

# Lloyd's Register of Shipping.

## SURVEYS FOR FREEBOARD.

23014.

Computation of Freeboard for Steamer, Sailing Ship, Tanker

having

Poop, Bridge, Immure

Port of Survey NEWPORT, MON

(Type of Superstructures.)

Ship's Name "ILLINGWORTH" Nationality and Port of Registry British, Newcastle Official Number 145472 Gross Tonnage 6067 Date of Build 1922-1

Moulded Dimensions: Length 429.5 Breadth 55.41 Depth 31.10 1/2  
Moulded displacement at moulded draught = 85 per cent. of moulded depth 14237 tons  
Coefficient of fineness for use with Tables 773

Date of Survey 12<sup>th</sup> Aug 1932

Name of Surveyor

J. Macfarlane

Particulars of Classification

S.S. Arch. No. 2-31

## Depth for Freeboard (D)

Moulded depth ... 31.10 1/2  
Stringer plate ... 0.4  
Sheathing on exposed deck  
 $T \left( \frac{L-S}{L} \right) =$   
Depth for Freeboard (D) = 31.91

## Depth correction

(a) Where D is greater than Table depth  
(D - Table depth) R =  
(31.91 - 28.63) 3 = + 9.84  
(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) 55.41  
Standard Round of Beam =  $\frac{B \times 12}{50} = 13.30$   
Ship's Round of Beam = 14.62  
Difference 1.32  
Restricted to  
Correction =  $\frac{\text{Diff}}{4} \times \left( 1 - \frac{S_1}{L} \right) = \frac{1.32}{4} \left( 1 - \frac{60.95}{429.5} \right) = 0.31$

## DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S <sub>1</sub> )	Height	Height Correction	Effective Length (E)
Poop enclosed ...	36.6	36.50	8.0	-	36.50
" overhang ...	10	41			41
R.Q.D. enclosed ...					
" overhang ...					
Bridge enclosed ...	184.6	184.50	8.0	-	184.50
" overhang aft ...	3 1/2	21			21
" overhang forward ...	5 1/2	14			14
Wing enclosed ...	40.0 1/2	40.04	8.0	-	40.04
" overhang ...					
Trunk aft ...					
" forward ...					
Tonnage opening aft ...					
" forward ...					
Total ...	262.46	261.80			261.80

Standard Height of Superstructure 7.50

" " R.Q.D.

Deduction for complete superstructure 42

Percentage covered  $\frac{S}{L} = 61.11\%$ "  $\frac{S_1}{L} = 60.95\%$ "  $\frac{E}{L} = 60.95\%$ Percentage from Table, Line A.  
(corrected for absence of forecastle (if required))Percentage from Table, Line B. 47.61%  
(corrected for absence of forecastle (if required))

Interpolation for bridge less than 2L (if required)

Deduction = 42 " x 47.61 = 20.00

## SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product
A.P. ...	52.95	1		52.95	68.37	68.37	1		68.37
1/4 L from A.P. ...	23.56	4		94.24	29.92	29.92	4		119.68
3/4 L " ...	5.82	2		11.64	9.46	9.46	2		18.92
Amidships ...		4			X		4		
3/4 L from F.P. ...	11.65	2		23.30	14.72	14.72	2		29.44
1/4 L " ...	47.12	4		188.48	59.05	59.05	4		236.20
F.P. ...	105.90	1		105.90	133.00	133.00	1		133.00
Total ...				476.51					601.61

Correction =  $\frac{\text{Difference between sums of products}}{18} \left( \frac{75-S}{2L} \right) = \frac{125.10}{18} \left( \frac{75-3055}{2} \right) = -3.09$ 

If limited on account of midship superstructure.

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.

Depth to Freeboard Deck = 31.91  
Summer freeboard = 6.08  
Moulded draught (d) = 25.83

Deduction for Tropical freeboard and addition for

Winter freeboard =  $\frac{d}{4}$  inches = 6.46 = 6 1/2

Addition for Winter North Atlantic Freeboard (if required =

Deduction for Fresh Water.

Displacement in salt water at summer load water line

Δ =

Tons per inch immersion at summer load water line

T =

Deduction =  $\frac{\Delta}{40 T}$  inches

=

TABULAR FREEBOARD corrected for Flush Deck (if required)

Correction for coefficient

 $\frac{773+680}{1.36} = \frac{1.453}{1.36}$ 

80.74

86.26

Depth Correction ... 9.84

Deduction for superstructures ... 20.00

Sheer correction ... 3.09

Round of Beam correction ... 1.32

Correction for Thickness of Deck amidships ...

Other corrections, scantlings, etc. ...

9.84 23.22 - 13.38

Summer Freeboard = 72.88

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 " " ...



# PARTICULARS OF PROTECTION TO OPENINGS, ETC.

HATCHWAYS ON FREEBOARD AND SUPERSTRUCTURE DECKS									
Description of Hatchway	1	2	3	4	5			3	4
Dimensions of Hatchway	31'6" x 21'0"	31'6" x 21'0"	22'6" x 21'0"	31'6" x 21'0"	31'6" x 21'0"			22'6" x 21'0"	31'6" x 21'0"
COAMINGS	Height above Deck	30"	30"	10"	10"	30"		30"	30"
	Thickness { Sides	48"	48"	5"	5"	48"		48"	48"
	Thickness { Ends	46"	46"	5"	5"	46"		46"	46"
	Stiffeners ...	7 x 3 x 5 BA	7 x 3 x 5 BA			7 x 3 x 5 BA		7 x 3 x 5 BA	7 x 3 x 5 BA
HATCH BEAMS	Brackets, Stays								
	Number	6	6	5	6	6		5	6
	Spacing	4'6"	4'6"	3'9"	4'6"	4'6"		3'9"	4'6"
	Scantling and Sketch	15 x 4 1/2 4 x 3 x 4 1/2	15 x 4 1/2 4 x 3 x 4 1/2	13 1/2 x 3 1/2 4 x 3 x 4 1/2	13 1/2 x 3 1/2 4 x 3 x 4 1/2	15 x 4 1/2 4 x 3 x 4 1/2		13 1/2 x 3 1/2 4 x 3 x 4 1/2	15 x 4 1/2 4 x 3 x 4 1/2
	Bearing Surface	4"	4"	4"	4"	4"		4"	4"
FORE AND AFTERS	Number								
	Spacing								
	Unsupported Lengths								
	Scantling* and Sketch								
	Bearing Surface								
HATCH COVERS	Material	W.P.	W.P.	W.P.	W.P.	W.P.		W.P.	W.P.
	Thickness	2 1/2"	2 1/2"	2 1/2"	2 1/2"	2 1/2"		2 1/2"	2 1/2"
	How fitted	F.A.	F.A.	F.A.	F.A.	F.A.		F.A.	F.A.
	Bearing Surface	3' 8 1/2" x 4"	3' 8 1/2" x 4"	3' 8 1/2" x 4"	3' 8 1/2" x 4"	3' 8 1/2" x 4"		3' 8 1/2" x 4"	3' 8 1/2" x 4"
Spacing of Cleats		24"	24"	24"	24"	24"		24"	24"
Number of Tarpaulins		2	2	2	2	2		2	2
<p>*Are wood fore and afters steel shod at all bearing surfaces? <i>Yes</i></p> <p>Are battens and wedges efficient and in good condition? <i>Yes</i></p> <p>Are tarpaulins in good condition and in accordance with rule requirements? <i>Yes</i></p> <p>Are lashings provided in accordance with rule requirements? <i>Yes</i></p>									

Particulars of fiddle, funnel and ventilator coamings:—

*Stokehold gratings covered by strong steel hinged covers  
Indley funnel. Ventilator coamings in efficient condition  
Engine room skylight of steel strongly constructed*

Particulars of Flush Bunker Scuttles:—

*None*

Particulars of Companionways:—

*Companion on Deck of steel strongly constructed 6'6" x 8'0" x 6'0" high  
Door of teak 1 1/2" thick 4'9" x 2'0" operated from either side sill 15"*

Particulars of Ventilators in exposed positions on freeboard and superstructure decks:—

*On Prop. 5 vents 7 1/2" dia coaming 12" x 19" hump back  
2 " " " 36" x 38" hold  
1 " " " 30" x 38" hump  
After Well { 4 " 20" " 16" x 38" hold  
                  { on top of deck house*

*All vents fitted with iron plugs & canvas covers*

Particulars of Air Pipes in exposed positions on freeboard, raised quarter, or superstructure decks:—

*Prop. 1 No 1 air pipe 3" dia flush with hull cow cap APT  
2 " " " 3 " " " " DBT  
After Well 1 No 1 air pipe 3" dia flush with hull cow cap DBT  
13 Deck 6 No 1 air pipes 3" dia flush with hull cow cap DBT*

Particulars of Gangway Cargo and Coaling Ports:—

*None*



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Particulars of Scuppers and Sanitary Discharge Pipes —

All scuppers fitted with storm valves at Ship's side  
Collinson scuppers in Bridge space with wood plugs at  
deck level. N.I. pipe scuppers at Bridge ends in bulk.

Particulars of Side Scuttles :

All side scuttles fitted with hinged dead lights

Particulars of Guard Rails :—

Rails on Poop, Bridge, Forecastle 3' 6" high standard spaced 4' 3"  
Three rails.

Particulars of Gangways, Lifelines, etc. :—

None.

Suitable provision is made for  
rigging lifelines where required  
for use of crew.

Particulars of Freeing Arrangements.						
	Length of Bulwark	Height of Bulwark	Size of Freeing Ports	Number each side	Area each side	Rule area each side
After Well ... ..	64 1/2	3' 4"	3' 2" x 1' 6"	3	14.25 sq	13 sq
Forward Well ... ..	103' 9"	4' 8"	3' 0" x 1' 6"	4	18. sq	20.75 sq
State position of each freeing port ... .. } After Well :— from B.B.H. 18' 6" - 36' 6" - 54' 6" Height of side 15" (F. and A. position and height above deck edge) } Forward Well :— " 10' 4" - 34' 5" - 54' 10" - 81' 3" " 15" State whether the freeing ports are fitted with shutters, bars, or rails, and give particulars of such :— Vertical round bars Additional area where sheer is less than standard.						

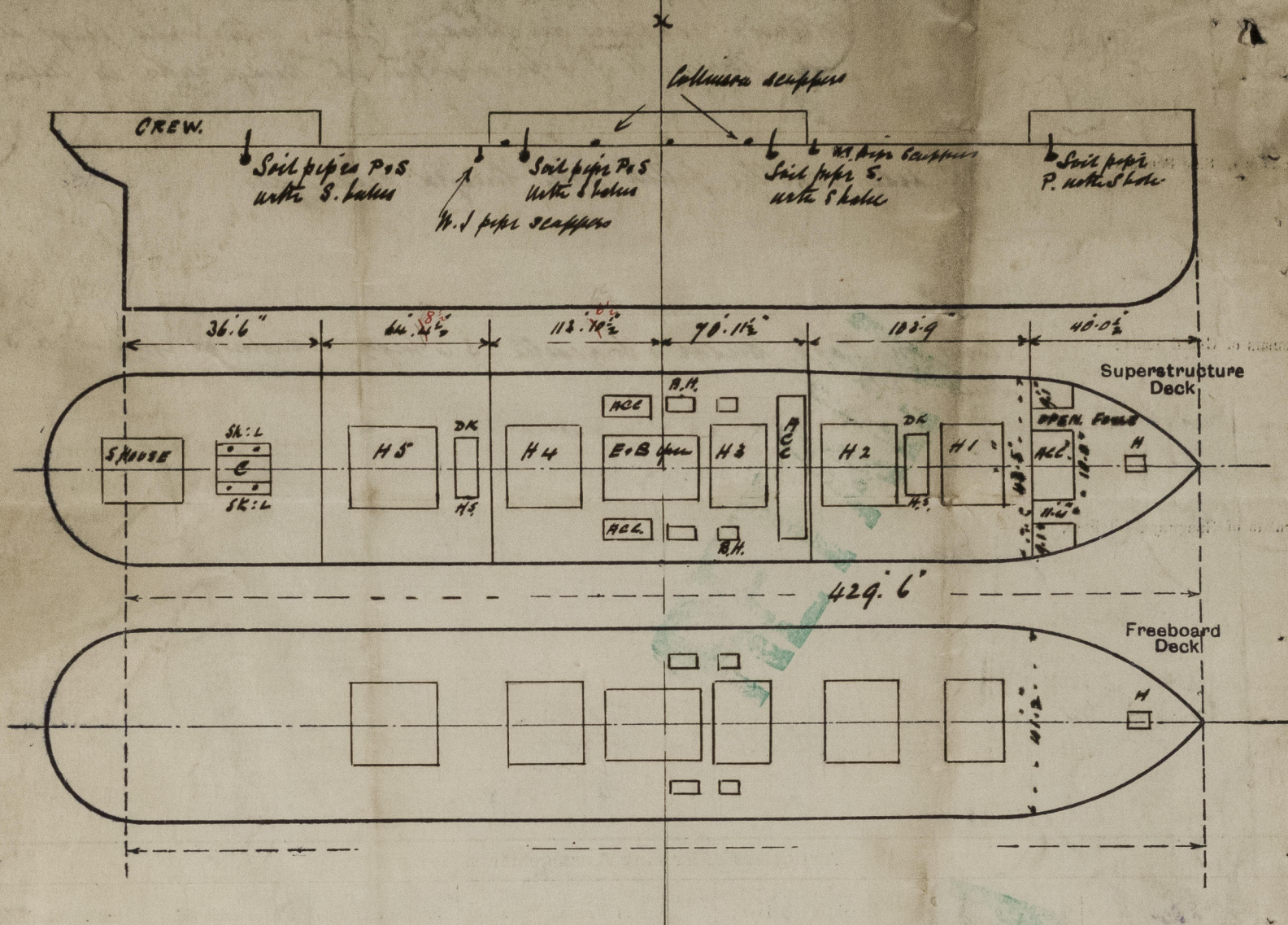
Particulars of Superstructures, Trunks, Casings, Deckhouses.								
	Coaming	Plating	Stiffeners	Spacing	End Attachments of Stiffeners	Size of Openings	Height of Sills	Height of Casings
Poop Bulkhead ... ..	56"	38"	6 1/2" x 3 1/2" x 46"	30"	-	4' 3" x 2' 0"	26 1/2"	8' 0"
Raised Quarter Deck Bulkhead ...	-	-	-	-	-	-	-	-
Bridge, After Bulkhead ... ..	46"	32"	3 x 3 x 44"	36"	-	4' 6" x 3' 0"	22 1/2"	8' 0"
Bridge, Forward Bulkhead ... ..	50"	44"	9 x 3 x 5"	24"	B. T. & B.	4' 10" x 3' 0"	14 1/2"	8' 0"
Forecastle Bulkhead ... ..	-	-	-	-	-	-	-	-
Trunk, Aft ... ..	-	-	-	-	-	-	-	-
Trunk, Forward ... ..	-	-	-	-	-	-	-	-
Exposed Machinery Casings on Free-board or Raised Quarter Decks ...	-	-	-	-	-	-	-	-
Exposed Machinery Casings on Super-structure Decks ... ..	50"	38"	4 x 3 x 1/2"	38"	-	4' 3" x 2' 0"	19 1/2"	7' 8 1/2"
Machinery Casings within Superstructures not fitted with Class I Closing Appliances ... ..	50"	38"	4 x 3 x 1/2"	38"	-	4' 6" x 2' 0"	19"	8' 0"
Deckhouses on Flush Deck Ships ...	-	-	-	-	-	-	-	-

Particulars of Closing Appliances (state if capable of being manipulated from both sides).

Poop Bulkhead ... ..	✓ Steel hinged doors operated from either side.
Raised Quarter Deck Bulkhead ...	✓
Bridge, After Bulkhead ... ..	Bolted plates with outside nuts, bolts pitched 10"
Bridge, Forward Bulkhead ... ..	Steel hinged doors, two horizontal strongbacks, with two heavy bars in each
Forecastle Bulkhead ... ..	✓ open
Exposed Machinery Casings on Free-board or Raised Quarter Decks ...	Steel hinged doors operated from either side
Exposed Machinery Casings on Super-structure Decks ... ..	Steel hinged doors operated from either side
Machinery Casings within Superstructures not fitted with Class I Closing Appliances ... ..	Steel hinged doors operated from either side
Deckhouses on Flush Deck Ships ...	-



Superstructure bulkheads, trunks, deckhouses, casings, cargo and coaling hatchways, extent and thickness of sheathing on the freeboard deck, gangway, cargo and coaling ports, and any other openings, etc., which would affect the seaworthiness of the ship are to be shewn on the following sketches:—



State any special features in the construction of the ship:—

*Used examined afloat. Poop fully sheathed 3" P.*  
*On hatch on deck 30' x 30' coaming 12 1/2" x 32". 2 1/2" rest bars. One hatch in fore 30' x 30' coaming 9" B.H. 2 1/2" rest bars. Sidley lumber hatch 4' 6" x 15' 1" coaming 9" B.H. rest bars 3". One beam in same 14' x 32' angles 4' x 3 1/2" x 35". On Bridge deck. Two lumber hatches on either side of sidley 9' 0" x 6' 8" x 4' 0" coaming 30' x 32" 3" rest bars. In Bridge space. Two hatches 4' 6" x 4' 0" + 9' 0" x 4' 0" coaming 9" B.H. rest bars 3". All the above hatches are fitted with. Cleats, battens 2 1/2" W.P. covers.*  
*Two tarpaulins. Appurtenances bolted in House under fore deck. Trimming hatches in Bridge space 2' 6" x 2' 0" coaming 9" B.H. with cleats, battens 2 1/2" W.P. covers + Two tarpaulins.*

9515 tons DW at 26' 1 1/2" draught = 48 T.P.1

9440 . . . . .

26' 0" . . . . .

8850 . . . . .

25' 0" . . . . .

8300 . . . . .

24' 0" . . . . .

7730 . . . . .

23' 0" . . . . .

Builder's name and yard number

*Richardson Dock & Co. Ltd.*

Names of sister ships

Owners

*Dalglish Steam Shipping Co. Ltd. (R. S. Dalglish & Co. agents)*

Fee £

*14*

*9*

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