

REPORT ON BOILERS.

No. 1449

Received at London Office 11 AUG 1951

ing Report 25th July 19 51 When handed in at Local Office 19 Port of HAMBURG
 on: Size of Survey held at LUBECK Date, First Survey 7th November 50 Last Survey 22nd January 19 51
 on the M.T. IRTISH (Number of Visits 18) Gross Tons } Net
 Built at Norrköping By whom built Norrköpings Varv & Verkstad A/B Yard No. 136 When built
 No. and date at By whom made Engine No. When made
 date at Lübeck By whom made Lübecker Maschinenbau-Gesellschaft Boiler No. 1441 When made 1951
 f rivet hole Horse Power Owners Port belonging to

TUBULAR BOILERS - MAIN, AUXILIARY, OR DONKEY.

urers of Steel Hüttenwerk Huckingen A.G., Duisburg-Wanheim (Letter for Record S)
 ating Surface of Boilers 60 sq.m (646 sq.ft.) Is forced draught fitted Coal or Oil fired Oil
 Description of Boilers One, Scotch Type Marine Working Pressure 180 lbs. per sq. in.
 hydraulic pressure to 320 lbs. per sq. in. Date of test 14.12.50 No. of Certificate 6/391 Can each boiler be worked separately -
 Firegrate in each Boiler - No. and Description of safety valves to each boiler 2 - 50 mm diam., spring loaded
 each set of valves per boiler { per Rule 27, - sq. cm Pressure to which they are adjusted - Are they fitted with casing gear -
 { as fitted 39,6 sq. cm
 f donkey boilers, state whether steam from main boilers can enter the donkey boiler -
 distance between boilers or uptakes and bunkers or woodwork - Is oil fuel carried in the double bottom under boilers -
 distance between shell of boiler and tank top plating - Is the bottom of the boiler insulated -
 with No. internal dia. of boilers 2550 mm Length 2952 mm Shell plates: Material S.M. Steel Tensile strength 46,8
 s 18 mm Are the shell plates welded or flanged flanged Description of riveting: circ. seams { end double riveted
 { inter. -
 treble, with alternate Diameter of rivet holes in { circ. seams 26 mm Pitch of rivets { 81,2 mm
 rivets in outer row { long. seams 26 mm { 78, - & 156 mm
 ge of strength of circ. end seams { plate 68, - % Percentage of strength of circ. intermediate seam { plate -
 { rivets 56, - % { rivets -
 ge of strength of longitudinal joint { plate 83,4 % Working pressure of shell by Rules 15 kgs per sq. mm
 { rivets 134, - %
 { combined 86,1 %
 s of butt straps { outer 18 mm No. and Description of Furnaces in each Boiler Two, Morison Type
 { inner 18 mm S.M. Steel Tensile strength 44,1 kgs per sq. mm Smallest outside diameter 770 mm
 f plain part { top - Thickness of plates { crown 10 mm Description of longitudinal joint welded
 { bottom - { bottom }
 ons of stiffening rings on furnace or c.c. bottom none Working pressure of furnace by Rules 12,9 kg per sq. cm
 tes in steam space: Material S.M. Steel Tensile strength 43,0 kg p. Sq. mm Thickness 26 mm Pitch of stays 440 x 250 mm
 e stays secured Double nuts, Single Washer Working pressure by Rules 19,4 kgs. per sq. cm
 nates: Material { front S.M. Steel Tensile strength { 43,0 kgs. per sq. mm Thickness { 26 mm 24 on plan.
 { back S.M. Steel { 42,9 kgs per sq. mm { 20 mm 20 -
 tch of stay tubes in nests 214 x 216 mm Pitch across wide water spaces - Working pressure { front -
 { back -
 to combustion chamber tops: Material S.M. Steel Tensile strength 41,2 kgs per sq. mm Depth and thickness of girder
 e 250 - 200 x 16 mm Length as per Rule 525 mm Distance apart 180/160/150 mm No. and pitch of stays
 welded Working pressure by Rules Load inwelding 1,6 kgs. p. sq. mm Combustion chamber plates: Material S.M. Steel
 strength 42,5 kgs. per sq. mm Thickness: Sides 18 mm Back 18 mm Top 18 mm Bottom 18 mm
 stays to ditto: Sides 180 x 180 mm Back 180 x 180 mm Top - Are stays fitted with nuts or riveted over nuts
 y pressure by Rules 19,0 kgs. p. sq. cm Front plate at bottom: Material S.M. Steel Tensile strength 43 kgs/mm 2
 ss 26 mm 24 on plan Lower back plate: Material S.M. Steel Tensile strength 43 kgs. p. sq. mm Thickness 26 mm 24 on plan
 f stays at wide water space 580 x 425 mm Are stays fitted with nuts or riveted over nuts and washers
 g Pressure 17 kgs per sq. cm Main stays: Material S.M. Steel Tensile strength 50,1 kgs per sq. mm
 ter of Shi { At body of stay, 60 & 65 & 52 mm No. of threads per inch 6 Area supported by each stay 1100 sq. cm
 { Over threads 66 & 71 & 58 mm
 g pressure by Rules 20 kg per sq. cm Screw stays: Material S.M. Steel Tensile strength 43,3 kgs per sq. mm
 { At turned off part, 34 mm No. of threads per inch 9 Area supported by each stay 32400 sq. mm
 { Over threads 1 1/2 mm

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Working pressure by Rules $17.4 \frac{\text{kgs}}{\text{sq. cm}}$ Are the stays drilled at the outer ends **yes** Margin stays: Diameter $\begin{cases} \text{At turned off part, } 40 \text{ mm} \\ \text{or} \\ \text{Over threads } 1\frac{3}{4} \text{ mm} \end{cases}$

No. of threads per inch **9** Area supported by each stay **32600** Working pressure by Rules **25 kgs per sq.**

Tubes: Material **S.M. Steel** External diameter $\begin{cases} \text{Plain } 83 \text{ mm} \\ \text{Stay } 83 \text{ mm} \end{cases}$ Thickness $\begin{cases} 4 \text{ mm} \\ 8 \text{ mm} \end{cases}$ No. of threads per inch **9**

Pitch of tubes **107 x 108 mm** Working pressure by Rules **15 kg per sq. cm** Manhole compensation: Size of shell plate **600 x 700 mm** Section of compensating ring **260 x 24 mm** No. of rivets and diameter of rivet holes **welded**

Outer row rivet pitch at ends **-** Depth of flange if manhole flanged **-** Steam Dome: Material **None**

Tensile strength **-** Thickness of shell **-** Description of longitudinal joint **-**

Diameter of rivet holes **-** Pitch of rivets **-** Percentage of strength of joint $\begin{cases} \text{Plate } - \\ \text{Rivets } - \end{cases}$

Internal diameter **-** Working pressure by Rules **-** Thickness of crown **-** No. and stays **-** Inner radius of crown **-** Working pressure by Rules **-**

How connected to shell **-** Size of doubling plate under dome **-** Diameter of rivet holes of rivets in outer row in dome connection to shell **-**

Type of Superheater **None** Manufacturers of $\begin{cases} \text{Tubes } - \\ \text{Steel forgings } - \\ \text{Steel castings } - \end{cases}$

Number of elements **-** Material of tubes **-** Internal diameter and thickness of tubes **-**

Material of headers **-** Tensile strength **-** Thickness **-** Can the superheater be 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 Rules **-** Pressure to which the safety valves are adjusted **-** Hydraulic tubes **-** forgings and castings **-** and after assembly in place **-** Are 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.

The foregoing is a correct description,
Grenstein-Regel- und Maschinenbau Aktiengesellschaft

Dates of Survey $\begin{cases} \text{During progress of work in shops } - - \\ \text{while building } \end{cases} \begin{cases} \text{Oct. 2, 4, 6, 13, 18, 20, 26,} \\ \text{Nov. 2, 6, 10, 21, 24, 27,} \\ \text{Dec. 1, 4, 7, 9, 14. 1950} \end{cases}$

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

Total No. of visits **18**

Is this Boiler a duplicate of a previous case **yes** If so, state Vessel's name and Report No. **Hamburg Report No. 326**

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.)

This boiler has been built under Special Survey in conformity with the Society's Rules. The scantlings and arrangements are in accordance with those shown on the approved plans. Materials and workmanship are good.

Survey Fee ... **DM. 216. :** } When applied for, 19

Travelling Expenses (if any) **DM : 61. :** } When received, 19

H.F. ...
Engineer Surveyor to Lloyd's Register of S

Committee's Minute **TUES 29 JAN 1952**

Assigned *Su F. E. ...*

