

REPORT ON BOILERS.

No. 22091

Received at London Office

13 NOV 6

Date of writing Report 7th November 1936 When handed in at Local Office 10 Port of Hamburg
 No. in Survey held at Hamburg Date, First Survey 18-2-1936 Last Survey 22nd Oct. 1936
 g. Book. Steel sc. "Regulus" (Number of Visits 10) Gross 10290
 on the Steel sc. "Regulus" Tons Net 7621
 Master Hamburg Built at Hamburg By whom built Messrs. Deutsche Werft A.G. Yard No. 182 When built 1936
 Engines made at Augsburg By whom made Maschinenf. Augsburg-Nürnberg Engine No. 691/120 When made 1936
 Boilers made at Hamburg By whom made Messrs. Deutsche Werft A.G. Boiler No. 550/51 When made 1936
 Nominal Horse Power 1167 Owners Trelleborgs Angfartygs Nya Aktiebolag Port belonging to Trelleborg

MULTITUBULAR BOILERS ~~MAIN, AUXILIARY, OR~~ DONKEY.

Manufacturers of Steel Messrs. Gutehoffnungshütte A.G. Abt. Walzwerk Oberhausen (Rhld) (Letter for Record S)
 Total Heating Surface of Boilers 145 m² each Is forced draught fitted ✓ Coal or Oil fired Oil Fired
 No. and Description of Boilers 2; Two furnaces, single ended multitubular Donkey Boilers Working Pressure 12 Kgs/cm²
 Tested by hydraulic pressure to 21.5 1/4 Date of test 13-5-36 No. of Certificate 617/18 Can each boiler be worked separately yes
 Area of Firegrate in each Boiler ✓ No. and Description of safety valves to each boiler each: Two spring loaded safety valves
 Area of each set of valves per boiler { per Rule 6790 mm² Pressure to which they are adjusted 12 Kgs/cm² Are they fitted with easing gear yes
 as fitted 6800
 In case of donkey boilers, state whether steam from main boilers can enter the donkey boiler ✓
 Smallest distance between boilers or uptakes and ~~boilers~~ or woodwork 750 mm Is oil fuel carried in the double bottom under boilers Tween deck
 Smallest distance between shell of boiler and ~~tank top~~ tween deck 450 mm Is the bottom of the boiler insulated yes
 Largest internal dia. of boilers 3400 mm Length 3294 mm Shell plates: Material S.M. Steel Tensile strength 47/53 Kgs/mm²
 Thickness 22 mm Are the shell plates welded or flanged double butt strapped Description of riveting: circ. seams { end 2 row zig-zag
 long. seams double butt strapped Diameter of rivet holes in { circ. seams 29 mm Pitch of rivets { 96 mm
 { long. seams 26 mm { 171 mm
 Percentage of strength of circ. end seams { plate 69.8 % Percentage of strength of circ. intermediate seam { plate ✓
 { rivets 55.0 % { rivets ✓
 Percentage of strength of longitudinal joint { plate 84.8 % Working pressure of shell by Rules 12.9 Kgs/cm²
 { rivets 101.3 % { combined 89.8 %
 Thickness of butt straps { outer 22 mm No. and Description of Furnaces in each Boiler each boiler: - 2. Marison Furnaces
 { inner 22 mm Tensile strength 41/47 Kgs/mm² Smallest outside diameter 1026 mm
 Material S.M. Steel Length of plain part { top 316 mm Thickness of plates { crown 12 mm Description of longitudinal joint water gas welded
 { bottom 316 mm { bottom 12 mm Working pressure of furnace by Rules 11.8 Kgs/cm²
 Dimensions of stiffening rings on furnace or c.c. bottom ✓ End plates in steam space: Material S.M. Steel Tensile strength 41/47 Kgs/mm² Thickness 22 mm Pitch of stays 390 x 380 mm
 How are stays secured stiffening washers inside, screwed, washers Working pressure by Rules 15 Kgs/cm²
 and nuts in = and outside Tube plates: Material { front S.M. Steel Tensile strength { 41/47 Kgs/mm² Thickness { 22 mm
 { back S.M. Steel { 41/47 " " { 22 mm
 Mean pitch of stay tubes in nests 208; 312 Pitch across wide water spaces 360 mm Working pressure { front 12.9 Kgs/cm²
 { back 19.2 " " Girders to combustion chamber tops: Material S.M. Steel Tensile strength 47/53 Kgs/mm² Depth and thickness of girder
 at centre 180 x 214 Length as per Rule 609 mm Distance apart 220 mm No. and pitch of stays
 in each 2; 180 x 220 mm Working pressure by Rules 14 Kgs/cm² Combustion chamber plates: Material S.M. Steel
 Tensile strength 41/47 Kgs/mm² Thickness: Sides 16 mm Back 19 mm Top 16 mm Bottom 22 mm
 Pitch of stays to ditto: Sides 190 x 200 mm Back 190 x 210 mm Top 220 x 180 mm Are stays fitted with nuts or riveted over margin stays, screwed
 with nuts and washers. Working pressure by Rules 14.4; 14.8; 15.4 1/4 Front plate at bottom: Material S.M. Steel Tensile strength 41/47 Kgs/mm²
 Thickness 22 mm Lower back plate: Material S.M. Steel Tensile strength 41/47 Kgs/mm² Thickness 22 mm
 Pitch of stays at wide water space φ 500 mm Are stays fitted with nuts or riveted over doubling plate, screwed, nuts
 Working Pressure 13.2 Kgs/cm² Main stays: Material S.M. Steel Tensile strength 41/47 Kgs/mm²
 Diameter { At body of stay, 62.6 mm No. of threads per inch 6 Area supported by each stay 390 x 380 = 148200 mm²
 { Over threads, 68.0 mm Working pressure by Rules 14.8 Kgs/cm² Screw stays: Material S.M. Steel Tensile strength 41/47 Kgs/mm²
 Diameter { At turned off part, 35.4; 41.4; 47.4 No. of threads per inch 9 Area supported by each stay 190 x 210 = 39900 mm²
 { Over threads, 39.0; 45.0; 51.0 mm

Working pressure by Rules 15 Kgs/cm² Are the stays drilled at the outer ends no Margin stays: Diameter { At turned off part, 41.4; 47.4 pt. 5
Over threads 45.0; 51.0
No. of threads per inch 9 Area supported by each stay 40 000 mm² Working pressure by Rules 21.2 Kgs/cm²; 28.4
Tubes: Material S.M. Steel External diameter { Plain 76.0 mm Thickness 3.75 mm No. of threads per inch 9
Stay 76.0 mm Thickness 8.00 mm
Pitch of tubes 104 x 104 mm Working pressure by Rules 13.5 Kgs/cm²; 21.0 Kgs/cm² Manhole compensation: Size of opening
shell plate 300 x 400 mm Section of compensating ring 25 x 450 mm No. of rivets and diameter of rivet holes 32; 29 mm
Outer row rivet pitch at ends 125 Depth of flange if manhole flanged 125 Steam Dome: Material S.M. Steel
Tensile strength 41/47 Kgs/mm² Thickness of shell 14 mm Description of longitudinal joint welded + inner butt strap
Diameter of rivet holes 23 mm Pitch of rivets 74 mm Percentage of strength of joint { Plate 50%
Rivets 50%
Internal diameter 800 mm Working pressure by Rules 18 Kgs/cm² Thickness of crown 17 mm No. and diameter
stays 1 Inner radius of crown 800 mm Working pressure by Rules 17.7 Kgs/cm²
How connected to shell pressed flange and riveted Size of doubling plate under dome ✓ Diameter of rivet holes and pitch
of rivets in outer row in dome connection to shell 29 mm; 199 mm

Type of Superheater ✓ Manufacturers of { Tubes ✓
Steel castings ✓
Number of elements ✓ Material of tubes ✓ Internal diameter and thickness of tubes ✓
Material of headers ✓ Tensile strength ✓ Thickness ✓ Can the superheater be shut off and
the boiler be worked separately ✓ Is a safety valve fitted to every part of the superheater which can be shut off from the boiler ✓
Area of each safety valve ✓ Are the safety valves fitted with easing gear ✓ Working pressure as per Rules ✓
Rules ✓ Pressure to which the safety valves are adjusted ✓ Hydraulic test pressure ✓
tubes ✓, castings ✓ and after assembly in place ✓ Are drain cocks or valves fitted ✓
to free the superheater from water where necessary ✓

Have all the requirements of Sections 14 to 22 inclusive for boilers been complied with yes.

The foregoing is a correct description,

DEUTSCHE WERFT

AKTIENGESELLSCHAFT

Manufacturer

Dates of Survey { During progress of work in shops - - - 18/4/36; 17/3/36; 23/4/36; 8.13/5/36
while building { During erection on board vessel - - - 1-9/36; 11/9/36; 14/9/36; 15/10/36; 22/10/36 Total No. of visits 10

Are the approved plans of boiler and superheater forwarded herewith 28/9/35
(If not state date of approval.)

Is this Boiler a duplicate of a previous case yes. If so, state Vessel's name and Report No. M.S. Marina Hamb. Rep. 21702.
M.S. Thorsheimer 21733.
M.S. Morlys 22061.

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.) These Donkey Boilers have been
constructed under special survey in accordance with the approved plans, the Secretary's
letters and in conformity with the requirements of the Rules. The material used in the
Construction are made at works recognized by the Committee and tested by the
Society's Surveyors. Material and workmanship are of good quality. These Donkey
Boilers are eligible in my opinion to be noted in the Register Book with the no-
tation of: + D. B. Pressure 170 lbs.

Part. : Starb. side.

Part. D.B.: 30.4 mm : 27.0 mm

Thickness of washers

Starb. I.B.: 29.4 mm : 25.2 mm

Survey Fee ... £ 416.00

When applied for, 9th Nov. 1936

Travelling Expenses (if any) £ —

When received, 10.12.1936

McMorrow

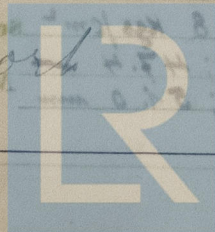
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute

FRI. 20 NOV 1936

Assigned

See 28 March Report



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Foundation