

pt. 5a.

REPORT ON BOILERS.

No. 29712

30 APR 1928

Received at London Office

No. of writing Report

192

When handed in at Local Office

28 APR 1928

Port of Sunderland

No. in Survey held at

Sunderland

Date, First Survey

Last Survey 24 Apr 1928

Book.

No. on the

S. S. "NIEMEN"

(Number of Visits)

Gross

Tons

Net

No. of

Built at Stockton

By whom built Craig, Taylor & Co. L^d Yard No. 209 When built 1928

Engines made at

Sunderland

By whom made

North Eastern Marine Eng. Co. L^d Engine No. 2554 When made 1928

Boilers made at

Sunderland

By whom made

North Eastern Marine Eng. Co. L^d Boiler No. 2554 When made 1928

Nominal Horse Power

293

Owners

Polish State Steamship Co.

Port belonging to

Gdynia.

(P. P. Zyglaga, Polska.)

MULTITUBULAR BOILERS—MAIN, ~~AUXILIARY~~ OR ~~DONKEY~~.

Manufacturers of Steel

The Steel Company of Scotland Limited

(Letter for Record (S))

Total Heating Surface of Boilers

4606 sq ft

Is forced draught fitted No

Coal or Oil fired Coal

No. and Description of Boilers

Two. Single ended Marine type. Corrugated Furnaces Working Pressure 180 lbs sq in

Tested by hydraulic pressure to

320 lbs sq in

Date of test

23-2-28

No. of Certificate

3979 Can each boiler be worked separately Yes

Area of Firegrate in each Boiler

55 sq ft

No. and Description of safety valves to each boiler

Two. Direct Spring loaded.

Area of each set of valves per boiler

per Rule

14.76 sq ft

as fitted

16.58 sq ft

Pressure to which they are adjusted

185 lbs sq in

Are they fitted with easing gear Yes

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

Yes

Smallest distance between boilers or uptakes and bunkers or woodwork

5' 1"

Is oil fuel carried in the double bottom under boilers

Yes

Smallest distance between shell of boiler and tank top plating

2' 5"

Is the bottom of the boiler insulated

Yes

Largest internal dia. of boilers

15' 6 3/4"

Length

10' 6" (FULL)

Shell plates: Material

Steel

Tensile strength 29 to 33 tons sq in

Thickness

1 1/4"

Are the shell plates welded or flanged

No

Description of riveting: circ. seams

end D. P. Lap

g. seams

I. P. D. B. S.

Diameter of rivet holes in

circ. seams

FRONT 1 1/4"

BACK 1 3/4"

Pitch of rivets

3 3/4" FRONT 3 3/4" BACK 8 1/2"

Percentage of strength of circ. end seams

plate

66.6

rivets

42.2

Percentage of strength of circ. intermediate seam

plate

55.6

rivets

87.2

Percentage of strength of longitudinal joint

plate

55.6

rivets

87.2

Working pressure of shell by Rules

181.5 lbs sq in

Thickness of butt straps

outer

1 1/4"

inner

1 1/4"

No. and Description of Furnaces in each Boiler

Three - Corrugated - Dighton type.

Material

Steel

Tensile strength

26 to 30 tons sq in

Smallest outside diameter

3' 8 3/8"

Length of plain part

top

bottom

Thickness of plates

crown

3 9/16"

bottom

Description of longitudinal joint

Welded.

Dimensions of stiffening rings on furnace or c.c. bottom

Working pressure of furnace by Rules

183.7 lbs sq in

Stays in steam space: Material

Steel

Tensile strength

26 to 30 tons sq in

Thickness

1 3/4"

Pitch of stays 23" x 20 5/8"

How are stays secured

Double Nuts & Washers outside.

Working pressure by Rules

181 lbs sq in

Main plates: Material

front Steel

back

Tensile strength

26 to 30 tons sq in

Thickness

3/4"

Span pitch of stay tubes in nests

9.125"

Pitch across wide water spaces

15 1/4"

Working pressure

front 183 lbs sq in (W.W.S.)

back 189 lbs sq in

Stays to combustion chamber tops: Material

Steel

Tensile strength

28 to 32 tons sq in

Depth and thickness of girder

centre

8" x 2"

Length as per Rule

31"

Distance apart

11 1/2"

No. and pitch of stays

each

2 x 9 1/2"

Working pressure by Rules

198.2 lbs sq in

Combustion chamber plates: Material

Steel

Tensile strength

26 to 30 tons sq in

Thickness: Sides

25/32"

Back

25/32"

Top

25/32"

Bottom

15/16"

Pitch of stays to ditto: Sides

12" x 9 1/2"

Back

11 1/2" x 10 5/16"

Top

11 1/2" x 9 1/2"

Are stays fitted with nuts or riveted over

Fitted with nuts.

Working pressure by Rules

Sides 184 lbs sq in

Back

180.8 lbs sq in

Top

194 lbs sq in

Front plate at bottom: Material

Steel

Tensile strength

26 to 30 tons sq in

Thickness

7/8"

Lower back plate: Material

Steel

Tensile strength

26 to 30 tons sq in

Thickness

7/8"

Pitch of stays at wide water space

15 1/4" x 10 5/16"

Are stays fitted with nuts or riveted over

Fitted with Nuts.

Working Pressure

181 lbs sq in

Main stays: Material

Steel

Tensile strength

28 to 32 tons sq in

Pitch

At body of stay,

3 1/8"

Over threads

No. of threads per inch

6

Area supported by each stay

474 sq in

Working pressure by Rules

180 lbs sq in

Screw stays: Material

Steel

Tensile strength

26 to 30 tons sq in

Pitch

At turned off part,

1 7/8"

Over threads

No. of threads per inch

9

Area supported by each stay

Sides 444 sq in

Back 118.6 sq in

Top 108.5 sq in

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FOW 578 0015

Sides 187.5 lbs. □
Backs 180 lbs. □
Tops 196.5 lbs. □
Working pressure by Rules 196.5 lbs. □ Are the stays drilled at the outer ends No Margin stays: Diameter { At turned off part, 2" or Over threads
No. of threads per inch 9 Area supported by each stay 113.5 sq. in. Working pressure by Rules 218.5 lbs. □
Tubes: Material Wrought Iron External diameter { Plain 3 1/4" Stay 3 1/4" Thickness { 8 W. 4. 5/16" x 1/4" No. of threads per inch 9
Pitch of tubes 4 7/16" x 4 11/16" Working pressure by Rules Plain 230 lbs. □ Stay 192 lbs. □ Manhole compensation: Size of opening
END plate 16" x 12" Section of compensating ring ✓ No. of rivets and diameter of rivet holes ✓
Outer row rivet pitch at ends ✓ Depth of flange if manhole flanged 3 15/16" 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 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 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 as Rules
Pressure to which the safety valves are adjusted Hydraulic test press tubes, castings and after assembly in place Are drain cocks or valves fitted to free the superheater from water where necessary

Have all the requirements of Sections 14 to 23 inclusive for boilers been complied with Yes.

The foregoing is a correct description,

FOR THE NORTH EASTERN MARINE ENGINEERING CO. LTD.

Manufactured

Dates of Survey { During progress of work in shops - - - Please see Mech. Rpt. Are the approved plans of boiler and superheater forwarded herewith (If not state date of approval.)
while building { During erection on board vessel - - -
Total No. of visits

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

The materials and workmanship are good.

The Boilers have been constructed under Special Survey, and satisfactorily fitted in the vessel.

For notation see Machinery Report.

Survey Fee ... £ Charged on Machinery Report When applied for, 192
Travelling Expenses (if any) £ When received, 192

A. T. Griffith.

Engineer Surveyor to Lloyd's Register of Shipping

Committee's Minute

TUES. 8 MAY 1928

Assigned

See Rpt attached



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