

# Floyd's Register of Shipping.

## SURVEYS FOR FREEBOARD.

Computation of Freeboard for Steamer, Sailing Ship, Tanker  
having Poop, Bridge & Forecastle

(Type of Superstructures.)

Ship's Name <b>"WILLY"</b>	Nationality and Port of Registry <b>Norwegian Oslo</b>	Official Number <b>5832</b>	Gross Tonnage <b>1916</b>	Date of Build <b>1916</b>
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Moulded Dimensions: Length **411.6'** Breadth **53.08'** Depth **31.0'**  
Moulded displacement at moulded draught = 85 per cent. of moulded depth **12880** tons  
Coefficient of fineness for use with Tables **.783**

Port of Survey **Hongkong**  
Date of Survey **26<sup>th</sup>, 29<sup>th</sup> & 30<sup>th</sup> June 1934**  
Name of Surveyor **J. H. Morrison**  
Particulars of Classification **+100 A1**  
**Carrying petroleum in bulk**

<b>Depth for Freeboard (D)</b> Moulded depth ... <b>31.0</b> Stringer plate ... <b>.05</b> Sheathing on exposed deck $T \left( \frac{L-S}{L} \right) =$ Depth for Freeboard (D) = <b>31.05</b>	<b>Depth correction</b> (a) Where D is greater than Table depth (D-Table depth) R = $(31.05 - 27.44) \times 3 = +10.83$ (b) Where D is less than Table depth (if allowed) (Table depth-D) R = If restricted by superstructures <input checked="" type="checkbox"/>	<b>Round of Beam correction</b> Moulded Breadth (B) <b>53.08</b> Standard Round of Beam = $\frac{B \times 12}{50} = 12.74$ Ship's Round of Beam = <b>13.00</b> Difference <b>.26</b> Restricted to <input checked="" type="checkbox"/> Correction = $\frac{\text{Diff}}{4} \times \left( 1 - \frac{S_1}{L} \right) = \frac{.26}{4} \times .568 = -.04$
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## DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S <sub>1</sub> )	Height	Height Correction	Effective Length (E)
Poop enclosed ...	110.25	110.25	7.5'	✓	110.25
" overhang ...	None		7.5'		
R.Q.D. enclosed ...	✓				
" overhang ...	✓				
Bridge enclosed ...	26.08	26.08	7.5'	✓	26.08
Centre overhang aft ...			7.5'		
" overhang forward ...	3.00	1.50	7.5'		1.50
Forecastle enclosed ...	37.08	37.08	7.5'		37.08
" overhang ...	3.00	2.88	7.5'	✓	2.88
Trunk aft ...	✓				
" forward ...	✓				
Tonnage opening aft ...	✓				
" forward ...	✓				
Total ...	179.41	177.78			177.78

Standard Height of Superstructure	7.5'
" " R.Q.D.	✓
Deduction for complete superstructure	42
Percentage covered $\frac{S}{L} =$	43.59
" " $\frac{S_1}{L} =$	43.20
" " $\frac{E}{L} =$	43.20
Percentage from Table, Line A	34.20
(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 × .342 = -14.36

## SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product
A.P. ...	51.16	1		51.16	45.00	45.00	1		45.00
$\frac{1}{2}$ L from A.P. ...	22.765	4		91.06	16.25	18.96	4		75.84
$\frac{2}{3}$ L " ...	5.625	2		11.25	3.75	4.74	2		9.48
Amidships ...	-	4		-	0	-	4		-
$\frac{2}{3}$ L from F.P. ...	11.25	2		22.50	9.50	10.66	2		21.32
$\frac{1}{2}$ L " ...	45.53	4		182.12	41.00	42.64	4		170.56
F.P. ...	102.32	1		102.32	102.00	102.00	1		102.00
Total ...				460.41					424.20

Mean actual sheer aft = Deficient  
Mean standard sheer aft

Mean actual sheer forward = Deficient 96.002 Standard  
Mean standard sheer forward

Length of enclosed superstructure forward of amidships = } Tanker

" " Sheer forward

11.25	1	33.75	10.66	1	31.98
45.53	3	136.59	42.64	3	127.92
102.32	1	102.32	102.00	1	102.00
		272.66			261.90
					272.66

$$\text{Correction} = \frac{\text{Difference between sums of products}}{18} \left( .75 - \frac{S}{2L} \right) = \frac{36.21}{18} \left( .75 - \frac{217.9}{411.6} \right) = +1.07$$

If limited on account of midship superstructure.

If limited to maximum allowance of  $1\frac{1}{2}$  ins. per 100 ft.

Deduction for Tropical Freeboard.  
Addition for Winter and Winter North Atlantic Freeboard.

Depth to Freeboard Deck = **31.05**  
Summer freeboard = **5.64**  
Moulded draught (d) = **25.41**

Deduction for Tropical freeboard and addition for

Winter freeboard =  $\frac{d}{4}$  inches = **6.35**  
=  $6\frac{1}{4} = 159\frac{1}{2}$

Addition for Winter North Atlantic Freeboard (if required) = **4 + 6 1/4 = 26 1/2**

Deduction for Fresh Water.

Displacement in salt water at summer load water line

$\Delta =$

Tons per inch immersion at summer load water line

T =

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

=

$d/u = 159\frac{1}{2}$

TABULAR FREEBOARD corrected for Flush Deck (if required)

Correction for coefficient

$\frac{.783 + .68}{1.36} = \frac{1.463}{1.36}$

+

-

Depth Correction ... **10.83**

Deduction for superstructures ... **14.36**

Sheer correction ... **1.07**

Round of Beam correction ... **.04**

Correction for Thickness of Deck amidships ...

Other corrections, scantlings, etc. ...

**1190 1440 - 2.50**

Summer Freeboard = **67.75**

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

Tropical Fresh Water Line above Centre of Disc **12 1/2" = 318 1/2"**

Fresh Water Line " " **6 1/4" = 159**

Tropical Line " " **6 1/4" = 159**

Winter Line below " " **6 1/4" = 159**

Winter North Atlantic Line " " **10 1/4" = 261**

Tropical Fresh Water Freeboard ... **5'-7 3/4" = 172 1/2"**

Fresh Water " " **4'-7 1/4" = 140 3/4"**

Tropical " " **5'-1 1/2" = 156 1/2"**

Winter " " **5'-1 1/2" = 156 1/2"**

Winter North Atlantic " " **6'-2" = 180"**

Winter North Atlantic " " **6'-6" = 198"**

15 MAR 1940



# PARTICULARS OF PROTECTION TO OPENINGS, ETC.

HATCHWAYS ON FREEBOARD AND SUPERSTRUCTURE DECKS											
Description of Hatchway	28 O.T. Hatches	On Upper Deck	On Poop	On Fore	On Afters	On Fore	On Afters	On Fore	On Afters	On Fore	On Afters
Dimensions of Hatchway	12' x 10'	4' 2" x 3' 4"	6' x 4'	29' x 20'	20' 4" x 4' 2"	6' 3" x 3' 3"	3' 6" x 3'	6' 0" x 3' 8"	29' x 20'	29' x 20'	12' 6" x 6'
COAMINGS	Height above Deck ... 31"	31"	9' x 3 1/2' x 7/20 BA	3' x 3' x 1 1/2' angle	9' x 3' x 2 1/2' BA	9"	3 1/2' x 3 1/2' x 3/20 angle	26"	8' x 3 1/2' x 3/20 angle	3 1/2' x 3 1/2' x 12/20 angle	15"
HATCH BEAMS	Thickness ... 9/20	5/20	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Stiffeners ...	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
FORE AND AFTERS	Brackets, Stays ...	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Bearing Surface ...	None	None	None	None	None	None	None	None	None	None
HATCH COVERS	Number ...	None	None	None	None	None	None	None	None	None	None
	Spacing ...	None	None	None	None	None	None	None	None	None	None
HATCH COVERS	Unsupported Lengths ...	None	None	None	None	None	None	None	None	None	None
	Scantling and Sketch ...	None	None	None	None	None	None	None	None	None	None
HATCH COVERS	Bearing Surface ...	None	None	None	None	None	None	None	None	None	None
	Material ...	Steel 8/20	Steel 8/20	Steel 7/20	Steel 7/20	Steel 8/20	Wood 2 3/4"	Wood 2 3/4"	Steel 8/20	Steel 8/20	Wood 2 1/2"
HATCH COVERS	Thickness ...	8/20	8/20	7/20	7/20	8/20	2 3/4"	2 3/4"	8/20	8/20	2 1/2"
	How fitted ...	Suitably	Suitably	Suitably	Suitably	Suitably	Hinged	Hinged	W.T.	W.T.	F + A
HATCH COVERS	Bearing Surface ...	Stiffened	Stiffened	Stiffened	Stiffened	Stiffened	2 W.T. Cores	2 W.T. Cores	W.T.	W.T.	2"
	Spacing of Cleats ...	✓	✓	✓	✓	✓	None	None	✓	✓	24"
HATCH COVERS	Number of Tarpaulins ...	✓	✓	✓	✓	✓	None	None	✓	✓	24"
	Bearing Surface ...	✓	✓	✓	✓	✓	None	None	✓	✓	2"

\*Are wood fore and afters steel shod at all bearing surfaces? *None*  
 Are battens and wedges efficient and in good condition? *Yes*  
 Are tarpaulins in good condition and in accordance with rule requirements? *Yes*  
 Are lashings provided in accordance with rule requirements? *Yes, where required*

Particulars of fiddle, funnel and ventilator coamings:— *Stokehold gratings covered by strong steel covers, fastened down by steel battens. Fiddle & funnel ventilation in efficient condition. Engine skylight of steel strongly constructed.*

Particulars of Flush Bunker Scuttles:—

*None*

Particulars of Companionways:—

*Two companionways on Poop, enclosed by engine casing, leading to upper deck, doors of steel with 18" sill, doors operated from both sides.*

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

*Forecastle: 8-9" dia, coaming 10" high x 1/2" thick (Screw down covers) To Crews quarters  
 Poop: 6-15" dia, coaming 36" high x 7/20" thick. (Wood plugs + canvas covers fitted) To poop space.  
 2-9" " " 10" " x 1/2" " (Screw down covers) To store rooms.  
 Bridge: 4-9" " " 10" " x 1/2" " (Screw down covers) To stores  
 all ventilators constructed in accordance with the Rules.*

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

*Forecastle: 1-3 1/2" dia x 11" high to F.P. tank  
 2-4 1/2" " x 11" " to F.P. deep tank.  
 Poop: 4-4" dia x 12" " to O.F. bunkers  
 5-2 1/2" " x 36" " to DB tanks*

*All air pipes of goose neck type + closed with canvas covers + gauge wire as required.*

Particulars of Gangway Cargo and Coaling Ports:—

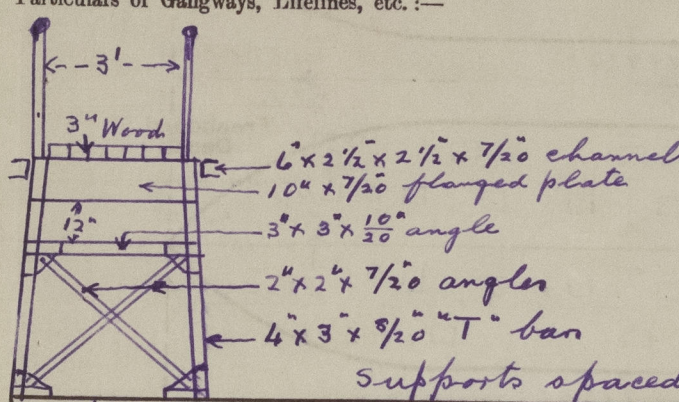
*None.*

Particulars of Scuppers and Sanitary Discharge Pipes — Sanitary discharge pipes from fore-castle + Poop "Willy" spaces are fitted with Cast iron storm valves at ship's side, 6 ft. below upper deck, + efficient traps at inner ends. Storm valves of heavy construction. *No storm valves fitted to scupper pipes from Poop + Fore with canvas plugs at inner ends.*

Particulars of Side Scuttles: *No side scuttles below freeboard deck. Side scuttles to crew spaces in Poop, bridge + fore-castle fitted with hinged deadlights. All scuttles of substantial construction.*

Particulars of Guard Rails:— *Fore-castle: Guard rails 3'-6" high with 2 rods + 2 intermediate wire rope rails, stanchions spaced about 5 ft.  
 Poop + Bridge: Guard rails 3'-6" high with 3 rods, stanchions spaced 4'-6".  
 Bulwarks in wells 3'-6" high, efficiently constructed + supported.*

Particulars of Gangways, Lifelines, etc.:—



*Gangway fitted from Poop to Bridge + from Bridge to Fore-castle, efficiently supported, having stanchions with pipe rail 37" high.*

## 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	99.0'	3'-6"	38" x 18" 45' x 26"	4 3/5	17.04 sq ft 88.1 sq ft	87.0 sq ft
Forward Well	139.2'	3'-6"	38" x 18" 61' x 26"	6 7/8	25.56 sq ft 125.9 sq ft	122.0 sq ft

State position of each freeing port (F. and A. position and height above deck edge) { After Well:— 12 1/2"  
 State whether the freeing ports are fitted with shutters, bars, or rails, and give particulars of such:— *Two vertical 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	10/20	10/20	Horizontal 6 x 3 1/2 x 3 1/2 x 7/20 channels	30"	Brackets	4'-8" x 3'-0"	22"	7.5'
Raised Quarter Deck Bulkhead	✓	✓	Vertical 6 x 3 1/2 x 3 1/2 x 7/20 channels	30"	- do -	4'-6" x 2'-6"	24"	7.5'
Bridge, After Bulkhead	8/20	8/20	6 x 2 3/4 x 2 3/4 x 8/20 channels	30"	- do -	4'-10" x 2'-8"	19"	7.5'
Bridge, Forward Bulkhead	10/20	10/20	6 x 3 1/2 x 3 1/2 x 7/20 channels	30"	- do -	4'-9" x 2'-0"	19"	7.5'
Fore-castle Bulkhead	10/20	10/20	6 x 3 1/2 x 3 1/2 x 7/20 channels	39"	None	4'-9" x 2'-0"	19"	7.5'
Trunk, Aft	✓	✓	Horizontal 6 x 3 1/2 x 3 1/2 x 7/20 channels	30"	Brackets	4'-8" x 2'-0"	20"	7.5'
Trunk, Forward	✓	✓	Horizontal 6 x 3 1/2 x 3 1/2 x 7/20 channels	30"	Brackets	5'-0" x 2'-1"	17"	7.5'
Exposed Machinery Casings on Free-board or Raised Quarter Decks	7/20	7/20	4 x 3 x 7/20 angles	30"	Brackets	4'-3" x 1'-9"	17"	7.5'
Exposed Machinery Casings on Super-structure Decks	7/20	7/20	- do -	30"	Brackets	4'-3" x 1'-9"	17"	7.5'
Machinery Casings within Superstructures not fitted with Class I Closing Appliances	7/20	7/20	- do -	30"	Brackets	4'-3" x 1'-9"	17"	7.5'
Pump Room	8/20	8/20	6 x 3 1/2 x 3 1/2 x 7/20 channels	31"	Brackets	4'-3" x 1'-9"	17"	7.5'
Deckhouses on Flush Deck Ships	8/20	8/20	6 x 3 1/2 x 3 1/2 x 7/20 channels	31"	Brackets	4'-3" x 1'-9"	17"	7.5'

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

Poop Bulkhead	<i>Bolted plates, portable, attached with hook bolts 1 1/2" pitch.</i>
Raised Quarter Deck Bulkhead	<i>✓</i>
Bridge, After Bulkhead	<i>Two W.T. hinged steel doors, can be operated from both sides.</i>
Bridge, Forward Bulkhead	<i>One W.T. hinged steel door, can be operated from both sides.</i>
Fore-castle Bulkhead	<i>Three hinged wood doors, 1 3/4" thick, can be operated from both sides.</i>
Exposed Machinery Casings on Free-board or Raised Quarter Decks	<i>✓</i>
Exposed Machinery Casings on Super-structure Decks	<i>2- Hinged wood doors to engine room, 1 3/4" thick, can be operated from both sides.</i>
Machinery Casings within Superstructures not fitted with Class I Closing Appliances	<i>2- Hinged steel doors to stokehold, can be operated from both sides.</i>
Pump Room	<i>One W.T. hinged steel door, can be operated from both sides.</i>
Deckhouses on Flush Deck Ships	<i>One W.T. hinged steel door, can be operated from both sides.</i>



