

# Lloyd's Register of Shipping.

## SURVEYS FOR FREEBOARD.

10 OCT 1931

*Danish Govt copy  
written 13/10/31*

Computation of Freeboard for Steamer, Sailing Ship, Tanker  
Having Poop, Bridge and Forecastle.

Port of Survey Nakskov.

Date of Survey While building.

Name of Surveyor H. Jeth Lyderup.

Particulars of Classification 100. A. 1.  
with freeboard.

(Type of Superstructures.) DANISH

Ship's Name "ERRIA"  
Nakskov. Yard. No 50.  
No 40/65 in Supplement.

Nationality and Port of Registry Danish  
Copenhagen  
Liverpool  
COPENHAGEN

Official Number 1931.

Gross Tonnage 17175 metric tons

Date of Build 1931.

Moulded Dimensions: Length 134110 M Breadth 18900 M Depth 11355 M.

Moulded displacement at moulded draught = 85 per cent. of moulded depth 17175 metric tons

Coefficient of fineness for use with Tables .685 ✓

Depth for Freeboard (D)		Depth correction		Round of Beam correction	
Moulded depth	11355	(a) Where D is greater than Table depth (D - Table depth) R =	✓	Moulded Breadth (B)	18900 M.
Stringer plate	11	833(11.366 - 8.94) x 30 =	+ 606	Standard Round of Beam = $\frac{B \times R}{50}$	348 ✓
Sheathing on exposed deck $T \left( \frac{L-S}{L} \right) =$		(b) Where D is less than Table depth (if allowed) (Table depth - D) R =		Ship's Round of Beam	150 M ✓
Depth for Freeboard (D) =	11366 ✓	If restricted by superstructures		Difference	228 ✓
				Restricted to	
				Correction = $\frac{\text{Diff}}{4} \times \left( 1 - \frac{S_1}{L} \right)$	$\frac{228}{4} \times .294 = +14$ ✓

## DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S) M.	Equivalent Enclosed Length (S <sub>i</sub> )	Height M.	Height Correction	Effective Length (E)
Poop enclosed	9240	9240	2290	✓	9240
„ overhang	0				
R.Q.D. enclosed	✓				
„ overhang	✓				
Bridge enclosed	63840	63840	2750	✓	63840
„ overhang aft	72	54	✓		54
„ overhang forward	150	45	✓		45
Fore enclosed	21350	21350	2290	✓	21350
„ overhang	0				
Trunk aft	✓				
„ forward	✓				
Tonnage opening aft	✓				
„ forward	✓				
Total	94652	94559			94559

Standard Height of Superstructure	2290 ✓
„ „ R.Q.D.	✓
Deduction for complete superstructure	1064 ✓
Percentage covered $\frac{S}{L} =$	70.582 ✓
„ „ $\frac{S_i}{L} =$	70.512 ✓
„ „ $\frac{E}{L} =$	70.512 ✓
Percentage from Table, Line A. (corrected for absence of forecastle (if required))	✓
Percentage from Table, Line B. (corrected for absence of forecastle (if required))	63.622 ✓
Interpolation for bridge less than 2L (if required)	✓
Deduction =	1064 x .6362 = - 679 ✓

## SHEER CORRECTION.

Station	Standard Ordinate	S M	Product	Actual Ordinate	Effective Ordinate	S M	Product
A.P.	1341	1	1341	1235	1235	1	1235
$\frac{1}{4}$ L from A.P.	609	4	2436	552	552	4	2208
$\frac{2}{4}$ L „	152	2	304	142	142	2	284
Amidships	-	4	-	0	0	4	-
$\frac{2}{4}$ L from F.P.	304	2	608	260	260	2	520
$\frac{1}{4}$ L „	1218	4	4872	1056	1056	4	4224
F.P.	2442	1	2442	2440	2440	1	2440
Total			12333				10911

Mean actual sheer aft = Deficient  
Mean standard sheer aft = Deficient

Mean actual sheer forward = Deficient  
Mean standard sheer forward = Deficient

Length of enclosed superstructure forward of amidships = ✓  
„ „ aft of „ = ✓

Correction =  $\frac{\text{Difference between sums of products}}{18} \left( .75 - \frac{S}{2L} \right) = \frac{1422}{18} \times (.75 - .3529) = + 31$  ✓

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.		Deduction for Fresh Water.		TABULAR FREEBOARD corrected for Flush Deck (if required)	
Addition for Winter and Winter North Atlantic Freeboard.		Displacement in salt water at summer load water line		Correction for coefficient	$\frac{.685 + .68}{1.36} = \frac{1.365}{1.36}$ ✓
Depth to Freeboard Deck =	11366	Δ =		Depth Correction	606 ✓
Summer freeboard =	3060	Tons per inch immersion at summer load water line		Deduction for superstructures	649 ✓
Moulded draught (d) =	8306	T =		Sheer correction	31 ✓
Deduction for Tropical freeboard and addition for Winter freeboard = $\frac{d}{48}$ inches =	143 ✓	Deduction = $\frac{\Delta}{40 T}$ inches		Round of Beam correction	14 ✓
Addition for Winter North Atlantic Freeboard (if required) =	✓			Correction for Thickness of Deck amidships	✓
				Other corrections, scantlings, etc. to correspond to summer moulded draft of 24'-3" ✓	943 ✓
				Summer Freeboard =	3060 ✓

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

Tropical Fresh Water Line above Centre of Disc	13' 1/2"	346 mm	Tropical Fresh Water Freeboard	2.414
Fresh Water Line	6' 3/4"	143	Fresh Water	2.884
Tropical Line	6' 3/4"	143	Tropical	2.884
Winter Line below	6' 3/4"	143	Winter	5.233
Winter North Atlantic Line	✓	✓	Winter North Atlantic	✓

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# PARTICULARS OF PROTECTION TO OPENINGS, ETC.

HATCHWAYS ON FREEBOARD AND SUPERSTRUCTURE DECKS									
Description of Hatchway	Nº1	Nº2	Nº3	Nº4	Nº5	Nº6	Nº7	Nº8	Nº9
Dimensions of Hatchway	7995 x 6100	7995 x 6100	12160 x 6100	6840 x 5485	7600 x 6100	7600 x 6100			
COAMINGS	Height above Deck	830	230	830	875	875	830		
	Thickness	12.5	11.5	12.5	12.5	12.5	12.5		
	Stiffeners	11	11	11	12.5	12.5	11		
	Brackets, Stays	5 180x75x11	5 180x75x11	5 180x75x11	5 180x75x11	5 180x75x11	5 180x75x11		
		2 off	✓	3 off	2 off	2 off	2 off		
HATCH BEAMS	Number	5	5	7	4	4	4		
	Spacing	1370	1370	1520	1368	1520	1520		
	Scantling and Sketch								
	Top angles	100x75x10	100x75x10	120x75x10	100x75x10	100x75x10	100x75x10		
	Bottom angles	100x75x10	100x75x10	120x75x10	100x75x10	100x75x10	100x75x10		
FORE AND AFTERS	Bearing Surface	3"	3"	3"	3"	3"	3"		
	Number								
	Spacing								
	Unsupported Lengths								
	Scantling and Sketch								
HATCH COVERS	Material	Wood	Wood	Wood	Wood	Wood	Wood		
	Thickness	75	75	75	75	75	75		
	How fitted	f. 8 aft	f. 8 aft	f. 8 aft	f. 8 aft	f. 8 aft	f. 8 aft		
	Bearing Surface	75	75	75	75	75	75		
Spacing of Cleats	610	610	610	610	610	610	610		
Number of Tarpaulins	3	3	3	3	3	3	3		

\*Are wood fore and afters steel shod at all bearing surfaces? *None fitted.*  
 Are battens and wedges efficient and in good condition? *yes*  
 Are tarpaulins in good condition and in accordance with rule requirements? *yes*  
 Are lashings provided in accordance with rule requirements? *yes.*

Particulars of fiddley, funnel and ventilator coamings:— *No fiddley. Motor Room casing top plated over. Motor Room vents on top of casing. 2 off 130% dia. coam. 550x8.5, 2 off 150% dia coam. 550x7.5, 1 off 150% dia coam. 1000x6 stiff by 75x75x8 1/2.*

Particulars of Flush Bunker Scuttles:—

*None fitted.*

Particulars of Companionways:— *Companionway on poopdeck, door facing aft. Plating 6.5mm. Sill of door 18". Door made of 2" Teak capable of being manipulated from both sides.*

Particulars of Ventilators in exposed positions on freeboard and superstructure decks:— *All ventilator coamings of steel properly riveted to deck. Wood plugs and canvas covers supplied for all ventilators, all ventilators fitted with turnable cowls.*

*For position and particulars, please see sketch page 4.*

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

*Height of swanneck brad above deck on superstructure decks 460mm, in well aft 915mm. No airpipes fitted in well forward. Wood plugs and canvas covers are supplied for all airpipes.*

Particulars of Gangway Cargo and Coaling Ports:—

*Ask discharge from galley through shipside (st.s), lower edge 8960mm above keel, and fitted with an always accessible, hinged steel covers to close watertight with screw down fasteners spaced 300mm apart.*

Particulars of Scuppers and Sanitary Discharge Pipes — *All scuppers and Sanitary Discharge Pipes from forecastle, bridge and poop spaces are led overboard and fitted with stormvalves made of Cast Steel. Scuppers from spaces below freeboard deck are led to the bilge sections.*

Particulars of Side Scuttles: *All sidescuttles within poop, bridge and forecastle spaces, and below freeboard deck are fitted with efficiently constructed, permanently attached, inside dead light, which can be effectively closed and secured watertight. Lowest sidescuttle 10694mm above keel.*

Particulars of Guard Rails:— *Steel bulwork 14wells, plate 6.5mm stiffeners 140x75x7.5 spaced 2280mm apart.*  
 Rails on: *Forecastle deck, Bridge deck, Poop deck, Boat deck.*  
 Spacing of stanchions: *1371mm, 1371mm, 1371mm, 1371mm.*

Particulars of Gangways, Lifelines, etc.:—

*None fitted. Crew berthed in poop and midship deckhouse.*

## 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	18240	1225	1000 x 225	6	128.3 dm <sup>2</sup>	116.0 dm <sup>2</sup>
Forward Well	21440	1225	1000 x 225	7	149.8 dm <sup>2</sup>	130.8 dm <sup>2</sup>

State position of each freeing port ... After Well:— *From poop/round 4200, 6450, 8750, 11050, 13300, 15500mm*  
 (F. and A. position and height above deck edge) } Forward Well:— *Bridge: 2750, 4880, 7200, 9500, 11720, 13970, 18350mm* } *Height above deck 350mm.*  
 State whether the freeing ports are fitted with shutters, bars, or rails, and give particulars of such:— *No shutters, bars or rails are fitted.*  
 Additional area where sheer is less than standard.

## Particulars of Superstructures, Trunks, Casings, Deckhouses.

	Coaming	Plating	Stiffeners	Spacing	End Attachments of Stiffeners	Size of Openings	Height of Sills	Height of Casings
Poop Bulkhead	10	9	150x75x8	760 to 500mm	brack. top and bottom	1680 x 685	330	2290
Raised Quarter Deck Bulkhead	✓							
Bridge, After Bulkhead	6.5	6.5	130x65x9	760	Riveted to foot & top	3 off 1730 x 865	330	2750
Bridge, Forward Bulkhead	11	10	250x90x12.5	760 to 515	double lugs 140x140x12	None	✓	2750
Forecastle Bulkhead	8	8	130x65x9	760 to 600	Takes post and top angles	2 off 1245 x 940	460	2290
Trunk, Aft	✓							
Trunk, Forward	✓							
Exposed Machinery Casings on Freeboard or Raised Quarter Decks	✓							
Exposed Machinery Casings on Superstructure Decks	8.5	7.5	75x65x7.5	760	Riveted to foot & top	None	✓	2440
Machinery Casings within Superstructures not fitted with Class I Closing Appliances	7.5	6.5	75x65x7.5	760	- do -	- do -	✓	2750
Deckhouses on Flush Deck Ships	✓							

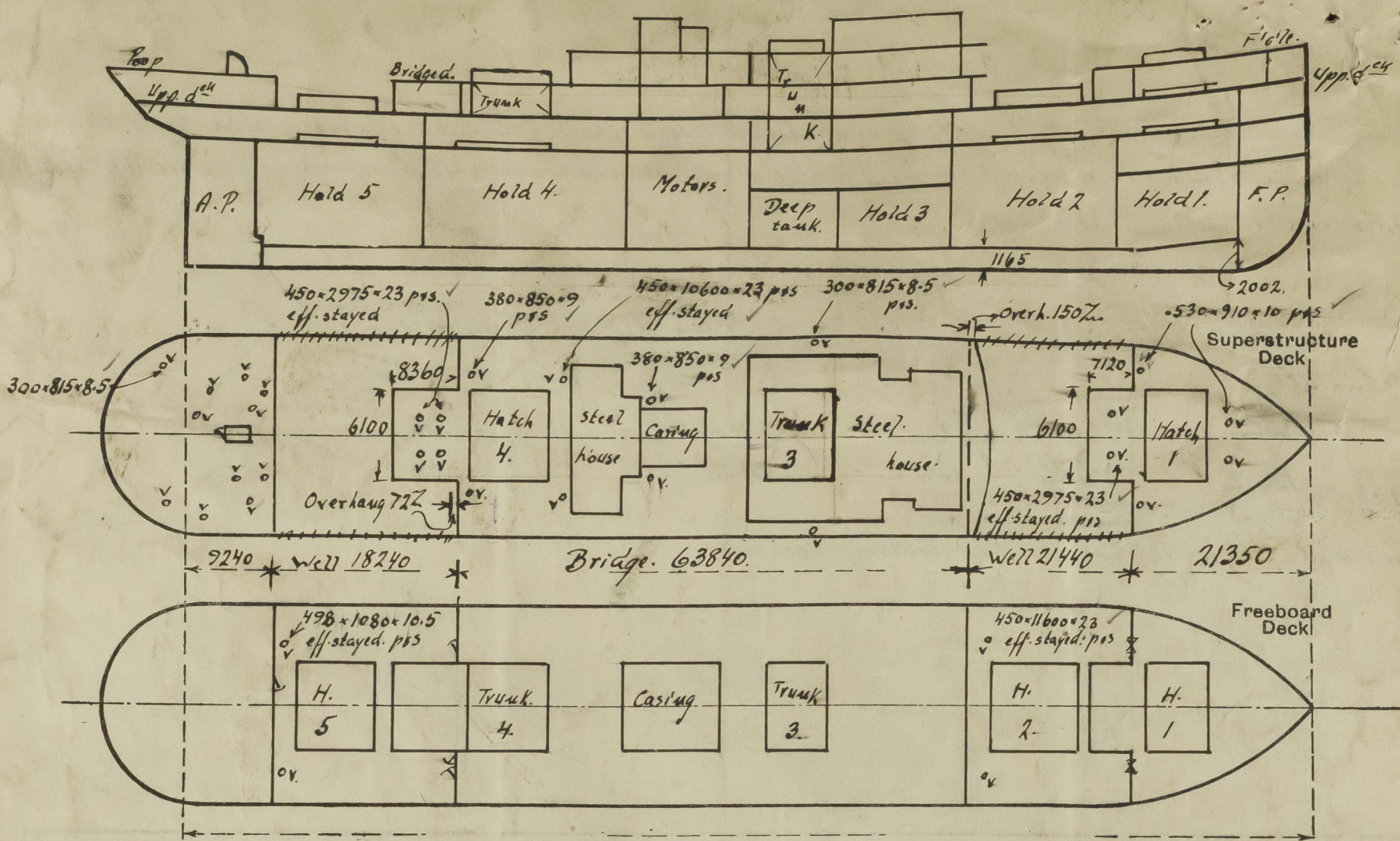
## Particulars of Closing Appliances (state if capable of being manipulated from both sides).

Poop Bulkhead	1 off 1680x685. Perm. attached, hinged 2" Teak door, capable of being manipulated from both sides.
Raised Quarter Deck Bulkhead	✓
Bridge, After Bulkhead	3 off 1730x865. Perm. attached, hinged 2" Teak door, capable of being manipulated from both sides.
Bridge, Forward Bulkhead	No openings.
Forecastle Bulkhead	2 off 1245x940. Stormboard fitted in riveted channels for full height of openings.
Exposed Machinery Casings on Freeboard or Raised Quarter Decks	✓
Exposed Machinery Casings on Superstructure Decks	No openings.
Machinery Casings within Superstructures not fitted with Class I Closing Appliances	No openings.
Deckhouses on Flush Deck Ships	✓



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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 shewn on the following sketches:—



Covering of Poop deck 65<sup>1</sup>/<sub>4</sub> Teak.  
- Bridge - 65<sup>1</sup>/<sub>4</sub> Teak.  
- Fiddle - None.  
- Updeck. Ruberum within bridge, no sheathing in wells.

V = Ventilators, dimensions indicated are: diameter, height of coaming and thickness of same.

State any special features in the construction of the ship:—

Vessel built with freeboard corresponding to a summer moulded draught 27'-3".

Sum T.

Builder's name and yard number A/s Nakskov Skibsverft. Yard No 50.  
Names of sister ships None.  
Owners A/s Det. Østasiatiske Kompagni, Copenhagen.

Fee ☒ to be charged together with first entry fee. Received by me \_\_\_\_\_



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