

REPORT ON BOILERS.

No. 1032

Received at London Office 26 OCT 1931

Date of writing Report 17th Dec. 1931 When handed in at Local Office 17th Dec. 1931 Port of Danzig

No. in Survey held at Danzig Date, First Survey 5th Novemb. 1930 Last Survey 30th Decemb. 1931
 g. Book. 004 on the Steel S.S. "Dalvanger"
 (Number of Visits 11.) Gross 2412 Tons Net 1392
 Built at Danzig By whom built The Iron S. B. & Co. Ltd. Yard No. 65 When built 1931
 Engines made at Danzig By whom made The Iron S. B. & Co. Ltd. Engine No. 438 When made 1931
 Boilers made at " By whom made " " " " Boiler No. 658/9 When made 1931
 Nominal Horse Power 229 Owners Skibsakt. Karaibien Port belonging to Oslo.
 (Görrissen & Co. Akties. A/S)

MULTITUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel Vereinigte Stahlwerke A.G. Essen-Kaiserslautern Thyssen, Krupp (Letter for Record S.)
 Total Heating Surface of Boilers 314 sqm - 3380 sqm Is forced draught fitted yes Coal or Oil fired Oil
 No. and Description of Boilers 2 Multitubular Single ended Working Pressure 14.5 kgs - 206 lbs
 Tested by hydraulic pressure to 363 lbs Date of test 18.3.31 No. of Certificate 100 & 101 Can each boiler be worked separately yes
 Area of Firegrate in each Boiler 36.8 sq ft No. and Description of safety valves to each boiler 2 spring loaded
 Area of each set of valves per boiler (per Rule 7426 sq cm as fitted 8836 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 or woodwork 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 48.5 - 50.2 kgs
 Thickness 30 mm Are the shell plates welded or flanged - Description of riveting: circ. seams {end double inter. 99.4 mm
 Long. seams Triple, double butt straps Diameter of rivet holes in {circ. seams 32 mm long. seams 32 Pitch of rivets {212
 Percentage of strength of circ. end seams {plate 64.4 % rivets 42 - % Percentage of strength of circ. intermediate seam {plate - rivets -
 Percentage of strength of longitudinal joint {plate 84.9 % rivets 95 - % Working pressure of shell by Rules 14.9 kgs
 Thickness of butt straps {outer 24 mm inner 24 mm No. and Description of Furnaces in each Boiler 3, Chorison 3 cf.
 Material Steel Tensile strength 44.5 - 44.1 kgs Smallest outside diameter 928 mm
 Length of plain part {top 200 mm bottom - Thickness of plates {crown 14 mm bottom 14 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 43.6 - 45.1 kgs Thickness 24 mm Pitch of stays 390 - 400 mm
 How are stays secured Double nuts and washers Working pressure by Rules 15.2 kgs
 Tube plates: Material {front Steel back Steel Tensile strength {43.6 - 44.8 kgs 42.5 - 45.2 Thickness {24 mm 22
 Mean pitch of stay tubes in nests 240 mm Pitch across wide water spaces 340 mm Working pressure {front 15.6 kgs back 23.2
 Girders to combustion chamber tops: Material Steel Tensile strength 47.2 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 42.8 - 45.3 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 x 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 43.7 - 44.8 kgs
 Thickness 24 mm Lower back plate: Material Steel Tensile strength 43.6 - 44.8 kgs Thickness 22 mm
 Pitch of stays at wide water space 340 mm Are stays fitted with nuts or riveted over nuts
 Working Pressure 15.6 kgs Main stays: Material Steel Tensile strength 47.2 - 49.4 kgs
 Diameter {At body of stay, 70 & 60 mm No. of threads per inch 6 Area supported by each stay 1600 sq cm
 Over threads - Working pressure by Rules 15.8 kgs Screw stays: Material Steel Tensile strength 42.7 - 45.2 kgs
 Diameter {At turned off part, - No. of threads per inch 9 Area supported by each stay 410 sq cm
 Over threads 52.4, 44.5 & 39.4 mm

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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 Thickness 4 mm No. of threads per inch 9
Pitch of tubes 120 mm Working pressure by Rules 15 kgs Manhole compensation: Size of opening
shell plate 400 x 500 mm Section of compensating ring 460 x 860 x 30 mm No. of rivets and diameter of rivet holes 38 of 32 mm
Outer row rivet pitch at ends 212 mm Depth of flange if manhole flanged 100 mm 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 Plate
Internal diameter — Working pressure by Rules — Thickness of crown — Rivets —
stays — Inner radius of crown — Working pressure by Rules —
How connected to shell — Size of doubling plate under dome — Diameter of rivet holes and
of rivets in outer row in dome connection to shell —

Type of Superheater Schmidt's Patent Manufacturers of Tubes — Steel castings Atlas Werke AG Bremen
Number of elements 42 Material of tubes Steel Internal diameter and thickness of tubes 19 mm, 2 1/2 mm
Material of headers Cast steel Tensile strength 41.3 kgs Thickness 18 mm, tube ends 30 mm Can the superheater be shut off
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 mm Are the safety valves fitted with easing gear yes Working pressure as
Rules 46.5 kgs Pressure to which the safety valves are adjusted 206 lbs 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 INTERNATIONAL
SHIPBUILDING AND ENGINEERING CO. LTD.
(Danziger Werft und Eisenbahnwerkstätten)

Dates of Survey During progress of work in shops — 5.11, 24.11.1930, 31.1.6.3, 18.3.14.4 Are the approved plans of boiler and superheater forwarded herewith 30.8.30
while building During erection on board vessel — 20.6, 19.8, 29.9, 30.9.31 (If not state date of approval.)
Total No. of visits 11

Is this Boiler a duplicate of a previous case yes If so, state Vessel's name and Report No. "Rustvanger" Rpt. No.

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

These Boilers have been made 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 the safety valves to 206 lbs.

Mark on boilers: A boiler No 100. B boiler No 101.

LLOYD'S TEST
363 lbs.
WP. - 206 lbs.
N.S. - 18.3.31.
JOD.

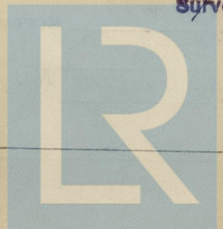
Survey Fee Machinery Report. When applied for, 19
Travelling Expenses (if any) £ : : When received, 19

Committee's Minute FRI. 30 OCT 1931

Assigned See F.B. Rpt.

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

James C. Dykes
Surveyor to Lloyd's Register of Shipping



Lloyd's Register
Foundation