

Rpt. C.11.

Index. No. 33848
(For London Office only.)

Lloyd's Register of Shipping.

SURVEYS FOR FREEBOARD.

Computation of Freeboard for ^{motor}Steamer, Sailing Ship, Tanker
having a forecastle bridge and after bridge.

Port of Survey Hamburg

now registered at Panama (Type of Superstructures.)

Date of Survey 4th April 1931

Ship's Name M.V. "FH BEDFORD JR"
ESSO BEDFORD
Nationality and Port of Registry BRITISH
Danzig
LONDON.
Official Number -
Gross Tonnage 11952
Date of Build 1930-11

Name of Surveyor W. J. Junel

Moulded Dimensions: Length 158.5m Breadth 21.34m Depth 11.81m
Moulded displacement at moulded draught = 85 per cent. of moulded depth 27620 metric tons
Coefficient of fineness for use with Tables 793

Particulars of Classification +100 A1
Carrying petroleum in bulk
Bracketless system

Depth for Freeboard (D)		Depth correction		Round of Beam correction	
Moulded depth	11.81	(a) Where D is greater than Table depth (D-Table depth) R = $8.33(11.83-10.57) \times 30 = +3.15$		Moulded Breadth (B)	21.34
Stringer plate	.02	(b) Where D is less than Table depth (if allowed) (Table depth-D) R =		Standard Round of Beam = $\frac{B \times 12}{50} =$	427
Sheathing on exposed deck $T \left(\frac{L-S}{L} \right) =$	✓			Ship's Round of Beam =	438
Depth for Freeboard (D) =	11.83	If restricted by superstructures		Difference	.011
				Restricted to	
				Correction = $\frac{\text{Diff}}{4} \times \left(1 - \frac{S_1}{L} \right) =$	$\frac{.011}{4} (1 - \frac{2.29}{158.5}) = -.002$

DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S ₁)	Height	Height Correction	Effective Length (E)
<u>after bridge</u>					
Enclosed ...	19.71	19.71	2.29	-	19.71
overhang ...					
R.Q.D. enclosed					
overhang ...					
Bridge enclosed...	11.28	11.28	2.29	-	11.28
overhang aft ...					
overhang forward					
Fore enclosed <u>open</u> ...	12.35	11.56	2.29	-	11.56
overhang ...					
Trunk aft ...					
forward ...					
Tonnage opening aft ...					
forward ...					
Total ...	43.34	42.55			42.55

Standard Height of Superstructure 2.29

R.Q.D. ✓

Deduction for complete superstructure 1.067m

Percentage covered $\frac{S}{L} = \frac{43.34}{158.5} = 27.34\%$

$\frac{S_1}{L} = \frac{42.55}{158.5} = 26.85\%$

$\frac{E}{L} = \frac{42.55}{158.5} = 26.85\%$

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

Percentage from Table, Line B. Tanker : 8.80%
(corrected for absence of forecastle (if required))

Interpolation for bridge less than 2L (if required)

Deduction = $1.067 \times 1.880 = -.201$

SHEER CORRECTION.

Station	Standard Ordinate	S	Product	Actual Ordinate	Effective Ordinate	S	Product
A.P. ...	1.575	1	1.575	2.124	1.575	1	1.575
$\frac{1}{4}$ L from A.P. ...	.701	4	2.804	.762	.701	4	2.804
$\frac{2}{4}$ L " ...	.173	2	.346	.073	.173	2	.346
Amidships ...	-	4	-	-	-	4	-
$\frac{3}{4}$ L from F.P. ...	.346	2	.692	.235	.235	2	.470
$\frac{1}{4}$ L " ...	1.402	4	5.608	1.298	1.298	4	5.192
F.P. ...	3.150	1	3.150	3.260	3.260	1	3.260
Total ...				14.175			13.647

Mean actual sheer aft = excess
Mean standard sheer aft =

Mean actual sheer forward = 93.62
Mean standard sheer forward = 93.62 allow 93.62 of sheer of open forecastle

Length of enclosed superstructure forward of amidships = 2 Tankers
aft of " = Does not apply

Sheer forward
 $\frac{2.35}{1.298} \times \frac{.705}{3.894} = \frac{.705}{7.859}$
Standard sheer forward
 $\frac{.346}{1.402} \times \frac{1.038}{4.208} = \frac{1.038}{8.394}$
 $\frac{7.859}{8.394} = 93.62$

Correction = $\frac{\text{Difference between sums of products}}{18} \left(.75 - \frac{S}{2L} \right) = \frac{.528}{18} (.75 - \frac{136}{158.5}) = +0.18$

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.

Ft.
Depth to Freeboard Deck = 11.83
Summer freeboard = 2.67
Moulded draught (d) = 9.16

Deduction for Tropical freeboard and addition for

Winter freeboard = $\frac{d}{48}$ inches = 191

Addition for Winter North Atlantic Freeboard (if required) = 130

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

TABULAR FREEBOARD corrected for Flush Deck (if required)

Correction for coefficient $\times \frac{1.473}{1.36} =$

	+	-
Depth Correction	.315	-
Deduction for superstructures	-	.201
Sheer correction	.018	-
Round of Beam correction	-	.002
Correction for Thickness of Deck amidships	-	-
Other corrections, scantlings, etc.	-	-
	.333	.203
Summer Freeboard =	2.663	

SUMMER FREEBOARD amidships from Centre of Disc to top of Deck Line, Wood, Steel, Deck 8.92 2.67 2.29

Tropical Fresh Water Line above Centre of Disc ... 15" .38

Fresh Water Line " " ... 7 1/2" .19

Tropical Line " " ... 7 1/2" .19

Winter Line below " " ... 7 1/2" .19

Winter North Atlantic Line " " ... 12 3/4" .32

Tropical Fresh Water Freeboard ... 7 1/2" .29

Fresh Water " " ... 8-1/2" .48

Tropical " " ... 8-1/2" .48

Winter " " ... 9-1/2" .86

Winter North Atlantic " " ... 9-1/2" .99

MAY 1931

MAKING FORM

RECEIVED

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