

AMENDED

Lloyd's Register of Shipping.

SURVEYS FOR FREEBOARD.

(COMPUTATION FOR STEAMER, SAILING SHIP, TANKER.)

Index No. 4194
(For London Office use.)

Ship's Name COLUMBIA EX KATOOMBA	Official Number	Nationality and Port of Registry PANAMAN PANAMA	Gross Tonnage 9424	Date of Build 1913	Port of Survey
Moulded Dimensions: Length 449.70 Breadth 60.00 Depth 37.75 ✓					Date of Survey 3-2-50
Moulded displacement at moulded draught = 85 per cent. of moulded depth 17360 tons					Surveyor's Signature PT
Coefficient of fineness for use with Tables -702					Particulars of Classification * 100 A1 AWNING DECK (WITH FREEBOARD)

DEPTH FOR FREEBOARD (D).

Moulded depth **37.75**

Stringer plate **.04**

Sheathing on exposed deck

$T \left(\frac{L-S}{L} \right) = .21 \times .4251 = .09$

Depth for Freeboard (D) = **37.88**

DEPTH CORRECTION.

(a) Where D is greater than Table depth (D-Table depth) R = **(37.88 - 29.98) 3 = + 23.70" ✓**

(b) Where D is less than Table depth (if allowed) (Table depth-D) R = **7.90 ✓**

If restricted by superstructures **✓**

ROUND OF BEAM CORRECTION.

Moulded Breadth (B) **60.00**

Standard Round of Beam = $\frac{B \times 12}{50} = \frac{720}{50} = 14.40$

Ship's Round of Beam = **4.00**

Difference **10.40**

Restricted to

Correction = $\frac{\text{Diff}^c}{4} \times \left(1 - \frac{S}{L} \right) = \frac{10.40}{4} \times .5755 = +1.50$

DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S ₁)	Height	Height Correction	Effective Length (E)
Poop enclosed					
" overhang					
R.Q.D. enclosed					
" overhang					
Bridge enclosed OPEN ...	175.25	121.42	8.30	✓	131.42
" overhang aft					
" overhang forward ...					
Fore enclosed OPEN ...	83.30	59.46	8.30	✓	59.46
" overhang					
Trunk aft					
" forward					
Tonnage opening aft ...					
" " forward ...					
Total	258.55	190.88			190.88

Standard Height of Superstructure **7.5'**

" " R.Q.D. **42"**

Deduction for complete superstructure **42"**

Percentage covered $\frac{S}{L} = 57.49$

" " $\frac{S_1}{L} = 42.45$

" " $\frac{E}{L} =$

percentage from Table, Line A. (corrected for absence of forecastle (if required)) **✓**

Percentage from Table, Line B. **29.58**

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

Interpolation for bridge less than .2L (if required) **✓**

Deduction = **42 x .2958 = - 12.42" ✓**

SHEER CORRECTION.

Station	Standard Ordinate	S M	Product	Actual Ordinate	Effective Ordinate	S M	Product
A.P.	54.97	1	54.97	28.00	28.00	1	28.00
$\frac{1}{2}$ L from A.P. ...	24.46	4	97.84	4.50	4.50	4	18.00
$\frac{3}{4}$ L " ...	6.05	2	12.10	-3.50	-3.50	2	-7.00
Amidships	-	4	-	-	-	4	-
$\frac{1}{2}$ L from F.P. ...	12.09	2	24.18	14.50	14.50	2	29.00
$\frac{3}{4}$ L " ...	48.92	4	195.68	42.00	42.00	4	168.00
F.P.	109.94	1	109.94	93.00	93.00	1	93.00
Total			494.71				329.00

Mean actual sheer aft =

Mean standard sheer aft = } **DEFICIENT**

Mean actual sheer forward =

Mean standard sheer forward =

Length of enclosed superstructure forward of amidships = } **DEFICIENT SHEER**

" " aft of " =

Correction = $\frac{\text{Difference between sums of products}}{18} \left(\frac{.75 - \frac{S}{2L}}{.75} \right) = \frac{165.71}{18} \times (.75 - .2874) = +4.26$

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 = **37.96**

Summer freeboard = **14.46**

Moulded draught (d) = **23.50**

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

$\frac{d}{4} = 5.875$

= **149 mm ✓**

TABULAR FREEBOARD corrected for Flush Deck (if required)

Correction for coefficient

	+	-
Depth Correction	23.70	-
Deduction for superstructures ...	-	12.42
Sheer correction	4.26	-
Round of Beam correction	1.50	-
Correction for Thickness of Deck amidships96	-
Other corrections, scantlings, etc. CORRESPONDING TO ALL SEASONS SUBDIVISION DRAUGHT OF 23.50'	67.07	-
	97.49	12.42

Summer Freeboard = **173.50**

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

Tropical Fresh Water Line above Centre of Disc	149 mm
Fresh Water Line " "	149 mm
Tropical Line " "	NIL
Winter Line below " "	NIL
Winter North Atlantic Line " "	NOT ASSIGNED

Tropical Fresh Water Freeboard	14' 5 1/2" = 4407 mm
Fresh Water " "	4258 "
Tropical " "	4258 "
Winter " "	4407 "
Winter North Atlantic " "	4407 "

"Columbia"

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.

Sheers forward

std	actual		std	actual	
-	-	1	-	-	
12.09	14.50	3	36.27	43.50	
48.92	42.00	3	146.76	126.00	$\frac{262.50}{292.97} = .8961$
109.94	93.00	1	109.94	93.00	
			<u>292.97</u>	<u>262.50</u>	

Forecastle :-

83.30

$$\begin{array}{rcl}
 \% & 44.97 & \times .8961 & 40.30 \\
 & 38.33 & \times .5 & 19.16 \\
 & & \hline
 & & 51 & = 59.46
 \end{array}$$

Trade of ship INTERNATIONAL PASSENGER & CARGO

Names of sister ships ✓

Builder's name and yard number HARLAND & WOLFF LTD 437

Owners CIA MARITIMA DEL ESTE S.A.

Fee £



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Foundation