

REPORT ON BOILERS.

No. 671

Received at London Office

17 APR 1929

Date of writing Report 3rd April 1929. When handed in at Local Office 15th April 1929 Port of DANZIG.

No. in Survey held at DANZIG.

Date, First Survey 3rd July 1928

Last Survey 8th April 1929

91324 on the Steel S. "Nordvanger"

(Number of Visits 24)

Gross 2400
Tons Net 1380.

Master — Built at Danzig By whom built The Ins. S. B. & E. Co. Ltd. No. 53 When built 1929

Engines made at Danzig By whom made The Ins. S. B. & Eng. Co. Ltd. Engine No. 361. When made 1929

Boilers made at Danzig By whom made The Ins. S. B. & Eng. Co. Ltd. Boiler No. 572/43 When made 1929.

Nominal Horse Power 199. 215 Owners Philipsabbers. Karabien Port belonging to Oslo.
(Göransson & Co. Eknes. chgs).

MULTITUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel

(Letter for Record 5.)

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

No. and Description of Boilers 2 Multitubular single end. Working Pressure 14.5 Rgs - 206 lbs.

Tested by hydraulic pressure to 360 lbs. Date of test 7.12.28. No. of Certificate 91-92. Can each boiler be worked separately yes.

Area of Firegrate in each Boiler 3.56 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 8836 " Pressure to which they are adjusted 14.5 Rgs. 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 4100 mm Length 3500 mm Shell plates: Material steel Tensile strength 48.5-49.9 Rgs.

Thickness 31 mm. Are the shell plates welded or flanged — Description of riveting: circ. seams {end double, inter. —

long. seams Triple, double butt strap. Diameter of rivet holes in {circ. seams 35 mm, long. seams 35 " Pitch of rivets {113 mm, 220 " ✓

Percentage of strength of circ. end seams {plate 69-70, rivets 44.2 70 Percentage of strength of circ. intermediate seam {plate —, rivets —

Percentage of strength of longitudinal joint {plate 84.1 70, rivets 106 70 Working pressure of shell by Rules 14.6 Rgs.

Thickness of butt straps {outer 28 mm, inner 28 " No. and Description of Furnaces in each Boiler 3, Morison. 3 cf.

Material steel Tensile strength 42.5-45 Rgs. Smallest outside diameter 978 mm.

Length of plain part {top 200 mm, bottom — Thickness of plates {crown 14 mm, bottom " Description of longitudinal joint welded. ✓

Dimensions of stiffening rings on furnace or c.c. bottom — Working pressure of furnace by Rules 14.6 Rgs.

End plates in steam space: Material steel. Tensile strength 43.3-45.2 Rgs. Thickness 26 mm Pitch of stays 400-370 mm.

How are stays secured double nuts & washers Working pressure by Rules 14.8 Rgs.

Tube plates: Material {front steel, back — Tensile strength {43.5 Rgs, 43.7 " Thickness {27 mm, 23 " ✓

Mean pitch of stay tubes in nests 240 mm Pitch across wide water spaces 343 mm Working pressure {front 15.4 Rgs, back 23.4 " ✓

Girders to combustion chamber tops: Material steel Tensile strength 44.9-48.7 Rgs. Depth and thickness of girder

at centre 230-18 mm Length as per Rule 230 mm Distance apart 200 mm No. and pitch of stays

in each 3, 200 mm Working pressure by Rules 15.1 Rgs. Combustion chamber plates: Material steel.

Tensile strength 42.3-45.2 Rgs. Thickness: Sides 16 mm Back 16.5 mm Top 16 mm Bottom 23 mm. ✓

Pitch of stays to ditto: Sides 200 mm Back 190 x 216 mm Top 200 mm Are stays fitted with nuts or riveted over nuts.

Working pressure by Rules 15.6 Rgs. Front plate at bottom: Material steel Tensile strength 43-45.2 Rgs.

Thickness 27 mm Lower back plate: Material steel Tensile strength 43-45.2 Rgs. Thickness 22 mm. ✓

Pitch of stays at wide water space 345 mm Are stays fitted with nuts or riveted over nuts.

Working Pressure 14.5 Rgs. Main stays: Material steel Tensile strength 48.7-49.3 Rgs.

Diameter {At body of stay, 60-70 mm, Over threads 58.7-68.3 " No. of threads per inch 6 Area supported by each stay 1480 sq cm

Working pressure by Rules 16.8 Rgs. Screw stays: Material steel Tensile strength 46.3-46.9 Rgs.

Diameter {At turned off part, 41 x 36 mm, Over threads 44.5-39.7 " No. of threads per inch 9 Area supported by each stay 400 sq cm.

Working pressure by Rules *15.8 kgs* Are the stays drilled at the outer ends *no* Margin stays: Diameter { At turned off part, *41 mm* ✓
or *44.5* ✓
Over threads *44.5* ✓
No. of threads per inch *9* ✓ Area supported by each stay *542 sq cm* ✓ Working pressure by Rules *15.2 kgs* ✓
Tubes: Material *steel* External diameter { Plain *89 mm* ✓
Stay *89* ✓ Thickness { *4 mm* ✓
5-6 ✓ 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 x 760 x 31 mm* No. of rivets and diameter of rivet holes *36 of 35 mm dia* ✓
Outer row rivet pitch at ends *220 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 *Schmidt's Patent* Manufacturers of { Tubes ✓
Steel castings *Nordische Stahlwerke, Neuminster*
Number of elements *6* Material of tubes *steel* Internal diameter and thickness of tubes *21 mm - 2.5 mm*
Material of headers *cast steel* Tensile strength *41-55 kgs* Thickness *35-20 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 mm* Are the safety valves fitted with easing 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 *200 kgs* castings *50 kgs* and after assembly in place *50 kgs* Are drain cocks or valves fitted
to free the superheater from water where necessary *yes*

Have all the requirements of Sections 14 to 23 inclusive for boilers been complied with *yes*

THE INTERNATIONAL
SHIPBUILDING AND ENGINEERING CO. LTD.
(Danziger Werft und Eisenbahnwerkstätten A.G.)

The foregoing is a correct description,

Manufacturer

Dates of Survey { During progress of 1928: July 3, 28 Sept. 6, 19, 19 Oct. 2, 8, 30 Nov. 17 Dec. 7, 7
work in shops — Are the approved plans of boiler and superheater forwarded herewith *14.9.28*
while building { During erection on 1929: Jan. 14, 16, 22, 24, 30, 31 Feb. 2, 4, 6, 7, 12, 28 Mar. 5, 27, 28 Apr. 8 Total No. of visits *27*
board vessel — (If not state date of approval.)

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 in conformity with the Society's Rules. Materials and workmanship are of good quality.

Both boilers were tested by hydraulic pressure to 360 lbs and found tight and sound at that pressure, also under steam they were tight. Adjusted their safety valves to 206 lbs.

Mark on boilers: No 91 (x 92)
LLOYD'S TEST
360 lbs.
W.P. 206 lbs.
N.S. 7.12.28.
J.E.D.

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

Committee's Minute 26 APR 1929

Assigned

See P.L. up attached

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

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



Lloyd's Register
Foundation