ...						
„ overhang ...						
Trunk aft ...						
„ forward ...						
Tonnage opening aft ...						
„ „ forward ...						
Total ...	73.300	73.300			73.300	

Standard Height of Superstructure **1.830m**
 „ „ R.Q.D. **1.200m**
 Deduction for complete superstructure **764 m/m**
 Percentage covered $\frac{S}{L} =$
 $\frac{S_1}{L} =$
 $\frac{E}{L} =$
 Percentage from Table, Line A. **100**
 (corrected for absence of forecastle (if required))
 Percentage from Table, Line B. **100**
 (corrected for absence of forecastle (if required))
 Interpolation for bridge less than .2L (if required)
 Deduction = **764 m/m**

SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product
A.P. ...	865	1		865	550	550	1		550
$\frac{1}{8}L$ from A.P. ...	384	4		1536	95	95	4		380
$\frac{2}{8}L$ „ ...	96	2		192	-80	-80	2		-160
Amidships ...	-	4		-	-	-	4		-
$\frac{3}{8}L$ from F.P. ...	192	2		384	440	192	2		384
$\frac{4}{8}L$ „ ...	768	4		3072	1150	768	4		3072
F.P. ...	1729	1		1729	2090	1729	1		1729
Total ...				7778					5955

Mean actual sheer aft = **L.50**
 Mean standard sheer aft = **L.50**
 Mean actual sheer forward = **>1**
 Mean standard sheer forward = **>1**
 Length of enclosed superstructure forward of amidships = **Sheer**
 $\frac{L}{L} =$ **Deficient**
 Aft of **865** „ **865** „ **550** aft of **650**
 $\frac{384}{3} = 128$ „ $\frac{1152}{3} = 384$ „ $\frac{95}{3} = 31.67$ „ $\frac{288}{3} = 96$
 $\frac{96}{3} = 32$ „ $\frac{288}{3} = 96$ „ $\frac{-80}{3} = -26.67$
 $\frac{2305}{3} = 768.33$ „ $\frac{595}{3} = 198.33$
 Correction = $\frac{\text{Difference between sums of products}}{18} \left(.75 - \frac{S}{2L} \right) = \frac{1823(.75-.50)}{18} = +25 \text{ m/m}$
 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 = Ft. Summer freeboard = _____ Moulded draught (d) = _____ Deduction for Tropical freeboard and addition for Winter freeboard = $\frac{d}{4}$ inches = _____ Addition for Winter North Atlantic Freeboard (if required) = _____	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 = $\frac{\Delta}{40 T}$ inches = _____	TABULAR FREEBOARD corrected for Fresh Deck (if required) Correction for coefficient .755 + .61 = 1.435 / 1.36 <table border="1"> <tr> <th></th> <th>+</th> <th>-</th> </tr> <tr> <td>Depth Correction</td> <td>73</td> <td>-</td> </tr> <tr> <td>Deduction for superstructures</td> <td>-</td> <td>764</td> </tr> <tr> <td>Sheer correction</td> <td>25</td> <td>-</td> </tr> <tr> <td>Round of Beam correction</td> <td>-</td> <td>-</td> </tr> <tr> <td>Correction for Thickness of Deck amidships</td> <td>-</td> <td>-</td> </tr> <tr> <td>Other corrections, scantlings, etc.</td> <td>-</td> <td>-</td> </tr> <tr> <td></td> <td>98</td> <td>764</td> </tr> </table> Summer Freeboard = 152		+	-	Depth Correction	73	-	Deduction for superstructures	-	764	Sheer correction	25	-	Round of Beam correction	-	-	Correction for Thickness of Deck amidships	-	-	Other corrections, scantlings, etc.	-	-		98	764
	+	-																								
Depth Correction	73	-																								
Deduction for superstructures	-	764																								
Sheer correction	25	-																								
Round of Beam correction	-	-																								
Correction for Thickness of Deck amidships	-	-																								
Other corrections, scantlings, etc.	-	-																								
	98	764																								

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

Freeboards assigned by the Dutch Authorities under the 1906 Rules being more favourable to the ship have been assigned	Tropical Fresh Water Line above Centre of Disc ... 15 cms Fresh Water Line „ „ ... 12 „ Tropical Line „ „ ... 3 „ Winter Line below „ „ ... 11 „ Winter North Atlantic Line „ „ ... 16 „	Tropical Fresh Water Freeboard MINUS 7 cms. Fresh Water „ MINUS 4 cms. Tropical „ 5 cms Winter „ 1.9 „ Winter North Atlantic „ 2.4 „
--	---	---