

STEEL ~~STEAMER~~ or MOTORSHIP.

Received at London Office. OCT 22 1937

State if Report has been sent on the Freeboard of the Vessel. *Yes*State if Report is sent on the Machinery of the Vessel. *Yes*

Date of completion of report

15<sup>th</sup> October 1937

Port of

Copenhagen

No.

10365.

Survey held at

Odense

Date First Survey

14-10-36

Last Survey

5-10-

1937

On the

(State if Machinery fitted Aft and if Single, Twin or Triple Screw)

steel single screw motor tanker "HØEGH RAY" (incl. fitted aft)

State Type

(Full Scantling, Complete Superstructure with or without Tonnage Openings)

Full scantling

State Type of Erections

P, B &amp; F

TONNAGE under Tonnage Deck...

8680.19

CLASS

+100 A1

State if with freeboard

no

Built at

Odense

Do. of space or spaces between Tonnage Dk. and Upper Dk.

Length from fore part of stem to after part of stern post on summer L.W.L. See Sec. 3 (1a)

L 480'-0"

Launched

14-8-37

Yard No. 66

Total

8680.19

Breadth (greatest moulded)

B 65'-3"

Builders *A/S Odense Staalvarefabrik*

Gross Tonnage

9357.37

Depth at middle of length from top of keel to top of beam at side of uppermost continuous deck. See Sec. 3 (1c)

D 35'-10"

Owners *A/S Arcadia*

Register Tonnage

5659.40

1st Longitudinal Number (L x D)

= 16800

Managers

*Kaj Høeg*

2nd Numeral L x (B + D)

= 48120

(Where necessary to be entered in Reg. Book.)

## REGISTERED DIMENSIONS.

FEET.

Length

485.8

Framing Depth "d" at middle of length. See Sec. 3 (1d)

13.36

Residence

Oslo

Breadth

65.7

Proportions—Depth to Length—Uppermost continuous deck to top of keel

13.36

Port of Registry

Oslo

Depth

35.8

Draught Moulded

27'-9 3/4"

If surveyed while building, afloat, or in dry dock

while building.

## FRAMES, DOUBLE BOTTOM AND BEAMS.

	INCHES IN SHIP.	Any Departure from Approved Plans to be Noted.		INCHES IN SHIP.	Any Departure from Approved Plans to be Noted.
<b>FRAMES, Spacing amidships</b>	800	✓	<b>Bracket Floors, Frame</b>		
" " from <i>mid engine room</i> to Collision bulkhead	660	✓	" " Reversed Frame		
" " in peaks	605	✓	" " Vertical Struts		
<b>SIDE FRAMING.</b>			<b>Centre Girder, depth and thickness amidships</b>	2300 12 1/2 ✓ 1200 15-14 ✓	
Frame Amidships, Angle, E or F	250 90 12	✓	" " top Angles	90 90 14	double
" " Extends up to	upper deck	✓	" " bottom Angles	130 130 16	✓ - m -
Reversed Frame Amidships, Angle		For particulars of lang. frames etc. please see Rpt. 1 <sup>st</sup> on back of this report	<b>Side Girders, No. each side and thickness</b>	3 19-11	✓
" " Extends up to			<b>Margin Plate</b> depth (excl. of flange) and thickness		
Depth of Framing Girder			" " Vertical Angle to Tank side		
Frames in Uppermost Continuous 'tween Decks, Angle, E or F			Bracket abaft 1/2 len. from stem		
" " Second 'tween Decks, Angle, E or F			" " Vertical Angle to Tank side		
" " Third " " "			Bracket forward 1/2 len. from stem		
Framing in Peaks, Angle, E or F	230 90 11	app. 10	" " Gussets, spacing and scantling abaft 1/2 len. from stem		
Diameter and Spacing of Rivets through Frame and Shell Plating amidships	22 135	✓	" " Gussets, spacing and scantling forward 1/2 len. from stem		
State if Frame Joggled			<b>Tank Side Brackets, height above base line at top of Frame and thickness</b>	12	✓
<b>PANTING ARRANGEMENTS</b> (Sec. 7), state system and particulars	3 side stringers in F.P. and 2 side stringers in deep tank (with beams in F.P.) spaced at 5'-6"	✓	<b>INNER BOTTOM PLATING, in motor room</b>		
<b>STRENGTHENING OF BOTTOM FORWARD.</b> State Particulars	Bottom shell forward increased. Back bars on lang. bottom frames in no. 1 centre tank and on lower end of side frames in no. 1 side tank. One intercostal girder each side in deep tank p. 163-174	✓	Breadth and thickness of Middle Line Strake	1415 13 1/2	✓
<b>SINGLE BOTTOM.</b>			Thickness of remainder in Holds	13 1/2	✓
Floors, Depth and thickness at mid-line in Holds	1865	✓	Are Rule requirements complied with regarding increases of scantlings in way of double bottom in E. & B. space and framing in Bunkers and Boiler Room?	✓	
Height of Brackets at side above base line at toe of frame	150 75 11	double	<b>BEAMS.</b>		
Middle Line Keelson, Angle, E or F	1475 11	✓	Uppermost Continuous Deck, amidships	230 90 11	✓
" " Through Plate or Intercostal Plate			" " in Wells, Angle, E or F	230 90 11	✓
" " Foundation Plate on Floors	160 100 15-13.5	double	" " in Way of Bridge, Angle, E or F	200 75 10 1/2	✓
" " Flat Plate Keel Angles			Spacing	every frame	
<b>DOUBLE BOTTOM, in motor room</b>			<b>Peak &amp; stringer.</b> aft	250 90 11	✓
Solid Floors, thickness and spacing	11 every frame	✓	Second Deck, amidships, Angle, E or F	200 75 9	✓
" " Are Frame and Reversed Frame joggled?	yes	✓	Spacing	every frame	
Bracket Floors, breadth and thickness at middle line			<b>Third Deck, amidships, Angle, E or F</b>		
" " breadth and thickness at margin plate			Spacing		
			<b>Fourth Deck, amidships, Angle, E or F</b>		
			Spacing		
			<b>Poop Deck, Angle, E or F</b>	230 90 11	✓
			Spacing	every frame	
			<b>Bridge Deck, Angle, E or F</b>		
			Spacing	longitudinal	
			<b>Forecastle Deck, Angle, E or F</b>	200 75 11 1/2-10 1/2	✓
			Spacing	every frame	



# PILLARS AND DECKS.

	IN SHIP.	Any Departure from Approved Plans to be Noted.		IN SHIP.	Any Departure from Approved Plans to be Noted.
<b>PILLARS, No. of Rows.....</b>			Stringer Plate, breadth and thickness in way of Bridge .....		
"    in 'tween Decks, Size and Spacing.....			Thickness of Plating abreast Deck openings in way of Wells .....		
"    "    "    "    "    "			Thickness of Plating abreast Deck openings in way of Bridge .....		
"    in Holds    "    "    "			Thickness of Plating within line of openings...		
"    "    "    "    "    "			If Sheathed, material and thickness .....		
2 long. side Centre Line Bulkhead. 5			<b>Third Deck.</b>		
Stiffeners and Spacing.....	250 90 13 E		Stringer Plate, breadth and thickness.....		
Plating, thickness of .....	13 - 10		If Plated, state thickness.....		
<b>STRINGERS AND DECKS.</b>			<b>Fourth Deck.</b>		
Uppermost Continuous Deck.			Stringer Plate, breadth and thickness.....		
Stringer Plate, breadth and thickness in Wells	1865 x 21 - 11 at ends	app'd 1760	If Plated, state thickness .....		
"    "    "    in way of Bridge	1865 x 27	app'd 1760	<b>Poop Deck.</b>		
"    Angle in Wells .....	180 180 19		Stringer Plate, breadth and thickness .....	990 9 1/2	
Thickness of Plating abreast Deck openings in way of Wells .....	21 - 9		Plating, Sheathing, material and thickness ..	7 1/2 - 6 1/2 2 1/2 O.P.	
Thickness of Plating abreast Deck openings in way of Bridge .....	21		<b>Bridge Deck.</b>		
Thickness of Plating within line of openings...	14 1/2		Stringer Plate, breadth and thickness.....	1900 10	
If Sheathed, material and thickness .....	✓		Plating, Sheathing, material and thickness ..	8 or sheathing	
<b>Second Deck.</b>			<b>Forecastle Deck.</b>		
Stringer Plate, breadth and thickness in Wells...	✓		Stringer Plate, breadth and thickness.....	915 9 1/2	
			Plating, Sheathing, material and thickness ..	10 - 9 or sheathing	

# SHELL PLATING.

SCANTLINGS.					RIVETING.						
STRAKES.	AS IN VESSEL.				ANY DEPARTURE FROM APPROVED PLANS TO BE NOTED.	EDGES.		BUTTS.			
	AMIDSHIPS.		FORWARD.	AFT.		SINGLE OR DOUBLE.	RIVETS.	No. OF ROWS OF RIVETS.	RIVETS.		STRAPPED OR LAPPED.
	Breadth.	Thickness.	Thickness.	Thickness.					Diam.	Spacing cr. to cr.	
FLAT PLATE KEEL .....	1380	26	20	20		double	1 3/2	3	1 1/8	4 1/2	double strap
"    DBLG. (if any)		✓									
BOTTOM PLATING, No. of Strakes ....	A, B	17 1/2	15	14		double	7/8 3/8	4-3	7/8	3 1/2	lapped
BILGE PLATING, No. of Strakes .....	C, D	18 1/2	15	15		- u -	7/8 3/8	5-3	7/8	4	- u -
SIDE PLATING, No. of Strakes ....		17 1/2	12	12		- u -	7/8 3/8	4-3	7/8	3 1/2	- u -
UPPER DECK, Sheer-strake in Wells.....	1520	26	12 1/2	12		- u -	1 3/2	3	1 1/8	4 1/2	double strap (lapped at ends)
UPPER DECK, Sheer-strake in Bridge .....	1700	30	✓	✓		- u -	1 3/2	3	1 1/8	4 1/2	double strap
STRAKE BELOW Sheer-strake in Wells.....	2260	17 1/2	12	12		- u -	7/8 3/8	4-3	7/8	3 1/2	lapped
STRAKE BELOW Sheer-strake in Bridge ...		✓				✓					
POOP SIDE PLATING .....				10 1/2		single	3/4 3	2-1	3/4	2 1/2	lapped
BRIDGE SIDE PLATING ...		11				- u -	3/4 3	2	3/4	2 1/2	- u -
FORECASTLE SIDE PLATING			11			- u -	3/4 3	1	3/4	2 1/2	- u -

# WATERTIGHT BULKHEADS.

Total No. of W.T. BULKHEADS in Vessel—					
Extending to Upper Deck (Sec. 3 c)	14	✓			
"    Deck next below		✓			
As per Rule		✓			
	Plating Thickness. Z	STIFFENERS.			
		VERTICAL.		HORIZONTAL.	
		Scantlings. Z	Spacing. Z	Scantlings. Z	Spacing. Z
MIDSHIP BULK'HD, Upper between decks	13½ - 9	280.90.12 E	8 1/5	Pl. 1450 x 11½	
"    "    Center tanks				Pl. 320.100.15 E	
"    "    Second					
"    "    Third	13½ - 9	250.90.12½ E	8 4/2	Pl. 1000.10	
"    "    Side tanks				Pl. 230.90.12 E	
"    "    Holds					
COLLISION	8 - 6½	180.75.9½ E	6 10		
above peakdeck	12 - 8	230.90.12 E	6 10	Tankdeck & stringer	
below	8.75 - 7.75				
AFTER PEAK	12 - 9.25	200.75.12 E	6 10	Boiler platform	
below					

# FORGINGS and CASTINGS.

	Casting or Forging.	Scantlings.	Maker's Name.	Any departure from approved plans to be noted.
KEEL, Bar .....		✓		
STEM .....	forged	270 x 70		
STERN FRAME { Propeller Post .....	cast steel	✓		
{ Rudder .....	forged	254 x 2		
RUDDER—A x D.....				
Speed of Vessel.....		12 knots		
RUDDER mainpiece at head ...				
"    heel ...		Balanced		
"    how constructed .....		reaction		
"    double or single plate coupling, vertical or horizontal.....		rudder		

STEEL.	Manufacturer's Name or Trade Mark of the Steel used in the construction of the Vessel (state process of manufacture)
	Plates: - Société anonyme d'Outillage - Maritimes
	Profiles: - Dortmund - Hoerder Hüttenverein
	Has the Steel been tested as required by the Rules? yes



## PARTICULARS OF LONGITUDINAL FRAMING.

FRAMING.		AMIDSHIPS.			ENDS.			AMIDSHIPS.			ENDS.			RIVETING.				
		In Ship.			In Ship.			Per Rule or as approved.			Per Rule or as approved.			Rivets in Longitudinal Frames.		Spacing of Rivets on each side of Transverses and Bulkheads. Inches.	Rivets in Brackets to Bulkheads.	
		Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Diam.	Speng.		Number.	Diameter.
Framing of <del>L or C</del> .....																		
Frames in Bridge 'tween Decks <del>L</del>		180	75	10 1/2 ✓	—			180	75	10 1/2 ✓	—							
Frames <del>from Uppermost Continuous Deck in centre tanks</del> No. 1		17	4	4 5/16 ✓	—			17	4	4 5/16 ✓	—			7/8	5 1/4	3 (10 off)	19	7/8 ✓
" 2																4 in w. 1 bank		
" 3																		
" 4																		
" 5																		
" 6																		
" 7																		
" 8																		
" 9																		
" 10																		
" 11																		
" 12																		
" 13																		
" 14																		
" 15																		
" 16																		
Spacing of Longitudinal Frames		Amidships 815 1/2 ✓			—			815 1/2 ✓			—							
		At Ends ✓						✓										
Double Bottoms		Tank Top Longitudinals																
L, L or C		Bottom			✓			✓										
Spacing of Longitudinals		Amidships																
		At Ends...																
Transverses.		2																
Wid. frames		380 9 1/2 ✓						380 9 1/2 ✓										
In Bridge		75 75 10 1/2 ✓						75 75 10 1/2 ✓										
'tween Decks		90 90 10 ✓						90 90 10 ✓										
In Upper 'tween Decks.		✓						✓										
Bottom		1400 12 1/2 ✓						1400 12 1/2 ✓										
Transverses		230 90 12 double						230 90 12 double										
In Hold.		150 150 12 ✓						150 150 12 ✓						7/8	4			
Centre tanks		90 90 12 1/2 ✓						90 90 12 1/2 ✓						7/8	4			
		2200 2445 12 1/2 ✓						2200 2445 12 1/2 ✓										
Spacing of Transverse Frames		3 off in each bank equally spaced						3 off in each bank equally spaced										
Longitudinal Beams of		150 75 8 ✓						150 75 8 ✓						Spacing. 815				
L, L or E		230 90 11 ✓						230 90 11 ✓						815				
		—						—										
		—						—										
		—						—										

The particulars of framing in peaks (if ordinary), Floors, Centre Girder, Side Girders and Margin Plate and their angle attachments, etc., to be entered in their respective places provided for on the Report Forms.

NOTE:—This slip to be pasted on the fourth page of the Report, and reference to same to be made under framing, etc., on the first page.



EQUIPMENT No. 49618 ✓										LETTER 49618 ✓		ANCHORS.			
Number of Certificate.	Anchor.	WEIGHT, EX. STOCK			WEIGHT OF STOCK.			TEST, PER CERTIFICATE.			WEIGHT REQUIRED BY TABLE 53.	Description of Anchor.	Makers.	Where and when tested and Superintendent.	
		Cwts.	qrs.	lbs.	Cwts.	qrs.	lbs.	Tons.	cwts.	qrs.	lbs.	Cwts.			
2073	1st Bower ...	87	2	3	✓	—		62	5	0	0	185.2.0	Morse	Morse.	Delivered 26/127 Fr. Schnell
2074	2nd " ...	87	1	10	✓	—		62	5	0	0	85.2.0	—	Delivered	
2075	3rd " ...	74	1	4	✓	—		56	0	0	0	✓	—	Delivered	
	Collective weight.	249	0	27	✓							244.2.0 ✓	Wither vain		
2076	Stream .....	25	1	25	✓	6	2	24	25	3	3	0	25.0.0 ✓	Stock	Fr. Schnell ✓

CHAIN CABLES.												HAWSERS AND WARPS.							
Number of Certificate.	Length and size supplied.		Test per Certificate.		WEIGHT OF CHAIN CABLE.				Length and Size per Table 53.		Description.	Makers of Cables.	Where and when tested, and Superintendent.	Material	Length and Size supplied.		Breaking Test of Steel Wire.	Length and Size per Table 53.	
	Length.	Diam.	Statu- tory.	Break- ing.	Supplied.		Per Rule.		Length.	Diam.					Length.	Cir.		Tons.	Length.
	Fathoms.	Ins.	Tons.	Tons.	Cwts.	qrs.	lbs.	Cwts.	Fathoms.	Ins.					Fathoms.	Ins.	Tons.	Fathoms.	Ins.
1437	301 1/2	2 9/16	116.7	163 3/8	1068.2	19	989.0	0	300	2 7/16	Stud link	Morse. Kettelwerke Schlieper of Guine	Guine 6 1/2 37 Jd. Qual	TOWLINE...	130	5 1/2	84.400	130	5 1/2
														HAWSERS & WARPS	2x100	2 3/4	15.200	2x100	2 3/4
															2x100	8	Temp	2x100	8
Iron Stream Chain or Steel Wire	120	4 3/4			64.600				120	4 3/4	6x24	Jacob Holm & Sønner	Copenhagen 13/8/36.						

Steering Gear, Steam *Deutsche Werke Kiel* Steering Gear, Hand *direct*

Boats *1 @ 18'-0" x 6'-3" x 2'-5"* Steering Chains, Size and Test *Telemotor* Windlass *Deutsche Werke Kiel*

*1 @ 16'-0" x 3'-8" x 2'-2" duffing*

Ceiling in Holds, thickness and material *0.5.* Cargo Batches, thickness, material and spacing *Gaslight hatchways as appended*

Cargo Hatchways.-(Upper Deck) *1600 x 1225 x 810 2x10 2 thick* Thickness of Hatches *3454 x 2640 x 760 2x11 2 thick*

Size of No. 1 Hatchway (Forward) ☒ No. 2 ☒ No. 3 ☒ No. 4 ☒ No. 5 ☒ No. 6 ☒

Number of Shifting Beams and/or Fore and Afters ☒

Builder's Signature *E. J. Ingsted.*

GENERAL DECLARATION. It should be stated (a) whether the vessel is fitted for the carriage and burning of oil used as fuel *yes* (b) whether the vessel, not being an oil tanker, is fitted for carrying oil as cargo *is a tanker*. The positions in which oil is carried as fuel or cargo should be indicated, together with the flash point.

*Vessel fitted for carrying oil fuel in double bottom, in wing tanks in motor room, in deep tanks forward and in boiler tanks above aft peak. F.P. of oil above 150° F; also requirements of sec. 20 of the Rules complied with.*

*The vessel has been built in accordance with the approved plans, the Society's Rules, the Secretary's letters and to my satisfaction.*

*The material and workmanship employed during construction of the vessel are of good quality.*

*The vessel is intended for carrying petroleum in bulk and all the cargo tanks, oil fuel- and lub.-oil tanks, cofferdams, deep tanks, wing tanks, double bottom tanks, peak tanks, F.W.- and feed water tanks etc. have been tested according to Rules and found tight.*

*Windlass and steering arrangements tried and found satisfactory.*

*The fuelboards have been marked on the vessels sides, cut in and verified.*

The amount of Entry Fee ..... *£K. 246.00* Fees applied for, *20.10.1937*

Freight fee *£K. 448.00*

Special Survey Fee.... *£K. 14.580.72* Received by me, *1.11.1937*

*late entry fee £K. 120.00*

Travelling Expenses, if any *£K. 1.404.00*

I am of opinion the Vessel should be Classed *+100 A 1*

*carrying petroleum in bulk.*

State whether the Vessel has been built under Special Survey *yes* Signature *S. Sanderson*

Certificate to be sent to *Surveyor office, Cph* Date of issue *28/10/37* Surveyor to Lloyd's Register of Shipping.

Committee's Minute *TUE 26 OCT 1937*

Character assigned *+100 A1*


*Carrying Petroleum in bulk*

*Longitudinal framing at bottom & deck in centre tanks*

*Lloyd's A&C + Dec 10.37 200 180 lb oil bug*

*OK*

*Printed*

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GENERAL REMARKS—(The Surveyor should state the Number of Report and Name of any Sister Vessel. Plans showing Vessel as built should be forwarded and a List of the Plans should be embodied.)

Plans forwarded :- midships section as built.  
general arrangement as built.

Certificates forwarded :- interim certificate (hull) (2 off)  
stemframes  
Rudder  
Rudder tillers.

The approved plans are being retained for reference for the sister vessels  
yard nos. 71 & 72.

Overall length of vessel = 501'-1 1/2" ✓

13. The vessel is under vessel to m.s. 'HØEGH HODD' Messrs. Odense Steel Shipyard  
newbuilding no. 65, Copenhagen report no. 10.109.

Particulars of Drop Test of Cast Steel Anchors, viz. :— Weight, Surveyor's Initials, Number of Certificate, Date of Test.	Head				Stanch			
	1st Bower							
	57.0.19	JL	356	12.1.37	30.1.12	JL	1985	12.1.37
	57.0.22	JL	357	12.1.37	30.0.16	JL	1984	12.1.37
	48.2.17	JL	358	12.1.37	25.2.15	JL	1986	12.1.37

PARTICULARS FOR RECORD in the REGISTER BOOK.—Length of Poop 48.23 ft., R.Q.D. ✓ ft., Bridge 34.12 ft., Forecastle 37.20 ft.  
(in feet and tenths). When the Poop is joined to the B.D., this should be distinctly stated ✓

Longitudinal framing at bottom and deck in centre tanks

No. and Material of Decks (this information is to be given as it should appear in the Register Book) 1 dls (all)

Official No. ✓ : Signal Letters L J P L Is bottom of Vessel coated with cement ✓ if not give particulars of composition ✓

#### PARTICULARS OF WATER BALLAST.—

Where Fitted.	oil capacity Ins.	*Length. Feet.	Water Capacity. Tons.	Where Fitted.	oil capacity Ins.	*Length. Feet.	Water Capacity. Tons.
Double bottom, aft, Oct. 12-30.	52	21'-0"	—	Fore peak tank,	p. 180 - stem	25'-7"	167
Double bottom, under Engines and Boilers,	✓	✓	✓	After peak tank,	p. 1-11	19'-10"	93
Double bottom, if under Engines only, p. 13-44	288	81'-4 1/2"	329	Deep tank, aft,	p. 38-44	15'-9"	379
Double bottom, if under Boilers only,	✓	✓	✓	Deep tank, forward,	p. 168-180	26'-0"	443
Double bottom, forward,	✓	✓	✓	Other tanks, if fitted, Tanks above aft peak.	92	—	137
Total capacity of double bottom				(If necessary, furnish further information by sketch.)			

\* The wells are not to be included in the lengths of the tanks.

Order for Special Survey No. 101

Date 12-8-36.

Dates of Surveys held while building

1936 :- Oct. 14. 15. 17. 20. 21. 24. 30 Nov. 6. 13 (2 off) 16. 19. 24. 25. 28. 30  
1937 :- Febr. 5 March 5. 11 April 2. 8. 20 May 4. 19. 20. 25 June 8. 18. 24. 25  
July 6. 13. 16. 20. 23. 27. 30 Aug. 2. 6. 10. 12. 13. 14. Sept. 2. 5. 10. 14. 24. 28  
Oct. 1. 2. 5

Total No. of Visits 52