

14 MAR 1945

Index No. 37912
(For London Office only.)

Lloyd's Register of Shipping.

SURVEYS FOR FREEBOARD.

(COMPUTATION FOR STEAMER, SAILING SHIP, TANKER.)

Ship's Name FIREBEAM.	Official Number 180563	Nationality and Port of Registry BRITISH. LONDON.	Gross Tonnage +560. APPROX. 1553.73	Date of Build 1945.	Port of Survey ABERDEEN.
Moulded Dimensions: Length 242'-9" Breadth 39'-4" Depth 18'-6" U.D. 22'-6" R.Q.D.					Date of Survey while Building.
Moulded displacement at moulded draught = 85 per cent. of moulded depth 3200 tons					Surveyor's Signature T. Richardson.
Coefficient of fineness for use with Tables .746					Particulars of Classification 100 A.1. WITH FREEBOARD

DEPTH FOR FREEBOARD (D). Moulded depth ... 18'-5" Stringer plate R.Q.D. 5505 Sheathing on exposed deck 8 1/2" on R.Q.D. aft. $T \left(\frac{L-S}{L} \right) =$ Depth for Freeboard (D) = 18'-5"	DEPTH CORRECTION. (a) Where D is greater than Table depth $(D - \text{Table depth}) R = (18'-5" - 16'-18") \times 1.867 = +4'-42"$ 2'-37" (b) Where D is less than Table depth (if allowed) (Table depth - D) R = ✓ If restricted by superstructures -	ROUND OF BEAM CORRECTION. Moulded Breadth (B) 39'-33" Standard Round of Beam = $\frac{B \times 12}{50} =$ 9'-37" Ship's Round of Beam 9'-1" = 9'-50" Difference .13 Restricted to ✓ Correction = $\frac{\text{Diff}^e}{4} \times \left(1 - \frac{S_1}{L} \right) = \frac{.13}{4} \times 22.97 =$.01
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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 ...	148'-58"	4'-0"	-	148'-58"
" overhang ...				
Bridge enclosed ...	15'-75"	7'-0"	-	15'-75"
" overhang aft ...				
" overhang forward ...	22'-66"	6'-0"	-	22'-66"
" overhang ...	24'-5"			
Trunk aft ...				
" forward ...				
Tonnage opening aft ...				
" forward ...				
Total ...	186'-99"			186'-99"

Standard Height of Superstructure **6'-0"**
 " " R.Q.D. **3'-952"**
 Deduction for complete superstructure **30'-27"**
 Percentage covered $\frac{S}{L} =$
 $\frac{S_1}{L} =$ **77.03**
 $\frac{E}{L} =$
 Percentage from Table, Line A. **71.65**
 (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 = **30.27 x 71.65 = - 21.69**

SHEER CORRECTION.							
Station	Standard Ordinate	S M	Product	Actual Ordinate	Effective Ordinate	S M	Product
A.P. ...	34-27	1	34-27	11 1/2"	11-50	1	11-50
1/8 L from A.P. ...	15-25	4	61-00	5"	5-00	4	20-00
3/8 L " ...	3-77	2	7-54	1 1/2"	1-50	2	3-00
Amidships ...	-	4	-	✓	-	4	-
5/8 L from F.P. ...	7-54	2	15-08	4"	4-00	2	8-00
7/8 L " ...	30-50	4	122-00	17 1/2"	17-50	4	70-00
F.P. ...	68-55	1	68-55	40"	40-00	1	40-00
Total ...			308-44				152-50

Mean actual sheer aft =
 Mean standard sheer aft = } **Deficient**
 Mean actual sheer forward =
 Mean standard sheer forward = } **Not applicable**
 Length of enclosed superstructure forward of amidships =
 " " aft of " =

Correction = $\frac{\text{Difference between sums of products}}{18} \left(.75 - \frac{S}{2L} \right) = \frac{155.94}{18} (.75 - .3851) = +3.16$
 If limited on account of midship superstructure. **3.649** If limited to maximum allowance of 1 1/2 ins. per 100 ft. **✓**

Deduction for Tropical Freeboard. Addition for Winter and Winter North Atlantic Freeboard. R.Q. Depth to Freeboard Deck = 22'-5" Summer freeboard = 5'-92" Moulded draught (d) = 16'-62" Deduction for Tropical freeboard and addition for Winter freeboard = $\frac{d}{4}$ inches = 4'-15" = 4'-4" Addition for Winter North Atlantic Freeboard (if required) = 6'-1/4"	Deduction for Fresh Water. Displacement in salt water at summer load water line $\Delta =$ 3447 Tons per inch immersion at summer load water line $T =$ 19.36 Deduction = $\frac{\Delta}{40 T}$ inches = 4'-45" = 4'-2"	TABULAR FREEBOARD corrected for Flush Deck (if required) $\frac{.746 + .68}{1.36} = \frac{1.426}{1.36}$ Correction for coefficient 1.05 Depth Correction ... 4'-42" Deduction for superstructures ... 21'-69" Sheer correction ... 3'-16" Round of Beam correction01 Correction for Thickness of Deck amidships ... 48'-00" Other corrections, scantlings, etc. to ... 4'-77" corrected by summer draught of 16'-7 1/2" Raised Freeboard Summer Freeboard = 71'-00"	30'-85" 32'-35" 5'-11" 5'-2 1/4" 5'-6 1/2" 5'-6 3/4" 6'-3 1/4" 6'-5 1/4" + 38.65 14'-3'-45"
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SUMMER FREEBOARD amidships from Centre of Disc to top of Deck Line, Wood, Steel Deck :-

Tropical Fresh Water Line above Centre of Disc ...	8 3/4"	Tropical Fresh Water Freeboard ...	5'-2 1/4"
Fresh Water Line " " ...	4 1/2"	Fresh Water " " ...	5'-6 1/2"
Tropical Line " " ...	4 1/4"	Tropical " " ...	5'-6 3/4"
Winter Line below " " ...	4 1/4"	Winter " " ...	6'-3 1/4"
Winter North Atlantic Line " " ...	6 1/4"	Winter North Atlantic " " ...	6'-5 1/4"

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.

Direct

Trade of ship

Names of sister ships *Nº. 257. Built by Burntisland S.B. Co.*

Builder's name and yard number *Hall Russell & Co. Ltd. Nº. 785.*

Owners *Gas Light & Coke Co. London.*

Fee £ *11* . *0* . *0* .



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