

REPORT ON BOILERS.

No. 19591

Received at London Office

10 NOV 1930

1930 When handed in at Local Office

Port of HAMBURG

Survey held at Hamburg

Date, First Survey 6th July, 1930 Last Survey 16th October 1930

on the Steel Twin Ser. "KOLL"

(Number of Visits 10) Gross 10051 Tons Net 7019

Heidelberg Built at Hamburg By whom built Deutsche Werft A.G. Yard No. 142 When built 1930

made at Augsburg By whom made Maschf. Augsburg-Nürnberg A.G. Engine No. 33019/30 When made 1930

made at Hamburg By whom made Deutsche Werft A.G. Boiler No. 402/3 When made 1930

Horse Power 1175 Owners Odd Bergs Tankrederi AS Port belonging to Oslo.

TITUBULAR BOILERS MAIN, AUXILIARY, OR DONKEY.

Constructors of Steel Gutthoffnungshütte, Oberhausen - Borsigwerk at Borsigwerk (Letter for Record S)

Heating Surface of Boilers $2 \times 130 \text{ m}^2 = 260 \text{ m}^2$ Is forced draught fitted yes Coal or Oil fired oil

Description of Boilers 2 single ended multitubular boilers Working Pressure 170 lbs.

by hydraulic pressure to 305 lbs. Date of test 28/8/30 No. of Certificate 519/20 Can each boiler be worked separately yes

Firegrate in each Boiler No. and Description of safety valves to each boiler 1, 2 springs loaded

of each set of valves per boiler (per Rule 330 mm^2 as fitted 2696 mm^2) Pressure to which they are adjusted 170 lbs. Are they fitted with easing gear yes

of donkey boilers, state whether steam from main boilers can enter the donkey boiler

Is oil fuel carried in the double bottom under boilers

Is the bottom of the boiler insulated yes

Internal dia. of boilers 3400 mm Length 3144 mm Shell plates: Material S.M. Steel Tensile strength $47 + 58 \text{ kg/mm}^2$

Are the shell plates welded or flanged flanged Description of riveting: circ. seams end double row inter.

Diameter of rivet holes in (circ. seams 29 mm long. seams 29 mm) Pitch of rivets 96 mm 170 mm

Percentage of strength of circ. end seams (plate 69.8% rivets 73.2%) Percentage of strength of circ. intermediate seam (plate 83% rivets 140%)

Working pressure of shell by Rules $12.2 \text{ kg/cm}^2 = 174 \text{ lbs.}$

Working pressure of shell by Rules $12.2 \text{ kg/cm}^2 = 174 \text{ lbs.}$

No. and Description of Furnaces in each Boiler 2 Morison

Tensile strength $41 + 47 \text{ kg/mm}^2$ Smallest outside diameter 974 mm

Thickness of plates (crown 12 mm bottom 12 mm) Description of longitudinal joint welded

Working pressure of furnace by Rules 12.4 kg/cm^2

Plates in steam space: Material S.M. Steel Tensile strength $41 + 47 \text{ kg/mm}^2$ Thickness 22 mm Pitch of stays max. 390 mm

Working pressure by Rules 12.7 kg/cm^2

Plates: Material (front Siemens Martin Steel Tensile strength $41 + 47 \text{ kg/mm}^2$ Thickness 22 mm back Steel Tensile strength $41 + 47 \text{ kg/mm}^2$ Thickness 22 mm

Working pressure (front 14.45 kg/cm^2 back 24.3 kg/cm^2

Pitch of stay tubes in nests 208 $\text{mm} \times 312 \text{ mm}$ Pitch across wide water spaces 360 mm

Working pressure by Rules $16.4, 13.55, 15.45 \text{ kg/cm}^2$

Working pressure by Rules $16.4, 13.55, 15.45 \text{ kg/cm}^2$

Working pressure by Rules $16.4, 13.55, 15.45 \text{ kg/cm}^2$

Working pressure by Rules $16.4, 13.55, 15.45 \text{ kg/cm}^2$

Working pressure by Rules $16.4, 13.55, 15.45 \text{ kg/cm}^2$

Working pressure by Rules $16.4, 13.55, 15.45 \text{ kg/cm}^2$

Working pressure by Rules $16.4, 13.55, 15.45 \text{ kg/cm}^2$

Working pressure by Rules $16.4, 13.55, 15.45 \text{ kg/cm}^2$

Working pressure by Rules $16.4, 13.55, 15.45 \text{ kg/cm}^2$

Working pressure by Rules $16.4, 13.55, 15.45 \text{ kg/cm}^2$

Working pressure by Rules $16.4, 13.55, 15.45 \text{ kg/cm}^2$

Working pressure by Rules $16.4, 13.55, 15.45 \text{ kg/cm}^2$

Working pressure by Rules $16.4, 13.55, 15.45 \text{ kg/cm}^2$

Working pressure by Rules $16.4, 13.55, 15.45 \text{ kg/cm}^2$

Working pressure by Rules $16.4, 13.55, 15.45 \text{ kg/cm}^2$

Working pressure by Rules $16.4, 13.55, 15.45 \text{ kg/cm}^2$

Working pressure by Rules $16.4, 13.55, 15.45 \text{ kg/cm}^2$

Working pressure by Rules 15.1 kg/cm^2 Are the stays drilled at the outer ends *no* Margin stays: Diameter { At turned off part, 41.38 or Over threads 45 }
No. of threads per inch 9 Area supported by each stay $57,250$, $69,300 \text{ mm}^2$ Working pressure by Rules 14.6 , 16.3
Tubes: Material *S.M. Steel* External diameter { Plain 76 mm Stay 76 mm } Thickness { 3.75 mm 8 } No. of threads per inch 9
Pitch of tubes 104 mm Working pressure by Rules 13.5 kg/cm^2 Manhole compensation: Size of shell plate $300 \times 400 \text{ mm}$ Section of compensating ring $225 \times 22 \text{ mm}$ No. of rivets and diameter of rivet holes $32 \times 29 \text{ mm}$
Outer row rivet pitch at ends 125 mm Depth of flange if manhole flanged 24 mm Steam Dome: Material *S.M. Steel*
Tensile strength 41.47 kg/mm^2 Thickness of shell 14 mm Description of longitudinal joint *welded and lifted with*
Diameter of rivet holes 34 mm Pitch of rivets 24 mm Percentage of strength of joint { Plate 87.6% Rivets 80% }
Internal diameter 800 mm Working pressure by Rules 18.6 kg/cm^2 Thickness of crown 17 mm No. and grade of stays *none* Inner radius of crown 800 mm Working pressure by Rules 17.8 kg/cm^2
How connected to shell *riveted* Size of doubling plate under dome *-* Diameter of rivet holes of rivets in outer row in dome connection to shell

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 from the boiler?
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
Rules Pressure to which the safety valves are adjusted Hydraulic test
tubes, castings and after assembly in place Are drain cocks or cocks fitted to face the superheater from water where necessary

Have all the requirements of Sections 14 to 22 inclusive for boilers been complied with *yes.*
Donato H. H. H. The foregoing is a correct description,
Dates of Survey { During progress of work in shops - $6/6/30$, $2-6-14-28/8/30$, Are the approved plans of boiler and superheater forwarded herewith $18/8/30$ while building { During erection on board vessel - $18-23/9/30$, $2-9-$ (If not state date of approval.) Total No. of visits 10

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.)
Material and workmanship of these Boilers are of good quality. The material used in the construction is made at works recognised by the Committee and tested by the Society's Surveyors conforming with the requirements of the Rules and the Boilers are constructed in compliance with the Rule requirements and the approved plans. They have been submitted to hydraulic pressure of 305 lbs. with satisfactory result. Under steam they were found tight and safety valves have been adjusted to 170 lb. pressure. Distance of washers of safety valves

	port	starb.	
Port Boiler	23.2	21.4 mm	No. 519/20 LLOYD'S TEST 305 LBS W.P. 170 LBS.
Starb. Boiler	23.2	16.2 mm	F.W. 28/8/30.

In my opinion, these Boilers are eligible to be classed in the Society's Reg. Book with notation of "170 lb."

Survey Fee ... £ $18:14:-$ When applied for, $5.11.1930$
Travelling Expenses (if any) £ $-:-$ When received, $12.12.1930$
Committee's Minute FRI. 21 NOV 1930
Assigned *See other items. 26. 19591*
© 2020 Lloyd's Register Foundation