

REPORT ON BOILERS.

Received at London Office 20 OCT 1930

Date of writing Report 16th Oct 1930 When handed in at Local Office 16th Oct 1930 Port of Danzig

No. in Reg. Book 92953 on the Grell Sp. "Vestvanger" Survey held at Danzig Date, First Survey 5th April Last Survey 4th October 1930 (Number of Visits 16) Gross Tons 2420 Net Tons 1993

Master - Built at Danzig By whom built The Yms. S.B. & Co. Ltd. No. 63 When built 1930
Engines made at Danzig By whom made The Yms. S.B. & Co. Ltd. Engine No. 429 When made 1930
Boilers made at Danzig By whom made The Yms. S.B. & Co. Ltd. Boiler No. 644/5 When made 1930
Nominal Horse Power 229 Owners Skibs. A/S. Karabien (Görrissen & Co. A/S. Agns.) Port belonging to Oslo

MULTITUBULAR BOILERS - MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel Mannesmannröhrenwerke Abt. Schulz Kraudt, Hückingen, F. Schichau S. m. b. H., Halbring
batehlopfungshütte, Oberhausen. Klöckner-Werke A. S. Abt. Georgs-Marien-Werke, Georgsmarienhütte Letter for Record S. /

Total Heating Surface of Boilers 314 sqm - 3380 sq ft. Is forced draught fitted yes Coal or Oil fired Oil /

No. and Description of Boilers 2 Multitubular Single end Working Pressure 14.5 kg - 206 lbs.

Tested by hydraulic pressure to 363 lbs. Date of test 28.6.30 No. of Certificate 95-96 Can each boiler be worked separately yes

Area of Firegrate in each Boiler 3.37 sqm No. and Description of safety valves to each boiler 2 spring loaded.

Area of each set of valves per boiler (per Rule 7426 sq mm as fitted 8832 sq mm) Pressure to which they are adjusted 206 lbs Are they fitted with easing gear yes /

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

Smallest distance between boilers or uptakes and bunkers 410 mm Is oil fuel carried in the double bottom under boilers No.

Smallest distance between shell of boiler and tank top plating 400 mm Is the bottom of the boiler insulated yes.

Largest internal dia. of boilers 4000 mm Length 3840 mm Shell plates: Material steel Tensile strength 47-53.3 Kgs.

Thickness 30 mm Are the shell plates welded or flanged - Description of riveting: circ. seams end double inter. -

long. seams Triple, double butt str. Diameter of rivet holes in (circ. seams 32 mm long. seams 32 mm) Pitch of rivets (99.7 mm 212 mm)

Percentage of strength of circ. end seams (plate 67.7 rivets 42- Percentage of strength of circ. intermediate seam (plate - rivets -
Percentage of strength of longitudinal joint (plate 84.9 rivets 95.0 combined - Working pressure of shell by Rules 14.9 Kgs.

Thickness of butt straps (inter 27 mm inner 27 mm) No. and Description of Furnaces in each Boiler 3, Morrison, Tensile strength 41-47 Kgs. Smallest outside diameter 928 mm.

Material steel Length of plain part (top 200 mm bottom -) Thickness of plates (crown 14 mm bottom 14 mm) Description of longitudinal joint welded

Dimensions of stiffening rings on furnace or c.c. bottom - Working pressure of furnace by Rules 15.4 Kgs.

End plates in steam space: Material steel Tensile strength 41-47 Kgs. Thickness 27 mm Pitch of stays 390-400 mm.

How are stays secured Double nuts & washers. Working pressure by Rules 15.2 Kgs.

Tube plates: Material (front steel back -) Tensile strength (41-47 Kgs. Thickness (27 mm 23 mm)

Mean pitch of stay tubes in nests 240 mm Pitch across wide water spaces 370 mm Working pressure (front 15.6 Kgs back 23.2 Kgs)

Girders to combustion chamber tops: Material steel Tensile strength 44-50 Kgs. Depth and thickness of girder at centre 240 x 20 mm Length as per Rule 900 mm Distance apart 200 mm No. and pitch of stays in each 3, 200 mm Working pressure by Rules 15.2 Kgs.

Combustion chamber plates: Material steel Tensile strength 41-47 Kgs. Thickness: Sides 16 mm Back 16.5 mm Top 16 mm Bottom 23 mm

Pitch of stays to ditto: Sides 200 mm Back 200-205 mm Top 200 mm Are stays fitted with nuts or riveted over nuts.

Working pressure by Rules 15.6 Kgs. Front plate at bottom: Material steel Tensile strength 41-47 Kgs

Thickness 27 mm Lower back plate: Material steel Tensile strength 41-47 Kgs. Thickness 22 mm.

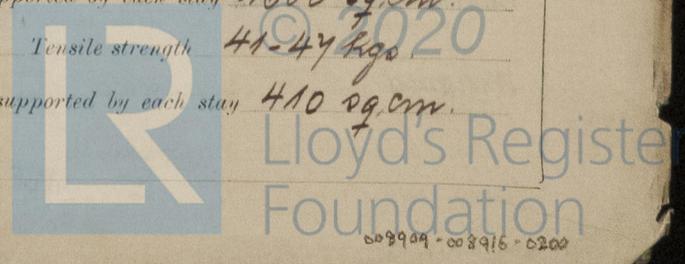
Pitch of stays at wide water space 370 mm Are stays fitted with nuts or riveted over nuts.

Working Pressure 15.6 Kgs. Main stays: Material steel Tensile strength 44-50 Kgs.

Diameter (At body of stay, 70 mm or Over threads -) No. of threads per inch 6. Area supported by each stay 1600 sq cm.

Working pressure by Rules 15.8 Kgs. Screw stays: Material steel Tensile strength 41-47 Kgs

Diameter (At turned off part, 52.4, 44.5 & 39.4 mm or Over threads -) No. of threads per inch 9. Area supported by each stay 410 sq cm.



Working pressure by Rules 15.5 Kgs. Are the stays drilled at the outer ends no Margin stays: Diameter ^{At turned off part -} 44.5 mm
 No. of threads per inch 9. Area supported by each stay 580 sq cm. Working pressure by Rules 14.9 Kgs.
Tubes: Material steel External diameter ^{Plain 89 mm} _{Stay 89} Thickness ^{4 mm} _{5 x 6} No. of threads per inch 9.
 Pitch of tubes 120 mm Working pressure by Rules 15 Kgs. **Manhole compensation:** Size of opening in
 shell plate 400 x 500 mm Section of compensating ring 860-760-30 mm No. of rivets and diameter of rivet holes 38, 32 mm.
 Outer row rivet pitch at ends 212 mm Depth of flange if manhole flanged 100 mm **Steam Dome:** Material -
 Tensile strength - Thickness of shell - Description of longitudinal joint -
 Diameter of rivet holes - Pitch of rivets - Percentage of strength of joint ^{Plate -} _{Rivets -}
 Internal diameter - Working pressure by Rules - Thickness of crown - No. and diameter of
 stays - Inner radius of crown - Working pressure by Rules -
 How connected to shell - Size of doubling plate under dome - Diameter of rivet holes and pitch
 of rivets in outer row in dome connection to shell -

Type of Superheater Schmidts Manufacturers of ^{Tubes} Atlas Werke A.G., Bremen
 Number of elements 42. Material of tubes steel Internal diameter and thickness of tubes 20 mm, 2 1/2 mm.
Material of headers Cast steel Tensile strength 41-55 Kgs Thickness 30-18 mm Can the superheater be shut off and
 the boiler be worked separately yes Is a safety valve fitted to every part of the superheater which can be shut off from the boiler yes.
 Area of each safety valve 1964 sq cm Are the safety valves fitted with casing gear yes. Working pressure as per
 Rules 14.5 Kgs. Pressure to which the safety valves are adjusted 14.5 Kgs. Hydraulic test pressure:
 tubes 175 Kgs. castings 50 Kgs and after assembly in place 30 Kgs. Are drain cocks or valves fitted
 to free the superheater from water where necessary yes.
 Have all the requirements of Sections 14 to 22 inclusive for boilers been complied with yes.

The foregoing is a correct description,
 THE INTERNATIONAL SHIPBUILDING AND ENGINEERING COMPANY LTD. Manufacturer.
 Danziger Werft und Eisenbahnwerkstätten

Dates of Survey ^{During progress of work in shops - -} 1930 April 5, 23, May 6, 13, June 8, 18, 28, July 19 Are the approved plans of boiler and superheater forwarded herewith
 while building ^{During erection on board vessel - - -} 1930 July 24, Aug. 11, Sept 2, 25, 30 Oct. 2, 4, 7 Total No. of visits 16
 (If not state date of approval.)

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.)
 These Boilers are built under Special Survey in accordance with the approved plan and the requirements of the Rules. Material and workmanship are of good quality.
 Both boilers were tested by hydraulic pressure to 363 lbs and were found tight and sound at that pressure. Also under steam they were tight, adjusted their safety valves to 206 lbs.
Mark on boilers: No 95 (296)
 LLOYD'S TEST
 363 lbs
 W.P. 206 lbs.
 N.S. - 28.6.30.
 J.G.D.

Survey Fee £ : : When applied for, 192
 Travelling Expenses (if any) £ : : When received, 192

Please see Machinery Report.

M. Grosse
 Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute FRI. 24 OCT 1930

Assigned See F. E. Rpt.

TUE. 4 NOV 1930

