DISCLASSED SECTION for London purposes only

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No. 472

SURVEYS FOR FREEBOARD.

Computation of Freeboard for Steamer, Sailing Ship, Tanker

having _____

(Type of Superstructures.)

Ship's Name	Nationality and Port of Registry	Official Number	Gross Tonnage	Date of Build
Delaware Sun.				

Moulded Dimensions: Length 480 Breadth 65·75 Depth 37·00

Moulded displacement at moulded draught = 85 per cent. of moulded depth 22350 tons

Coefficient of fineness for use with Tables ·788

Port of Survey _____

Date ~~of Survey~~ 29 6 34

Name of Surveyor _____

Particulars of Classification +100 A1 with freeboard.

Depth for Freeboard (D)

Moulded depth	37·00
Stringer plate	·08
Sheathing on exposed deck $T\left(\frac{L-S}{L}\right)$ =	✓
Depth for Freeboard (D) =	37·08

Depth correction

(a) Where D is greater than Table depth
(D—Table depth) R = (37·08 − 32·0) 3·00
= + 15·24"

(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) 65·75

Standard Round of Beam = $\frac{B \times 12}{50}$ = 15·78

Ship's Round of Beam = 16·66"

Difference ·88" to add

Restricted to

Correction = $\frac{\text{Diff}^{e}}{4} \times \left(1-\frac{S_1}{L}\right)$ = $\frac{\cdot 88}{4} \times \cdot 919$ = −·20"

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 ...					
„ overhang ...					
Bridge enclosed					
„ overhang aft ...					
„ overhang forward					
F'cle enclosed	43·67		7'-6"		
„ overhang					
Trunk aft					
„ forward					
Tonnage opening aft ...					
„ „ forward					
Total	43·67				

Standard Height of Superstructure 7'-6"

„ „ R.Q.D. ✓

Deduction for complete superstructure 42·00"

Percentage covered $\frac{S}{L}$ = 9·10%

„ „ $\frac{S_1}{L}$ = 9·10%

„ „ $\frac{E}{L}$ = 9·10%

Percentage from Table, ~~Line~~ A. Tentative
~~(corrected for absence of forecastle (if required))~~ 6·37%

Percentage from Table, Line B.
(corrected for absence of forecastle (if required))

Interpolation for bridge less than ·2L (if required)

Deduction = 42·00 × ·0637 = 2·67,

SHEER CORRECTION.

Station	Standard Ordinate	S M	Product	Actual Ordinate Sheer	Effective Ordinate	S M	Product
... ...	58·00	1	58·00	61·62		1	61·62
from A.P. ...	25·81	4	103·24	13·00		4	52·00
„ ...	6·38	2	12·76	0		2	0
Midships ...	✓	4	✓	✓		4	✓
from F.P. ...	12·76	2	25·52	0		2	0
„ ...	51·62	4	206·48	22·50		4	90·00
... ...	116·00	1	116·00	121·00		1	121·00
Total ...	537		522·00				324·62

Mean actual sheer aft / Mean standard sheer aft = Deficient

Mean actual sheer forward / Mean standard sheer forward = Deficient

Length of enclosed superstructure / L forward of amidships = } Deficient Sheer.

„ „ aft of „ =

Correction = $\frac{\text{Difference between sums of products}}{18}\left(\cdot 75-\frac{S}{2L}\right) = \frac{197·38}{18}(\cdot 75 - \cdot 0455) = +7·72"$. ·7045

If limited on account of midship superstructure. ✓

If limited to maximum allowance of 1½ ins. per 100 ft. ✓

Deduction for Tropical Freeboard.

Addition for Winter and Winter North Atlantic Freeboard.

Ft.

Depth to Freeboard Deck =

Summer freeboard = _____

Moulded draught (d) = _____

Deduction for Tropical freeboard and addition for Winter freeboard = $\frac{d}{4}$ inches =

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 $\frac{\cdot 788 + \cdot 68}{1\cdot 36} = \frac{1468}{1360}$ 82·70

89·28

	+	−
Depth Correction	15·24	—
Deduction for superstructures	—	2·67
Sheer correction	7·72	—
Round of Beam correction	—	·20
Correction for Thickness of Deck amidships ...	—	—
Other corrections, scantlings, etc.	—	—
	22·96	2·87

+ 20·09

Summer Freeboard = 109·37

SUMMER FREEBOARD amidships from Centre of Disc to top of Deck Line, ~~Wood~~, Steel, Deck :— 9'-1½"

Tropical Fresh Water Line above Centre of Disc		Tropical Fresh Water Freeboard	
Fresh Water Line „ „		Fresh Water „	
Tropical Line „ „		Tropical „	
Winter Line below „		Winter „	A.B. assignment 9'-2"
Winter North Atlantic Line „ „		Winter North Atlantic „	

5m,3,32.

85½ 37

31.45