

# LLOYD'S REGISTER OF SHIPPING

UNITED WITH THE BRITISH CORPORATION REGISTER

## SURVEYS FOR FREEBOARD

(COMPUTATION FOR STEAMER, ~~SAILING SHIP~~, TANKER)

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Ship's Name <b>"TEES WOOD."</b>	Official Number <b>169160</b>	Nationality and Port of Registry <b>BRITISH. MIDDLES BROUGH</b>	Gross Tonnage <b>1246</b>	Date of Build <b>1953.</b>	Port of Survey <u>BURNTISLAND. (LEITH)</u>
Moulded Dimensions: Length <u>214'-6"</u> Breadth <u>35'-4"</u> Depth <u>16'-0 1/2"</u> <sup>20'-6 1/2" R.O.D.</sup> Freeboard Length <u>214'-5"</u> <sup>CR. OF RUDDER STOCK</sup>					Date of Survey <u>14th MAY BUILDING</u>
Moulded displacement at moulded draught = 85 per cent. of moulded depth (excluding bossing) <u>2045</u> tons					Surveyor's Signature <u>R. G. Hunter</u>
Coefficient of fineness for use with Tables <u>.694</u>					Particulars of Classification <u>100 A.1.</u>

DEPTH FOR FREEBOARD (D).	DEPTH CORRECTION.	ROUND OF BEAM CORRECTION.
Moulded depth ... .. <u>16'-04"</u>	(a) Where D is greater than Table depth (D-Table depth) R = <u>(16'-08" - 14'-30") 1.65 = + 2.94</u>	Moulded Breadth (B) <u>36'-4"</u> Standard Round of Beam = $\frac{B \times 12}{50} = \frac{36.4 \times 12}{50} = 8.736$ Ship's Round of Beam = <u>8 1/2</u> Difference = <u>+ .02</u>
Stringer plate ... .. <u>84</u>	(b) Where D is less than Table depth (if allowed) (Table depth-D) R = <u>/</u>	Restricted to
Wood Sheathing on exposed deck $T \left( \frac{L-S}{L} \right) =$	If restricted by superstructures <u>/</u>	Correction = $\frac{\text{Diff}^{\circ}}{4} \times \left( 1 - \frac{S_1}{L} \right) = \frac{.02}{4} \times \left( 1 - \frac{.02}{4} \right) = .005$
Depth for Freeboard (D) = <u>16'-08"</u>		

## 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 ... ..	<u>140'-0"</u>	<u>140'-00"</u>	<u>4'-5"</u> <sup>SEE 2-5</sup>		<u>140'-00"</u>
" overhang ... ..					
Bridge enclosed <u>Equival</u> ... ..	<u>12'-59"</u>	<u>12'-59"</u>	<u>7'-5"</u>		<u>12'-59"</u>
" overhang aft ... ..					
" overhang forward ... ..					
F'cle enclosed ... ..	<u>21'-5"</u>	<u>21'-50"</u>	<u>7'-0"</u>		<u>21'-50"</u>
" overhang ... ..	<u>2'-0"</u>				
Trunk aft ... ..					
" forward ... ..					
Tonnage opening aft ... ..					
" " forward ... ..					
Total ... ..	<u>174'-09"</u>	<u>174'-09"</u>			<u>174'-09"</u>

Standard Height of Superstructure <u>6'-0"</u>	
" " R.Q.D. <u>3'-76.3"</u>	
Deduction for complete superstructure <u>27'-45"</u>	
Percentage covered $\frac{S}{L} =$	
" " $\frac{S_1}{L} =$	<u>81.16</u>
" " $\frac{E}{L} =$	
Percentage from Table, Line A. + B	<u>76.74</u>
(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 = <u>27.45</u> × <u>.7674</u> = <u>-21.07</u>	

## SHEER CORRECTION.

Station	Standard Ordinate	S M	Product	Actual Ordinate	Effective Ordinate	S M	Product
A.P. ... ..	<u>31.45</u>	<u>1</u>	<u>31.45</u>	<u>24.0</u>	<u>62.34</u>	<u>1</u>	<u>62.34</u>
1/8 L from A.P. ... ..	<u>13.99</u>	<u>4</u>	<u>55.96</u>	<u>10.625</u>	<u>27.74</u>	<u>4</u>	<u>110.96</u>
3/8 L " ... ..	<u>3.46</u>	<u>2</u>	<u>6.92</u>	<u>2.625</u>	<u>6.86</u>	<u>2</u>	<u>13.72</u>
Amidships ... ..	<u>0</u>	<u>4</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>4</u>	<u>0</u>
5/8 L from F.P. ... ..	<u>6.92</u>	<u>2</u>	<u>13.84</u>	<u>8.625</u>	<u>8.625</u>	<u>2</u>	<u>17.25</u>
7/8 L " ... ..	<u>27.99</u>	<u>4</u>	<u>111.96</u>	<u>34.75</u>	<u>34.75</u>	<u>4</u>	<u>139.00</u>
F.P. ... ..	<u>62.90</u>	<u>1</u>	<u>62.90</u>	<u>78.0</u>	<u>78.00</u>	<u>1</u>	<u>78.00</u>
Total ... ..			<u>283.03</u>				<u>421.27</u>

DRAFT.	FULL Δ	T.P.I.
<u>14.6</u>	<u>2197.</u>	<u>14.6</u>
<u>15.0</u>	<u>2285</u>	<u>14.72</u>
<u>15.6</u>	<u>2374</u>	<u>14.84</u>
<u>16.0</u>	<u>2464</u>	<u>14.96</u>

Mean actual sheer aft =	
Mean standard sheer aft =	
Mean actual sheer forward =	
Mean standard sheer forward =	
Length of enclosed superstructure forward of amidships = <u>&gt; .1L</u>	
" " aft of " = <u>&gt; .1L</u>	

Correction =  $\frac{\text{Difference between sums of products}}{18} \left( \frac{.75 - S}{2L} \right) = \frac{138.24}{18} \left( \frac{.75 - .4058}{2 \times 174.09} \right) = -2.64$   
 If limited on account of midship superstructure. ✓

## Deduction for Tropical Freeboard.

## Addition for Winter and Winter North Atlantic Freeboard.

Depth to Freeboard Deck = <u>20'-58"</u>	
Summer freeboard = <u>4'-92"</u>	
Moulded draught (d) = <u>15'-66"</u>	
Keel allowance = <u>/</u>	
Extreme draught = <u>/</u>	
Deduction for Tropical freeboard and addition for = <u>/</u>	

Winter freeboard =  $\frac{d}{4}$  inches = 3'-92" = 4"

Addition for Winter North Atlantic Freeboard (if required) = 4" + 2" = 6"

## Deduction for Fresh Water.

Displacement in salt water at summer load water line <u>Δ = 2408 TONS</u>	
Tons per inch immersion at summer load water line <u>T = 14.89</u>	
Deduction = $\frac{\Delta}{40 T}$ inches = <u>4.04</u>	
= <u>4"</u>	

## TABULAR FREEBOARD-corrected for Flush Deck (if required)

Correction for coefficient  $\frac{.694 + .68}{1.36} = \frac{1.374}{1.36}$

	+	-
Depth Correction ... ..	<u>2.94</u>	
Deduction for superstructures ... ..		<u>21.07</u>
Sheer correction ... ..		<u>2.64</u>
Round of Beam correction ... ..		
Correction for Thickness of Deck amidships ... ..	<u>54.00</u>	
Other corrections, scantlings, etc. ... ..		

Freeboard = 59'-10"

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

Tropical Fresh Water Line above Centre of Disc ... ..	<u>7"</u>
Fresh Water Line " " ... ..	<u>4"</u>
Tropical Line " " ... ..	<u>3"</u> (LIMITED)
Winter Line below " " ... ..	<u>4"</u>
Winter North Atlantic Line " " ... ..	<u>6"</u>

Tropical Fresh Water Freeboard <u>4'-11"</u>	
Fresh Water " " <u>4'-7"</u>	
Tropical " " <u>4'-8"</u> (LIMITED)	
Winter " " <u>5'-3"</u>	
Winter North Atlantic " " <u>5'-5"</u>	



Teeswood

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.

The following plans are forwarded: for information & return to Leith office.

Midship section

Profile & Deck.

Rudder & Stern frame.

General Arrangement.

Modification to Profile & Decks.

$$\begin{aligned} \text{Drop in R.Q. deck due to tumble home} &= .50'' \checkmark \\ \therefore \text{R.Q. deck height} &= 4'-6'' - \frac{1}{2}'' = 4'-5\frac{1}{2}'' \\ &= 4.458' \checkmark \end{aligned}$$

R. G. Hunter.  
Leith. 5<sup>th</sup> June. 1953.

$$\begin{aligned} \text{Equivalent sheer aft sheer at Poop front} &= 4.5'' \\ \text{add excess R.Q. deck height} &= .695 \times 12 \\ &= 8.34'' \\ 12.84'' &\text{ at } 59.5' \text{ from A.P.} \\ \therefore \text{sheer at A.P.} &= 12.84 \times \frac{107.25^2}{47.75^2} \\ &= 64.78'' \checkmark \end{aligned}$$

$$\begin{aligned} \text{Sheer aft limited to :- difference in R.Q. deck height \& standard} &= 8.34'' \\ \text{" " " " " Poop} &= 30.00'' \\ \text{reported sheer at A.P.} &= 24.00 \\ &= 62.34'' \checkmark \end{aligned}$$

$$\begin{aligned} \text{BRIDGE enclosed at side} &= 11.5' \\ + \frac{2}{3} \times \frac{1.75 \times 32.75}{35} &= \frac{1.09}{12.59} = \text{Equiv. length.} \end{aligned}$$

Trade of ship

General Cargo.

Names of sister ships

Eskwood & Copsewood.

Builder's name and yard number

The Burntisland Ship. & Eng. Co. Ltd. No 359.

Owners

Constantine Shipping Co.

Fee £

To be charged with this Entry.

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



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