

Computation to investigate freeboard assigned
by Spanish Authorities
Lloyd's Register of Shipping.
SURVEYS FOR FREEBOARD.
(COMPUTATION FOR STEAMER, ~~SAILING SHIP~~, TANKER.)

Index. No. _____
(For London Office only).

Ship's Name <i>Cabo Huertas now sailing as Tausend</i>	Official Number	Nationality and Port of Registry <i>Spanish Seville</i>	Gross Tonnage <i>2776</i>	Date of Build <i>1922</i>	Port of Survey
Moulded Dimensions: Length <i>85.35</i> ✓ Breadth <i>12.75</i> ✓ Depth <i>8.15</i> ✓					Date of Survey <i>17.5.38</i>
Moulded displacement at moulded draught = 85 per cent. of moulded depth _____ tons					Surveyor's Signature
Coefficient of fineness for use with Tables <i>.80</i>					Particulars of Classification <i>+100 A1 awning deck with freeboard</i>

Depth for Freeboard (D).	Depth correction.	Round of Beam correction.
Moulded depth ... <i>8.150</i> ✓	(a) Where D is greater than Table depth (D - Table depth) R = <i>8.33 (8.163 - 5.690) 21.55 = + 4444 $\frac{1}{100}$ m</i> ✓	Moulded Breadth (B) <i>12.75</i> ✓
Stringer plate ... <i>.013</i> ✓	(b) Where D is less than Table depth (if allowed) (Table depth - D) R = <i>2.473</i> ✓	Standard Round of Beam = $\frac{B \times 12}{50} = 255 \frac{1}{100}$ m ✓
Sheathing on exposed deck $T \left(\frac{L-S}{L} \right) =$	If restricted by superstructures	Ship's Round of Beam = <i>265</i> ✓
Depth for Freeboard (D) = <i>8.163</i> ✓		Difference <i>10 excess</i> ✓
		Restricted to
		Correction = $\frac{\text{Diff}^{\circ}}{4} \times \left(1 - \frac{S_1}{L} \right) = \frac{10}{4} \times .5867 = -1 \frac{1}{100}$ m ✓

DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S ₁)	Height	Height Correction	Effective Length (E)	
Poop enclosed ...	<i>6.735</i> ✓	<i>6.735</i> ✓	<i>2.399</i> ✓		<i>6.735</i> ✓	Standard Height of Superstructure <i>1922 $\frac{1}{100}$ m</i> ✓
„ overhang ...						„ „ R.Q.D. ✓
R.Q.D. enclosed ...						Deduction for complete superstructure <i>864 $\frac{1}{100}$ m</i> ✓
„ overhang ...						Percentage covered $\frac{S}{L} = 41.45$ ✓
Bridge enclosed ...	<i>20.822</i> ✓	<i>20.822</i> ✓	<i>2.399</i> ✓		<i>20.822</i> ✓	„ „ $\frac{S_1}{L} = 41.33$ ✓
„ overhang aft ...						„ „ $\frac{E}{L} = 41.33$ ✓
„ overhang forward						Percentage from Table, Line A. (corrected for absence of forecastle (if required))
Fore enclosed <i>5.519</i> ✓	<i>7.519</i> ✓	<i>7.519</i> ✓	<i>2.408</i> ✓		<i>7.519</i> ✓	Percentage from Table, Line B. <i>28.63</i> ✓
„ overhang ...	<i>.301</i> ✓	<i>.199</i> ✓			<i>.199</i> ✓	(corrected for absence of forecastle (if required))
Trunk aft ...						Interpolation for bridge less than 2L (if required) ✓
„ forward ...						Deduction = <i>864 x .2863 = 247 $\frac{1}{100}$ m</i> ✓
Tonnage opening aft ...						
„ „ forward						
Total ...	<i>35.377</i> ✓	<i>35.275</i> ✓			<i>35.275</i> ✓	

SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product	
A.P. ...	<i>965</i> ✓	1		<i>965</i> ✓	<i>785</i> ✓	<i>785</i> ✓	1		<i>785</i> ✓	Mean actual sheer aft = <i>Deficient</i>
1/4 L from A.P. ...	<i>429</i> ✓	4		<i>1716</i> ✓	<i>248</i> ✓	<i>248</i> ✓	4		<i>992</i> ✓	Mean actual sheer forward = <i>Deficient 66.07% of standard</i>
1/2 L „ ...	<i>107</i> ✓	2		<i>214</i> ✓	<i>32</i> ✓	<i>32</i> ✓	2		<i>64</i> ✓	Mean standard sheer forward
Amidships ...		4					4			Length of enclosed superstructure forward of amidships =
3/4 L from F.P. ...	<i>214</i> ✓	2		<i>428</i> ✓	<i>140</i> ✓	<i>140</i> ✓	2		<i>280</i> ✓	Standard aft Actual = } <i>Deficient Sheer</i>
1/4 L „ ...	<i>858</i> ✓	4		<i>3432</i> ✓	<i>565</i> ✓	<i>565</i> ✓	4		<i>2260</i> ✓	<i>214 3 642 140 3 420</i>
F.P. ...	<i>1930</i> ✓	1		<i>1930</i> ✓	<i>1285</i> ✓	<i>1285</i> ✓	1		<i>1285</i> ✓	<i>858 3 2574 565 3 1695</i>
Total ...				<i>8685</i> ✓					<i>5666</i> ✓	<i>1930 1 1930 1285 1 1285</i>
Correction = $\frac{\text{Difference between sums of products}}{18} \left(.75 - \frac{S}{2L} \right) = \frac{3019}{18} \left(.75 - \frac{2073}{5427} \right) = + 91 \frac{1}{100}$ m ✓										<i>5146 3400 66.07%</i>
If limited on account of midship superstructure.										If limited to maximum allowance of 1 1/2 ins. per 100 ft.

Deduction for Tropical Freeboard.	Deduction for Fresh Water.	TABULAR FREEBOARD corrected for Flush Deck (if required)	<i>985</i> ✓
Addition for Winter and Winter North Atlantic Freeboard.	Displacement in salt water at summer load water line	Correction for coefficient $\frac{.80 + .68}{1.36} \frac{1.48}{1.36}$	<i>1072</i> ✓
Depth to Freeboard Deck = <i>8.163</i> ✓	$\Delta =$	Depth Correction ... <i>444</i> ✓	
Summer freeboard = <i>1.359</i> ✓	Tons per inch immersion at summer load water line	Deduction for superstructures ... <i>247</i> ✓	
Moulded draught (d) = <i>6.804</i> ✓	T =	Sheer correction ... <i>91</i> ✓	
Deduction for Tropical freeboard and addition for Winter freeboard = $\frac{d}{48} \frac{1}{100}$ m = <i>142 $\frac{1}{100}$ m</i> ✓	Deduction = $\frac{\Delta}{40 T}$ inches	Round of Beam correction ... <i>1</i> ✓	
Addition for Winter North Atlantic Freeboard (if required) = <i>192 $\frac{1}{100}$ m</i>	$\frac{d}{48} = 142 \frac{1}{100}$ m ✓	Correction for Thickness of Deck amidships ...	
		Other corrections, scantlings, etc. ...	
		535 248 + 287 ✓	
		Summer Freeboard = <i>1359</i> ✓	

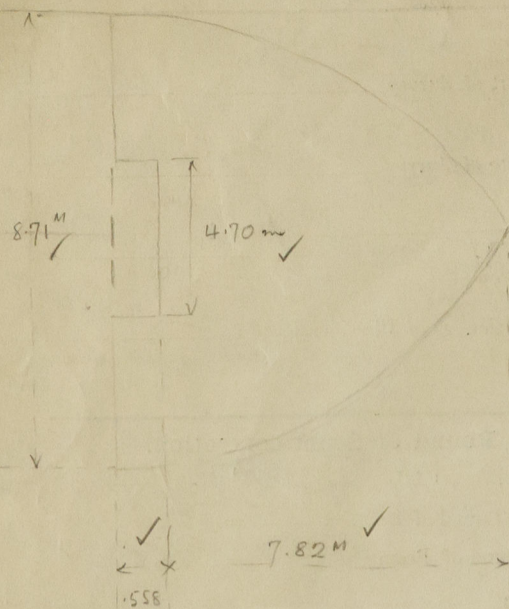
SUMMER FREEBOARD amidships from Centre of Disc to top of Deck Line, ~~Wood~~, Steel, Deck:

Tropical Fresh Water Line above Centre of Disc ...	...
Fresh Water Line „ „ ...	...
Tropical Line „ „ ...	...
Winter Line below „ „ ...	...
Winter North Atlantic Line „ „ ...	...

Tropical Fresh Water Freeboard ...	...
Fresh Water „ „ ...	...
Tropical „ „ ...	...
Winter „ „ ...	...
Winter North Atlantic „ „ ...	...

20 MAY 1938

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.



$$\frac{4.70 \times .558}{8.71} = \frac{7.82}{7.519}$$

Overhang 301

Trade of ship

Names of sister ships

Builder's name and yard number

Owners

Fee £



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Foundation