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Index. No. 35112
(For London Office only.)

Lloyd's Register of Shipping.

SURVEYS FOR FREEBOARD.

No 108047

Computation of Freeboard for ~~Steamer, Sailing Ship, Tanker~~ *Motorship.*
having *complete superstructure with storage opening aft.*
Superimposed poop, bridge and ficle.
(Type of Superstructures.)

Ship's Name	Nationality and Port of Registry	Official Number	Gross Tonnage	Date of Build
"BRISBANE STAR"	British London	165365	4076	1936

Moulded Dimensions: Length *522.42* Breadth *70.0* Depth *35.0 to freeboard deck.*
Moulded displacement at moulded draught = 85 per cent. of moulded depth *22080* tons
Coefficient of fineness for use with Tables *.702 .710*

Port of Survey *Liverpool*
Date of Survey *During construction*
Name of Surveyor *A. D. Jackson*
Particulars of Classification *100A1- with freeboard (contemplated)*

Depth for Freeboard (D)	Depth correction	Round of Beam correction
Moulded depth <i>35.0</i>	(a) Where D is greater than Table depth (D - Table depth) R = $(35.03 - 34.83) \div 20 = +.60"$	Moulded Breadth (B) <i>70.0</i>
Stringer plate <i>.08</i>	(b) Where D is less than Table depth (if allowed) (Table depth - D) R = \checkmark	Standard Round of Beam = $\frac{B \times 12}{50} = 16.80"$
Sheathing on exposed deck $T \left(\frac{L-S}{L} \right) =$	If restricted by superstructures \checkmark	Ship's Round of Beam = <i>17.5"</i>
Depth for Freeboard (D) = <i>35.08</i>		Difference <i>Excess</i> = <i>.70</i>
		Restricted to
		Correction = $\frac{\text{Diff}^2}{4} \times \left(1 - \frac{S_1}{L} \right) = \frac{.70^2}{4} \times .005 = \text{Negligible}$

DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S ₁)	Height	Height Correction	Effective Length (E)
Poop enclosed	<i>67.16</i>	<i>67.16</i>	<i>8' 4 1/2"</i>	\checkmark	<i>67.16</i>
" overhang	<i>1.17</i>	<i>.58</i>			<i>.58</i>
R.Q.D. enclosed					
" overhang					
Bridge enclosed	<i>449.59</i>	<i>449.59</i>	<i>8' 4 1/2"</i>	\checkmark	<i>449.59</i>
" overhang aft					
" overhang forward					
F'cle enclosed					
" overhang					
Trunk aft					
" forward					
Tonnage opening aft	<i>4.50</i>	<i>2.54</i>	<i>1/2 differ</i>		<i>2.54</i>
" forward					
Total	<i>522.42</i>	<i>519.87</i>			<i>519.87</i>

Standard Height of Superstructure	<i>7.50</i>
" " R.Q.D.	\checkmark
Deduction for complete superstructure	<i>42.00</i>
Percentage covered $\frac{S}{L} =$	<i>100.00</i>
" " $\frac{S_1}{L} =$	<i>99.50</i>
" " $\frac{E}{L} =$	<i>99.50</i>
Percentage from Table, Line A.	<i>= 99.38</i>
(corrected for absence of forecastle (if required))	\checkmark
Percentage from Table, Line B.	\checkmark
(corrected for absence of forecastle (if required))	\checkmark
Interpolation for bridge less than .2L (if required)	\checkmark
Deduction = $42.00 \times .9938 =$	<i>41.74"</i>

SHEER CORRECTION.

Station	Standard Ordinate	S M	Product	Actual Ordinate $+10.5$	Effective Ordinate	S M	Product
A.P.	<i>62.24</i>	1	<i>62.24</i>	<i>72.7</i>	<i>80.00</i>	1	<i>80.00</i>
1/4 L from A.P.	<i>27.70</i>	4	<i>110.80</i>	<i>30.5</i>	<i>35.60</i>	4	<i>142.40</i>
3/8 L "	<i>6.845</i>	2	<i>13.69</i>	<i>8.25</i>	<i>8.80</i>	2	<i>17.60</i>
Amidships	-	4	-	-	-	4	-
3/8 L from F.P.	<i>13.69</i>	2	<i>27.38</i>	<i>14.78</i>	<i>16.75</i>	2	<i>33.50</i>
1/4 L "	<i>55.40</i>	4	<i>221.60</i>	<i>61.13</i>	<i>64.74</i>	4	<i>270.96</i>
F.P.	<i>124.48</i>	1	<i>124.48</i>	<i>141.75</i>	<i>152.25</i>	1	<i>152.25</i>
Total			<i>560.19</i>				<i>696.71</i>

Correction = $\frac{\text{Difference between sums of products}}{18} \left(.75 - \frac{S}{2L} \right) = \frac{136.52}{18} (.75 - .50) = -1.90"$
If limited on account of midship superstructure. \checkmark

Mean actual sheer aft = *Excess*
Mean standard sheer aft = *Excess*

Mean actual sheer forward = *Excess*
Mean standard sheer forward = *Excess*

Length of enclosed superstructure forward of amidships = *6.1.8.*
" " aft of " = *10 1/2"*

Deduction for Tropical Freeboard. Addition for Winter and Winter North Atlantic Freeboard.	Deduction for Fresh Water. Displacement in salt water at summer load water line $\Delta = 21790$ Tons per inch immersion at summer load water line $T = 70.76$ Deduction = $\frac{\Delta}{40T}$ inches $= 1.40 = 1 3/4"$	TABULAR FREEBOARD corrected for Fresh Deck (if required) Correction for coefficient $\frac{.71 + .68}{1.36} = \frac{1.39}{1.36}$
Depth to Freeboard Deck = <i>35.03</i> Summer freeboard = <i>5.67</i> Moulded draught (d) = <i>29.36</i>		Depth Correction <i>.60</i> Deduction for superstructures <i>41.74</i> Sheer correction <i>1.90</i> Round of Beam correction Correction for Thickness of Deck amidships Other corrections, scantlings, etc.
Deduction for Tropical freeboard and addition for Winter freeboard = $\frac{d}{4}$ inches = $7.34 = 7 1/4"$ Addition for Winter North Atlantic Freeboard (if required) = \checkmark		Summer Freeboard = <i>68.12</i>

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

Tropical Fresh Water Line above Centre of Disc	<i>15"</i>	Tropical Fresh Water Freeboard	<i>5' 8"</i>
Fresh Water Line " "	<i>7 3/4"</i>	Fresh Water " "	<i>4' 5"</i>
Tropical Line " "	<i>7 1/4"</i>	Tropical " "	<i>5' 0 1/4"</i>
Winter Line below " "	<i>7 1/4"</i>	Winter " "	<i>5' 0 3/4"</i>
Winter North Atlantic Line " "	\checkmark	Winter North Atlantic " "	<i>6' 3 1/4"</i>

PARTICULARS OF PROTECTION TO OPENINGS, ETC.

HATCHWAYS ON FREEBOARD AND SUPERSTRUCTURE DECKS.											
Superstructure Deck.						Freeboard Deck.					
Description of Hatchway	N ^o 1	N ^o 2	N ^o 3 in Ph.	N ^o 4	N ^o 5 in Ph.	N ^o 1	N ^o 2	N ^o 3	N ^o 4	N ^o 5	N ^o 6
Dimensions of Hatchway	22'6" x 18'2"	46'2" x 21'0"	28'2" x 18'0"	24'0" x 18'2"	31'2" x 17'0"	22'6" x 18'2"	45'2" x 21'0"	28'2" x 18'0"	34'0" x 18'2"	31'2" x 17'0"	18'2" x 18'0"
COAMINGS	Height above Deck	33 1/2"	30 1/2"	10 x 3 1/2 x 4 1/2	30 1/2"	30 1/2"	4 1/2"	4 1/2"	9 x 3 1/2 x 4 1/2	10 x 3 1/2 x 4 1/2	10 x 3 1/2 x 4 1/2
	Thickness	4 1/2"	As N ^o 1	As N ^o 1	4 1/2"	4 1/2"	As N ^o 1	As N ^o 1	As N ^o 1	As N ^o 1	As N ^o 1
	Sides	As N ^o 1	As N ^o 1	As N ^o 1	As N ^o 1	As N ^o 1	As N ^o 1	As N ^o 1	As N ^o 1	As N ^o 1	As N ^o 1
	Stiffeners	As N ^o 1	As N ^o 1	As N ^o 1	As N ^o 1	As N ^o 1	As N ^o 1	As N ^o 1	As N ^o 1	As N ^o 1	As N ^o 1
HATCH BEAMS	Number	4	9	5	7	6	3	4	9	5	7
	Spacing	4'6"	4'6"	4'8"	4'3"	4'5"	4'5"	4'6"	4'8"	4'3"	4'5"
	Scantling and Sketch	2-4 x 3 x 46 15 1/2 x 34 2-4 x 3 x 46	4 x 3 x 50 4 x 3 x 50 4 x 3 x 50	4 x 3 x 46 4 x 3 x 46 4 x 3 x 46	4 x 3 x 40 4 x 3 x 40 4 x 3 x 40	4 x 3 x 40 4 x 3 x 40 4 x 3 x 40	4 x 3 x 40 4 x 3 x 40 4 x 3 x 40	4 x 3 x 40 4 x 3 x 40 4 x 3 x 40	4 x 3 x 40 4 x 3 x 40 4 x 3 x 40	4 x 3 x 40 4 x 3 x 40 4 x 3 x 40	4 x 3 x 40 4 x 3 x 40 4 x 3 x 40
	Bearing Surface	4"	4"	4"	4"	4"	3"	3"	3"	3"	3"
FORE AND AFTERS	Number										
	Spacing										
	Unsupported Lengths										
	Scantling* and Sketch										
HATCH COVERS	Material	W.P.	As N ^o 1	As N ^o 1	As N ^o 1	As N ^o 1	As N ^o 1	As N ^o 1	As N ^o 1	As N ^o 1	As N ^o 1
	Thickness	2 1/2"	As N ^o 1	As N ^o 1	As N ^o 1	As N ^o 1	As N ^o 1	As N ^o 1	As N ^o 1	As N ^o 1	As N ^o 1
	How fitted	As N ^o 1	As N ^o 1	As N ^o 1	As N ^o 1	As N ^o 1	As N ^o 1	As N ^o 1	As N ^o 1	As N ^o 1	As N ^o 1
	Bearing Surface	3' x 4"	As N ^o 1	As N ^o 1	As N ^o 1	As N ^o 1	As N ^o 1	As N ^o 1	As N ^o 1	As N ^o 1	As N ^o 1
Spacing of Cleats	24"	As N ^o 1	As N ^o 1	As N ^o 1	As N ^o 1	As N ^o 1	As N ^o 1	As N ^o 1	As N ^o 1	As N ^o 1	As N ^o 1
Number of Tarpaulins	2	As N ^o 1	As N ^o 1	As N ^o 1	As N ^o 1	As N ^o 1	As N ^o 1	As N ^o 1	As N ^o 1	As N ^o 1	As N ^o 1

*Are wood fore and afters steel shod at all bearing surfaces? ☒
 Are battens and wedges efficient and in good condition? ☒
 Are tarpaulins in good condition and in accordance with rule requirements? ☒
 Are lashings provided in accordance with rule requirements? ☒
 Lower webs fitted at Nos. 1 & 2 hatches at superstructure deck level. 3E-12' x 30", angles 4' x 5' x 40" double with insulation tanks.
 Particulars of fiddle, funnel and ventilator coamings:— all of steel strongly constructed.
 No open gratings on casing tops.

Particulars of Flush Bunker Scuttles:—

none fitted.

Particulars of Companionways:— Entrance in steel house between Nos. 1 & 2 hatches on superstructure deck, port side only. House strongly constructed 7'0" high, 31' plating, 3 1/2' x 2 1/2' x 32" stiffeners. Closed by steel door 4'0" x 2'0", opening both sides, 27" craming. Hatch inside house, 2'0" x 2'3", 6" coaming with insulated plug.
 Entrance in steel house between Nos. 4 & 5 hatches, superstructure dk. port side to main upper tween deck, starboard side to Nos. 4 & 5 upper tween decks and brine room. House strongly constructed as above, plating 25". Opening in deck port side 34' x 27 1/2", 6" coaming with insulated plug. Opening in deck starboard side 31' x 26 1/2", 6" coaming and wood hatch cover, leading to steel house full deck height, with entrance to brine room. Steel door 16' T. port side 21' x 52", opening both sides, 25 1/2" craming, starboard side 24' x 54", opening both sides, 24 1/2" craming.

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

N ^o	Position	Diam.	Ht.	Thk.	Space Ventilated.
1	Fwd DK.	10"	36"	32"	F.P. Stores.
2	" "	16"	36"	38"	N ^o 1 Hold + Tween Dks.
2 1/2	Sheeter DK.	24" x 30"	4'8"	50"	N ^o 1 Hold + N ^o 2 Hold.
2	Poop "	14"	30"	36"	N ^o 6 Hold + Tween Dks.
2	" "	12"	33"	34"	Steering Gear Comp.

Wood plugs and canvas covers supplied.
 Heights above top of Contactor House marked.

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

N ^o	Position	Diam.	Ht.	Space	N ^o	Position	Diam.	Ht.	Space
1 1/2	Fwd DK.	6"	18"	F.P. Tank.	2 1/2	Sheeter DK.	4"	18"	N ^o 3 D.B. Tank F.H.
1 1/2	" "	3"	18"	N ^o 1 D.B. Q.F. or H.B. safety fitting.	2	Br. DK.	4"	12"	" "
2 1/2	Sheeter DK.	3"	18"	" "	2 1/2	" "	2 1/2"	12"	Cofferdam bet. 3 & 4 D.B. Tanks
2 1/2	" "	3"	18"	Cofferdam bet. N ^o 1 & 2 D.B. Tanks.					
4	" "	4"	18"	N ^o 2 D.B. Tank F.H.					

* These air pipes come in way of accommodation ladder P. 15.
 Wood plugs and/or canvas covers fitted.

Particulars of Gangway Cargo and Coaling Ports:—

Two mutton port doors between sheeters and freeboard deck on frame 30 aft.
 Mutton ports (P. 15) between freeboard and main decks at frames 20, 35 and 53 aft, and between lower and freeboard decks forward at 155 frame.
 W.T. doors are of substantial construction 27' x 22" secured by toggles and two strongbacks, rubber jointed, and have all been satisfactorily tested.