

EQUIVALENT DEPTH.

Rpt. C.11 (Comp.)

For LONDON OFFICE ONLY

LLOYD'S REGISTER OF SHIPPING  
SURVEYS FOR FREEBOARD  
(COMPUTATION FOR STEAMER, ~~SAILING SHIP, TANKER~~)

Received .....  
Index No. ....  
Govt. Copy .....  
Owners C11 .....

Ship's Name <b>BERNA</b>	Official Number	Nationality and Port of Registry	Gross Tonnage	Date of Build	Port of Survey
Moulded Dimensions: Length ..... Breadth ..... Depth .....					Date of Survey <b>17-5-57</b>
Freeboard Length <b>425.54</b>					Surveyor's Signature
Moulded displacement at moulded draught = 85 per cent. of moulded depth (excluding bossing) ..... tons					Particulars of Classification <b>7100 A1 with freeboard</b>
Coefficient of fineness for use with Tables <b>.68</b>					

<b>DEPTH FOR FREEBOARD (D).</b>	<b>DEPTH CORRECTION.</b>	<b>ROUND OF BEAM CORRECTION.</b>
Moulded depth ... ..	(a) Where D is greater than Table depth (D-Table depth) R = <b>3</b>	Moulded Breadth (B)
Stringer plate ... ..	(b) Where D is less than Table depth (if allowed) (Table depth-D) R =	Standard Round of Beam = $\frac{B \times 12}{50} =$
Wood Sheathing on exposed deck	If restricted by superstructures	Ship's Round of Beam = <b>Standard</b>
$T \left( \frac{L-S}{L} \right) =$		Difference
Depth for Freeboard (D) = <b>28.37</b>		Restricted to
		Correction = $\frac{\text{Diff}^2}{4} \times \left( 1 - \frac{S_1}{L} \right) =$ <b>nil.</b>

DEDUCTION FOR SUPERSTRUCTURES.

Mean Covered Length (S)	Equivalent Enclosed Length (S <sub>1</sub> )	Height	Height Correction	Effective Length (E)
Poop enclosed				
" overhang				
R.Q.D. enclosed				
" overhang				
Bridge enclosed				
" overhang aft				
" overhang forward				
F'ele enclosed				
" overhang				
Trunk aft				
" forward				
Tonnage opening aft				
" " forward				
Total				

Standard Height of Superstructure **7.5**  
R.Q.D. ....  
Deduction for complete superstructure **42.00**  
Percentage covered  $\frac{S}{L} =$   
" "  $\frac{S_1}{L} =$  } **100%**  
" "  $\frac{E}{L} =$   
Percentage from Table, Line A. (corrected for absence of fore-castle (if required))  
Percentage from Table, Line B. (corrected for absence of fore-castle (if required))  
Interpolation for bridge less than -2L (if required)  
Deduction = **- 42.00"**

SHEER CORRECTION.

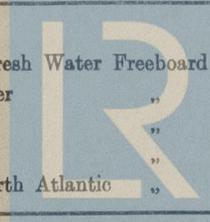
Station	Standard Ordinate	S	Product	Actual Ordinate	Effective Ordinate	S	Product
A.P.		1		<b>+6"</b>		1	
$\frac{1}{4}L$ from A.P.		4				4	
$\frac{2}{4}L$ ..		2				2	
Amidships	○	4	○	○	○	4	○
$\frac{2}{4}L$ from F.P.		2				2	
$\frac{1}{4}L$ ..		4				4	
F.P.		1		<b>+6"</b>		1	
Total							

Mean actual sheer aft =  
Mean standard sheer aft =  
Mean actual sheer forward =  
Mean standard sheer forward =  
Length of enclosed superstructure forward of amidships =  
" " aft of " =  
Correction =  $\frac{\text{Difference between sums of products}}{18} \left( .75 - \frac{S}{2L} \right) =$  **-.50"**  
If limited on account of midship superstructure. If limited to maximum allowance of  $1\frac{1}{2}$  ins. per 100ft.

<b>Deduction for Tropical Freeboard.</b>	<b>Deduction for Fresh Water.</b>	<b>TABULAR FREEBOARD corrected for Flush Deck (if required)</b>	<b>79.52</b>
<b>Addition for Winter and Winter North Atlantic Freeboard.</b>	Displacement in salt water at summer load water line	Correction for coefficient <b>nil</b>	<b>79.52</b>
Depth to Freeboard Deck = <b>28.37</b>	$\Delta =$	Depth Correction	
Summer freeboard = <b>3.08</b>	Tons per inch immersion at summer load water line	Deduction for superstructures	<b>42.00</b>
Moulded draught (d) = <b>25.29</b>	T =	Sheer correction	<b>.50</b>
Keel allowance =	Deduction = $\frac{\Delta}{40 T}$ inches	Round of Beam correction	
Extreme draught =		Correction for Thickness of Deck amidships	
Deduction for Tropical freeboard and addition for =		Other corrections, scantlings, etc.	
Winter freeboard = $\frac{d}{4}$ inches =			<b>- 42.50 - 42.50</b>
Addition for Winter North Atlantic Freeboard (if required) =			<b>Summer Freeboard = 37.02</b>

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

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



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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.

$$\text{Standard draught} = 25.29$$

$$\text{Draught required} = \underline{25.61}$$

$$+ .32$$

$$\text{Increase in } D = .32 \times \frac{12}{12-3} = .43 \text{ ft.}$$

$$\text{Equivalent Depth} = 28.37 + .43 = 28.80 \text{ ft.}$$

$$\text{Actual Depth to Shelter Deck} = 36.75'$$

$$\text{Second Deck} = \del{28.80} ' 27.75'$$

$$\text{Virtual Superstructure Deck} = 28.80 + 7.5 = \underline{36.30 \text{ ft.}}$$

∴ Shelter Deck may be treated as a Superstructure Deck

Trade of ship .....

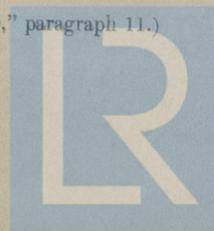
Names of sister ships .....

Builder's name and yard number .....

Owners .....

Fee £ : : .....

List of plans forwarded for reference. (See "Instructions to Surveyors, Part 4, 1950," paragraph 11.)



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