

Lloyd's Register of Shipping.

SURVEYS FOR FREEBOARD.

No 3515.

Computation of Freeboard for Steamer, Sailing Ship, Tanker.

 having RAISED FORECASTLE - LONG BRIDGE & POOP. 1 DECK & 2 TIERS
OF BEAMS IN No 1 & 4 HOLDS

Type of Superstructures.)

Ship's Name ELMCREST (2713/40)

Nationality and Port of Registry

Dunkirk
YUGOSLAV.

Official Number

167414

Gross Tonnage

4343
4303.

Date of Build

3/1911.
Port of Survey DUNKIRK.Date of Survey 30TH SEPT. 1932SURVEYED AFLOAT.Name of Surveyor O. J. TRECHMANN.Particulars of Classification * 100 A 1

S.S. Li. No. 3-3, 23

S.S. Spl. No. 2-31

 Moulded Dimensions: Length 378' Breadth 53' Depth 26'-11"
 Moulded displacement at moulded draught = 85 per cent. of moulded depth 10390 tons
 Coefficient of fineness for use with Tables .793.

Depth for Freeboard (D)

 Moulded depth ... 26.92
 Stringer plate04
 Sheathing on exposed deck
 $T \left(\frac{L-S}{L} \right) =$
 Depth for Freeboard (D) = 26.96

Depth correction

 (a) Where D is greater than Table depth
 (D - Table depth) R = (26.96 - 25.20) 2.908 = +5.12
 (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) 53'
 Standard Round of Beam = $\frac{B \times 12}{50} = \frac{53 \times 12}{50} = 12.72$
 Ship's Round of Beam = 13.50
 Difference .28
 Restricted to
 Correction = $\frac{\text{Diff}}{4} \times \left(1 - \frac{S_1}{L} \right) = \frac{.28}{4} \left(1 - \frac{.8082}{.918} \right) = .01$

DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S ₁)	Height	Height Correction	Effective Length (E)
Poop enclosed ...	<u>39.25</u>	<u>39.25</u>	<u>7'-6"</u>		<u>39.25</u>
" overhang ...					
R.Q.D. enclosed ...					
" overhang ...					
Bridge enclosed ...	<u>225.00</u>	<u>225.00</u>	<u>7'-6"</u>		<u>225.00</u>
" overhang aft ...					
" overhang forward ...					
Fore enclosed ...	<u>41.25</u>	<u>41.25</u>	<u>7'-6"</u>		<u>41.25</u>
" overhang ...					
Trunk aft ...					
" forward ...					
Tonnage opening aft ...					
" forward ...					
Total ...	<u>305.50</u>	<u>305.5</u>			<u>305.50</u>

Standard Height of Superstructure 7.28" " R.Q.D. 40.53

Deduction for complete superstructure

Percentage covered $\frac{S}{L} = 80.82$ " $\frac{S_1}{L} = 80.82$ " $\frac{E}{L} = 80.82$

Percentage from Table, Line A.

(corrected for absence of forecastle (if required))

Percentage from Table, Line B. 76.32

(corrected for absence of forecastle (if required))

Interpolation for bridge less than 2L (if required)

Deduction = 40.53 x 76.32 = -30.93

SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product
A.P. ...	<u>47.8</u>	1		<u>47.8</u>	<u>35"</u>	<u>35.00</u>	1		<u>35</u>
1/4 L from A.P. ...	<u>21.271</u>	4		<u>85.084</u>	<u>3"</u>	<u>13.03</u>	4		<u>52.12</u>
1/2 L " ...	<u>5.258</u>	2		<u>10.516</u>	<u>4"</u>	<u>3.26</u>	2		<u>8</u>
Amidships ...	-	4		-	-	-	4		<u>0</u>
3/4 L from F.P. ...	<u>10.516</u>	2		<u>21.032</u>	<u>4 1/2"</u>	<u>7.11</u>	2		<u>9</u>
L " ...	<u>42.542</u>	4		<u>170.168</u>	<u>28"</u>	<u>28.44</u>	4		<u>113.76</u>
F.P. ...	<u>95.6</u>	1		<u>95.6</u>	<u>84"</u>	<u>84.0</u>	1		<u>84</u>
Total ...		18		<u>430.200</u>			18		<u>300.62</u>

 Correction = $\frac{\text{Difference between sums of products}}{18} \left(.75 - \frac{S}{2L} \right) = \frac{130.58}{18} \left(.75 - \frac{305.5}{756} \right) = 2.5 + 2.39$

If limited on account of midship superstructure.

Mean actual sheer aft = DeficientMean actual sheer forward = Deficient

Mean standard sheer forward

Length of enclosed superstructure forward of amidships = 111.5 + 41.25 = 152.75" " aft of " = 113.5 + 39.25 = 152.75" " " = 378" " " = 378" " " = 300
 Deduction for Tropical Freeboard.
 Addition for Winter and Winter North Atlantic Freeboard.

 Depth to Freeboard Deck = 26.96
 Summer freeboard = 3.90
 Moulded draught (d) = 23.06

Deduction for Tropical freeboard and addition for

Winter freeboard = $\frac{d}{4}$ inches = 5.76

Addition for Winter North Atlantic Freeboard (if required) =

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= 6"

TABULAR FREEBOARD corrected for Flush Deck (if required)

Correction for coefficient 793 + 68 = 14731.36 1.36

Depth Correction ...

Deduction for superstructures ...

Sheer correction ...

Round of Beam correction ...

Correction for Thickness of Deck amidships ...

Other corrections, scantlings, etc. ...

64.80

70.18

87.18

4-10-32

-23.43

Summer Freeboard = 46.75SUMMER FREEBOARD amidships from Centre of Disc to top of Deck Line, Wood, Steel, Deck: 1187.8 - 10 3/4

Tropical Fresh Water Line above Centre of Disc

Fresh Water Line

Tropical Line

Winter Line below

Winter North Atlantic Line

Tropical Fresh Water Freeboard ...

Fresh Water

Tropical

Winter

Winter North Atlantic

MARKING FORM

27 MAR 1940

RECEIVED

MARKING FORM

19 DEC 1932

RECEIVED

MARKING FORM

12 DEC 1932

RECEIVED

Lloyd's Register

Foundation

PARTICULARS OF PROTECTION TO OPENINGS ETC. - SEE PAGE No 4 FOR HATCHWAYS ON SUPERSTRUCTURE DECKS -

HATCHWAYS ON FREEBOARD AND SUPERSTRUCTURE DECKS											
Description of Hatchway	FOLE STORE	No 1 HOLD FWD WELL	No 2 HOLD IN BRIDGE	CROSS BKR No 2 HOLD IN BRIDGE	DEEP TANK DIVIDED BY 2% BRIDGE	No 3 HOLD IN BRIDGE	No 4 HOLD AFT WELL	POOP STORE IN POOP	After BKR. I.P. & I.S. IN BRIDGE	FWD BKR. I.P. & I.S. IN BRIDGE	FWD BKR. S. SIDE IN BRIDGE
Dimensions of Hatchway	49" x 35 1/2"	27-7 1/2 x 20"	27-10 x 20 1/2"	21-4 1/2 x 20 1/2"	9-5 1/2 x 20 1/2"	16 x 20-2"	27-7 1/2 x 20"	10-6 1/2 x 10-2"	8-4 x 4"	4-8 1/2 x 4"	5-10 x 4"
COAMINGS	Height above Deck	3' x 3' x 34"	38/42"	3A	3A	18 1/2"	38/42"	3A	3A	3A	3A
	Thickness	10/20	10/20	10/20	10/20	10/20	10/20	10/20	10/20	10/20	10/20
	Sides	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE
	Stiffeners	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE
HATCH BEAMS	Number	5	5	2 & BULKHEAD	2	5	5	1 AT BULKHEAD	NONE	NONE	NONE
	Spacing	4'-7"	4'-8 1/2"	5'-8"	NONE	5'-4"	4'-7"	NONE	NONE	NONE	NONE
	Scantling and Sketch	NONE	4' x 3' x 44"	4' x 3' x 38"	3' x 3' x 40"	3' x 3' x 40"	3' x 3' x 40"	3' x 3' x 40"	3' x 3' x 40"	3' x 3' x 40"	3' x 3' x 40"
	Bearing Surface	3 1/2"	3 1/2"	3 1/2"	3 1/2"	3 1/2"	3 1/2"	3 1/2"	3 1/2"	3 1/2"	3 1/2"
FORE AND AFTERS	Number	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE
	Spacing	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE
	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	Material	WOOD	WOOD	WOOD	WOOD	WOOD	WOOD	WOOD	WOOD	WOOD	WOOD
	Thickness	2 1/2"	2 7/8"	2 3/8"	2 3/4"	2 7/8"	2 1/2"	2 1/2"	2 1/2"	2 1/2"	2 1/2"
	How fitted	ATHWT	F & A	F & A	F & A	F & A	F & A	F & A	F & A	F & A	F & A
	Bearing Surface	2 3/4"	3 1/4"	3 1/4"	3 1/4"	3 1/4"	3 1/4"	3 1/4"	3 1/4"	3 1/4"	3 1/4"
Spacing of Cleats											
Number of Tarpaulins											

*Are wood fore and afters steel shod at all bearing surfaces? ☒
 Are battens and wedges efficient and in good condition? ☒ *Yes except in way of side bulkheads in bridge space.*
 Are tarpaulins in good condition and in accordance with rule requirements? ☒ *Yes, except in way of fore bridge space bulkheads & poop bulkheads.*
 Are lashings provided in accordance with rule requirements? ☒ *Yes to all exposed hatches (except bulkheads) on freeboard & superstructure decks.*

Particulars of fiddle, funnel and ventilator coamings: *FIDDLE. Fwd end plating (vertical strakes no coamings) 5/20 thick, stiffeners A 4' x 3' x 34" extending down to fiddle deck, spaced 28" / 35". After end plating 1/20 thick, stiffeners A 4' x 3' x 36" spaced 35" to 39". Side Coaming plates 1/20 side plating 5/20 thick, stiffeners 4' x 3' x 34" spaced 28 1/2" in fiddle, extending alternately to fiddle deck where spaced 31" in bridge space. FUNNEL. Coaming on fiddle top 30" high by 3/4" thick. 3 Engine Room vents & 1 Stokerhold vent on fiddle top, & 2 Stokerhold ventilators forming derrick ports for cross-bunker hatch - satisfactory.*

ENGINE ROOM SKYLIGHT. Strongly constructed of steel with 8 flanged hinged steel flaps - satisfactory.
 Particulars of Flush Bunker Scuttles: *FIDDLE TOP OPENINGS. (2) 60" x 23". (2) 44 1/2" x 7-11". hinged steel storm covers fitted.*
 FLUSH BUNKER SCUTTLES. NONE.

COMPANION TO CREWS QUARTERS ON FOLE DECK

Particulars of Companionways: *Strongly constructed of steel with foundation angles riveted to steel plate of fore deck. Width 32". Opening 45" x 26" closing by wooden door 1 1/2" thick, hinged & opening on after end. Height of sill above wood sheathing 13".*

WOOD SHEATHING ONLY OF FOLE DECK. WOOD SHEATHING

ON FOLE DECK				ON BRIDGE DECK			
2 TO No 1 HOLD	DIA. 20 1/2"	HEIGHT 19"	THICKNESS 34"	2 TO No 4 HOLD	DIA. 20 1/2"	HEIGHT 29"	THICKNESS 34"
4 " CREWS QTRS.	" 10 1/2"	" 30"	" 30"	2 " No 3	" 20 1/2"	" 29"	" 34"
6 " FORE PEAK	" 6 1/2"	" 25"	" 30"	2 " DEEP TANK	" 20 1/2"	" 29"	" 34"
1 " FORE PEAK	" 6 1/2"	" 25"	" 30"	2 " CROSS BKR	" 20 1/2"	" 29"	" 34"
2 DERRICK POST VENTS TO No 4 HOLD				4 " No 2 HOLD	" 20 1/2"	" 29"	" 34"
1 " TUNNEL	DIA. 9 1/2"	HEIGHT 30 1/2"	THICKNESS 25"	2 " No 1 HOLD	" 20 1/2"	" 29"	" 34"
1 " POOP STORE	" 6 1/2"	" 18"	" 25"	2 " BUNKERS	" 12"	" 31"	" 36"
2 " POOP TWIN DECK	" 5 3/4"	" 15" x 19"	" 1/8"	2 " "	" 9 1/2"	" 31"	" 36"

Particulars of Air Pipes in exposed positions on freeboard, raised quarter, or superstructure decks: *CROSS BUNKER HATCH. WOOD PLUGS & COVERS - IN ORDER.*

All air pipes are of the brass flange type secured to the decks with screw caps.
 The fore peak tank air pipe (straight open ended pipe under breast hook on the forecastle deck) should be capable of being closed & replaced by a gooseneck, and wood plug.

Particulars of Gangway Cargo and Coaling Ports: *NONE.*

Particulars of Scuppers and Sanitary Discharge Pipes: *SCUPPERS. FWD WELL DECK. 3 ports & 3 starts above deck. AFT WELL DECK. 3 ports & 3 starts above deck. BRIDGE DECK & POOP. under deck type of steel. BRIDGE SPACE. NONE. SANITARY PIPES. FOLE. 2 above fore & aft decks. BRIDGE. 3 in bridge space. C.V. valves & lead pipes. Poop 2 above foreboard deck. No discharges pass through the side plating below the freeboard deck. (except in machinery space).*

Particulars of Side Scuttles: *NONE.*

Particulars of Guard Rails: *POOP & FOLE. 2 bar rails ht 36 1/2" - 1" thick with stanchions. BRIDGE 3 bar rails ht 36 1/2" - 1" thick with stanchions.*

Particulars of Gangways, Lifelines, etc.: *Wooden gangways are fitted across fore & after well decks 24 1/2" wide by 2 1/2" thick with portable rails & line to each. Gangways supported by 3-3" steel supports having one with 2-1 1/4" steel stays & 2 with 1-1 1/4" steel stays. DECK CARGOES. No eye plates are fitted to sheer strake or stringer plates for lashings. 6 steel plate sockets 35" high by 16" wide by 45" thick for taking 11" x 3" timber uprights are fitted P & S, to the bridge deck only, as follows: Fore end of bridge to first socket 26 ft, to 2nd socket 12-1" to 3rd socket 12 ft, to Cabin Accommodation 9' 7". From after end of bridge to 6th socket 28 ft, to 5th socket 12 ft, to 4th socket 12 ft, to Eng'g Accommodation, 12 ft.*

No eye plates or sockets are fitted in way of well decks. *STEERING GEAR. Is suitably protected alongside No 3 hatch & is protected on 2 supports, each side across after well. DB. TANKS. The double bottom tanks have not been examined internally, but it is stated that no longitudinal subdivision exists.*

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	36'-3"	53 1/2"	30" x 21"	3	13.125 sq	10.125 sq
Forward Well	36'-3"	52 1/2"	30" x 21"	3	13.125 sq	10.125 sq

State position of each freeing port: *After Well: FROM AFT TO FWD. (Fwd & Aft position and height above deck edge) 4'-0" 12'-10" 9'-2" 10'-3" 7'-8" 6'-6" 8'-11" 15'-2"*
 State whether the freeing ports are fitted with shutters, bars, or rails, and give particulars of such: *The freeing ports are fitted with 2-7/8" rails spaced 7" apart, Height of freeing port edges above deck 18"*
 Additional area where sheer is less than standard.

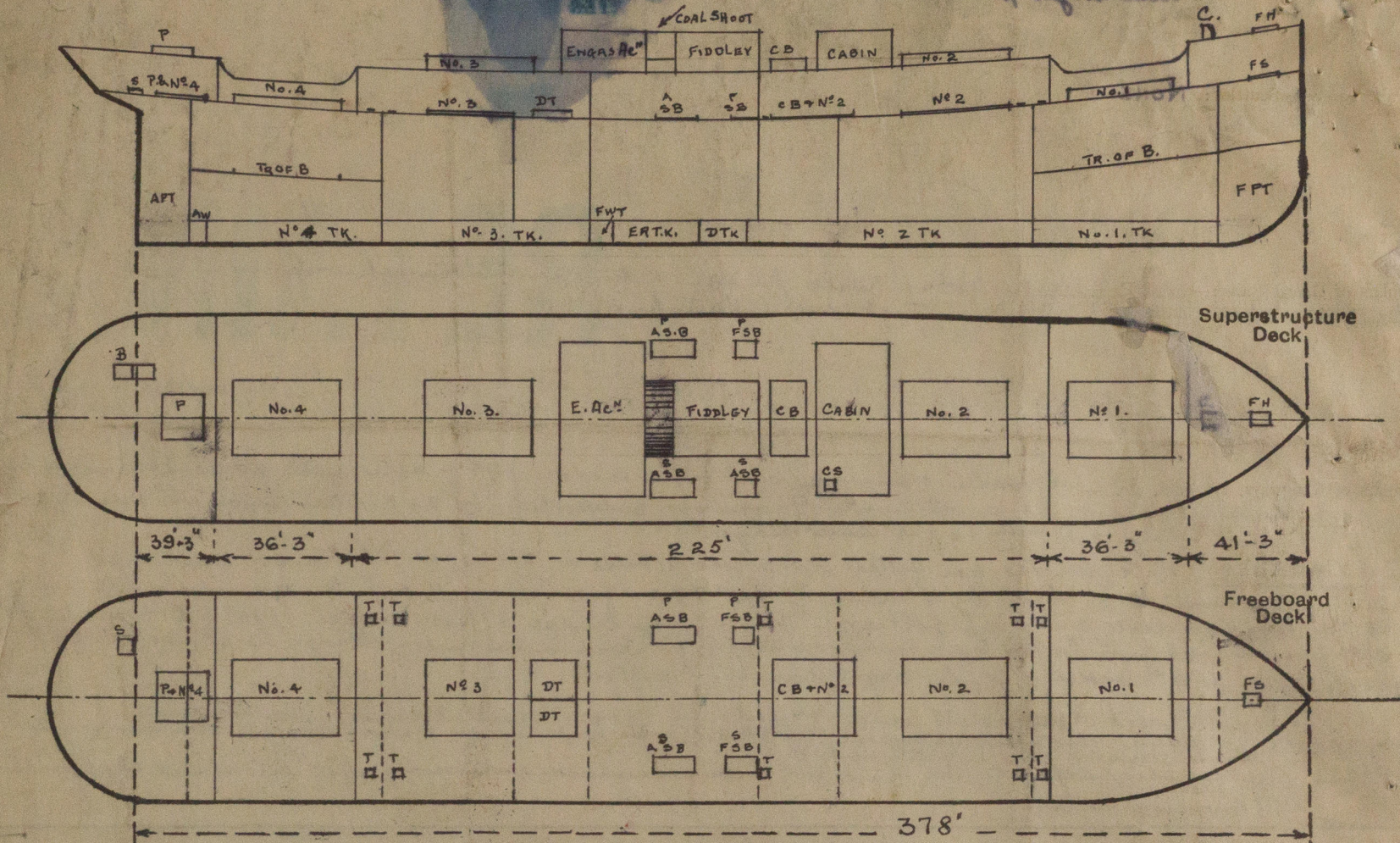
Particulars of Superstructures, Trunks, Casings, Deckhouses.

	Coaming	VERTICAL Plating	Stiffeners	Spacing	End Attachments of Stiffeners	Size of Openings	Height of Sills	Height of Casings
Poop Bulkhead	✓	44"	A 6' x 8 1/2" x 38" BA 6' x 3 1/2" x 1/2"	26 3/4" to 32"	AT DECK ONLY. 16 1/2" x 12 1/2" x 36" 18" x 13 1/2" TOP & BOT.	(2) 49" x 37"	23 1/2"	7'-6"
Raised Quarter Deck Bulkhead	✓	VERTICAL	A 2' x 3' x 42" BA 6' x 3 1/2" x 1/2"	32" / 34"	NONE	(2) 49" x 37"	25"	7'-6"
Bridge, After Bulkhead	✓	VERTICAL	BA 8 1/4" x 3 1/2" x 62"	36" / 32"	NONE	NONE	✓	7'-6"
Bridge, Forward Bulkhead	✓	VERTICAL	A 4' x 3' x 38"	31" / 25"	NONE	(4) 22" x 55 1/2"	22"	7'-6"
Forecastle Bulkhead	✓	VERTICAL	✓	✓	✓	✓	✓	✓
Trunk, Aft	✓	✓	✓	✓	✓	✓	✓	✓
Trunk, Forward	✓	✓	✓	✓	✓	✓	✓	✓
Exposed Machinery Casings on Freeboard or Raised Quarter Decks	Inside Bridge Space. (not exposed)							
Exposed Machinery Casings on Superstructure Decks	FIDDLEY 7/20	5/20	4' x 3' x 34"	SIDE 25 1/2" END 28 / 35"	NONE	(2) STOKERHOLD 21" x 54" P 24" x 39"	22 1/2"	7'-6"
Machinery Casings within Superstructures not fitted with Class I Closing Appliances	42"	38" / 32"	A 4' x 3' x 34"	57"	NONE	S 21" x 54"	19 1/2"	7'-6"
Deckhouses on Flush Deck Ships	✓	✓	✓	✓	✓	✓	✓	✓

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

Poop Bulkhead	3' x 23 1/2"	Channels fitted for closing full height by shifting boards. Shifting boards not fitted. Two openings closed by 40" steel plate doors, secured by 28-3/4" bolts spaced 6 1/2" apart. Not capable of being manipulated from both sides.
Raised Quarter Deck Bulkhead	6 1/2" apart.	Same as for Poop bulkhead. Storm boards on revealed channels 28 1/2" x 140"
Bridge, After Bulkhead	✓	Same as for Poop bulkhead.
Bridge, Forward Bulkhead	✓	No openings.
Forecastle Bulkhead	✓	4 framed openings, closed by 28" hinged steel doors permanently attached & capable of being manipulated from both sides, fastening by bolts & bolts.
Exposed Machinery Casings on Freeboard or Raised Quarter Decks	✓	2 same as for forecastle bulkhead.
Exposed Machinery Casings on Superstructure Decks	✓	1 Eng Room door - same as for forecastle bulkhead.
Machinery Casings within Superstructures not fitted with Class I Closing Appliances	✓	2 Stokerhold doors - same as for forecastle bulkhead.
Deckhouses on Flush Deck Ships	✓	✓

Superstructure bulkheads, trunks, deckhouses, casings, cargo and coaling hatchways, extent and thickness of sheathing on the freeboard deck, gangway, cargo and coaling ports, and any other openings, etc., which would affect the seaworthiness of the ship are to be shown on the following sketches:



NOTE:- The battering arrangements of the tween deck bunker hatches on the freeboard deck together with wood hatch covers, & tarpaulins etc., require to be placed in order together with the side bunker hatch on the freeboard deck can not be properly closed by reason of the ash shoot passing through the forward end & for which the B.A. Coaming has been cut away. There are no means fitted for battering down the trimming hatch on the freeboard deck.

State any special features in the construction of the ship:

HATCHES ON SUPERSTRUCTURE DECK. CONT^d FROM PAGE 2.

DESCRIPTION.	No. 2 HATCH	CROSS BKR	No. 3 HATCH	BRIDGE DECK	POOP	POOP STORE	POOP STORE	POOP STORE	POOP STORE	POOP STORE
DIMENSIONS.	27'-7 1/2" x 20'	17' x 20'	27'-7 1/2" x 20'	4'-6" x 4'	8'-5" x 4'	10'-4" x 10'	3'-8" x 3'	3'-9" x 2'-6"	35" x 35"	45" x 35"
HT ABOVE DK	30" / 34 1/2"	30" / 34 1/2"	30" / 34 1/2"	BA.	BA.	30" / 32"	BA.	BA.	BA.	BA.
THICKNESS	8/29	10/20	8/20	9 1/4" x 3" x 40"	9 1/4" x 3" x 40"	7/20	9 1/2" x 3" x 40"	9 x 3 1/2" x 40"	A 2 1/2" x 2 1/2" x 25"	A 3 x 3 x 25"
CORNING, STIFFENERS	8/20	10/20	8/20	"	"	7/20	"	"	"	"
BRACKETS.	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE
NUMBER SPACING	5.	4-7"	5.	NONE	NONE	NONE	NONE	NONE	NONE	NONE
SCANTLING & SKETCH	4'-7" x 4'-7" x 44"	SAME AS NO 2	4'-7" x 4'-7" x 44"	NONE	NONE	NONE	NONE	NONE	NONE	NONE
BEARING SURFACE	3 1/2"	3 1/2"	3 1/2"	NONE	NONE	NONE	NONE	NONE	NONE	NONE
FORE & AFTERS.	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE
MATERIAL THICKNESS	WOOD 2 1/2"	WOOD 2 1/2"	WOOD 2 1/2"	WOOD 2 3/8"	WOOD 2 1/2"	WOOD 2 1/4"	FLANGED STEEL 1/8" THICK	WOOD 3"	WOOD 2"	WOOD 3 1/2"
HOW FITTED	F & A	F & A	F & A	F & A	ATHWT	ATHWT	3 STIFFS 1 1/4" x 1 1/4" SPACED 12"	F & A	F & A	3 1/2"
COVERS. BEARING SURFACE	3 1/4"	3 1/4"	3 1/4"	2 1/4"	2 1/4"	3 1/4"	ATHWT. BEARER ANGOS. FITTED 1 1/2"	2"	2"	3 1/2"
SPACING OF CLEATS.	22" / 25"	24" / 27"	22" / 25"	E. 19" S. 21"	E. 19" S. 21"	ENDS 21 1/2" SIDES 27 1/2"	E 21 1/2" S 27"	E 20 1/2" S 26"	NONE	NONE
No OF TARPULINS.	3	2	3	3	3	2	NONE	2	NONE	NONE

* POOP DECK HATCH. ~~WOODEN F & A~~ is not steel sheet & is below required scantlings.

* 3" bearing surface

Builder's name and yard number. W. Dobson & Co. Newcastle.

Names of sister ships

Owners

Fee £

Received by me



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