

# Lloyd's Register of Shipping.

## SURVEYS FOR FREEBOARD.

(COMPUTATION FOR STEAMER, SAILING SHIP, TANKER.)

Ship's Name **IMPERIAL SIMCOE** Official Number **155282** Nationality and Port of Registry **British Montreal.** Gross Tonnage **1914** Date of Build **1930**  
 Port of Survey **Toronto, Canada.**  
 Date of Survey **14th September 1939.**  
 Surveyor's Signature **JOHN STEPHEN.**  
 Moulded Dimensions: Length **150.0'** Breadth **43.0'** Depth **18.0'**  
 Moulded displacement at moulded draught = 85 per cent. of moulded depth **3790** tons F.W.  
 Coefficient of fineness for use with Tables **.83.**  
 Particulars of Classification **1400 A1 carrying Petroleum in bulk for service in the Great Lakes. (Withdrawn from class S. 36).**

Depth for Freeboard (D).  
 Moulded depth ... **18.0**  
 Stringer plate ... **.04**  
 Sheathing on exposed deck  
 $T \left( \frac{L-S}{L} \right) =$  **✓**  
 Depth for Freeboard (D) = **18.04**

Depth correction.  
 (a) Where D is greater than Table depth  
 $(D - \text{Table depth}) R = (18.04 - 16.64) 1.923 = +2.63''$   
 (b) Where D is less than Table depth (if allowed)  
 $(\text{Table depth} - D) R =$  **✓**  
 If restricted by superstructures **✓**

Round of Beam correction.  
 Moulded Breadth (B) **43.00'**  
 Standard Round of Beam =  $\frac{B \times 12}{50} =$  **10.32''**  
 Ship's Round of Beam = **11.00''**  
 Difference **excess** **.68''**  
 Restricted to  
 Correction =  $\frac{\text{Diff}^*}{4} \times (1 - \frac{S_1}{L}) = \frac{.68}{4} (.1877) = -.05''$

## DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S <sub>1</sub> )	Height	Height Correction	Effective Length (E)	
Poop enclosed ...	62.00	62.00	7.5'	✓	62.00	
„ overhang ...						
R.Q.D. enclosed ...						
„ overhang ...						
Bridge enclosed ...						
„ overhang aft ...						
„ overhang forward ...						
Fore enclosed ...	41.00	41.00	7.5'	✓	41.00	
„ overhang ...						
Trunk aft ...		76.06	7.5'	✓	76.06	
„ forward ...						
Tonnage opening aft ...						
„ forward ...						
Total ...	103.00	179.06			179.06	

Standard Height of Superstructure **6.00'**  
 „ „ R.Q.D. **✓**  
 Deduction for complete superstructure **31.00''**  
 Percentage covered  $\frac{S}{L} =$  **41.20' ✓**  
 „  $\frac{S_1}{L} =$  **41.63' ✓**  
 „  $\frac{E}{L} =$  **41.63' ✓**  
 Percentage from Table, Line A. **Tankers 65.01' ✓**  
 (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 = **31.00 × .6501 = 20.15''**

## SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product	
A.P. ...	35.00	1		35.00	24.00	24.00	1		24.00	Mean actual sheer aft = <b>Deficient.</b>
1/2 L from A.P. ...	15.545	4		62.20	3.75	3.75	4		15.00	Mean actual sheer forward = <b>Deficient</b>
1/4 L „ ...	3.85	2		7.70	-	-	2		-	Mean standard sheer forward
Midships ...	-	4		-	-	-	4		-	Length of enclosed superstructure forward of amidships = <b>Deficient</b>
1/4 L from F.P. ...	7.70	2		15.40	-	-	2		-	„ aft of „ = <b>Sheers.</b>
1/2 L „ ...	31.15	4		124.60	7.50	7.50	4		30.00	
F.P. ...	70.00	1		70.00	48.00	48.00	1		48.00	
Total ...				315.00					117.00	

Correction =  $\frac{\text{Difference between sums of products}}{18} \left( .75 - \frac{S}{2L} \right) = \frac{198}{18} (.75 - .106) = +5.98''$   
 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 = **18.04**  
 Summer freeboard = **1.96**  
 Moulded draught (d) = **16.08**

Correction for Tropical freeboard and addition for Winter freeboard =  $\frac{d}{4}$  inches = **4.02 = 4''**  
 Correction for Winter North Atlantic Freeboard (if required) = **4.02 + 2.5 = 6.52 = 6 1/2''**

Deduction for Fresh Water.  
 Displacement in salt water at summer load water line  
 $\Delta =$  **4028**  
 Tons per inch immersion at summer load water line  
 $T =$  **22.15**  
 Deduction =  $\frac{\Delta}{40 T}$  inches = **4.54**  
 $=$  **4 1/2''**

TABULAR FREEBOARD corrected for Flush Deck (if required)  
 Correction for coefficient **.83 + .68 = 1.51**  
 $\frac{1.36}{1.36} = 1.36$

	+	-
Depth Correction ...	2.63	-
Deduction for superstructures ...	-	20.15
Sheer correction ...	5.98	-
Round of Beam correction ...	-	.05
Correction for Thickness of Deck amidships ...	-	-
Other corrections, scantlings, etc. ...	-	-
	8.61	20.20
Summer Freeboard		11.59
		13.38

31.50  
 34.97

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

Tropical Fresh Water Line above Centre of Disc ...	8 1/2''	Tropical Fresh Water Freeboard ...	11 1/2''
Fresh Water Line „ „ ...	4 1/2''	Fresh Water „ „ ...	11 - 3''
Tropical Line „ „ ...	4''	Tropical „ „ ...	11 - 7 1/2''
Winter Line below „ „ ...	4''	Winter „ „ ...	21 - 3 1/2''
Winter North Atlantic Line „ „ ...	6 1/2''	Winter North Atlantic „ „ ...	21 - 6''