

REPORT ON BOILERS.

No. 29526

Received at London Office

-8 OCT 1927

Date of writing Report

192

When handed in at Local Office

-7 OCT. 1927

Port of

Sunderland.

No. in Survey held at
Reg. Book.

Sunderland

Date, First Survey

Last Survey

Sep. 29 1927

on the

S. S. "IRENE. S. EMBIRICOS."

(Number of Visits

Gross

4164

Net

3754.

Master

Built at

Sunderland

By whom built

Messrs Short Bros

Yard No.

426

When built

1927

Engines made at

Sunderland

By whom made

Messrs J. Dickinson & Sons Ltd

Engine No.

884

When made

1927

Boilers made at

Sunderland

By whom made

Messrs J. Dickinson & Sons Ltd

Boiler No.

884

When made

1927

Nominal Horse Power

396

Owners

S. S. Embiricos

Port belonging to

Athens

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

Manufacturers of Steel

The Steel Company of Scotland Limited

(Letter for Record

(S)

Total Heating Surface of Boilers

6186

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 \square

Tested by hydraulic pressure to

320 lbs \square

Date of test

11-8-27

No. of Certificate

3951

Can each boiler be worked separately

Yes

Area of Firegrate in each Boiler

162

No. and Description of safety valves to each boiler

Two Direct Spring loaded.

Area of each set of valves per boiler

per boiler

19.7

Pressure to which they are adjusted

185 lbs \square

Are they fitted with easing gear

Yes

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

No. Non-return valves fitted.

Smallest distance between boilers or uptakes and bunkers or woodwork

4' 9"

Is oil fuel carried in the double bottom under boilers

No

Smallest distance between shell of boiler and tank top plating

2' 4"

Is the bottom of the boiler insulated

Yes

Largest internal dia. of boilers

17' 3 5/16"

Length

11' 11 1/8" (mean)

Shell plates: Material

Steel

Tensile strength

29 1/2 - 33 1/2 tons \square

Thickness

1 1/32"

Are the shell plates welded or flanged

No

Description of riveting: circ. seams

end D.R.

long. seams

I. R. D. B. S.

Diameter of rivet holes in

circ. seams

1 7/16"

Pitch of rivets

3 3/8"

Percentage of strength of circ. end seams

plate

62.9

rivets

48.6

Percentage of strength of circ. intermediate seam

plate

85.16

rivets

91.18

Percentage of strength of longitudinal joint

plate

85.16

rivets

91.18

combined

88.56

Working pressure of shell by Rules

180.7 lbs \square

Thickness of butt straps

outer

1 1/16"

inner

1 3/16"

No. and Description of Furnaces in each Boiler

4 - Corrugated Dighton Type.

Material

Steel

Tensile strength

26 to 30 tons \square

Smallest outside diameter

3' 7 7/8"

Length of plain part

top

bottom

Thickness of plates

crown

9/16"

Description of longitudinal joint

Welded

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

Working pressure of furnace by Rules

185.5 lbs \square

End plates in steam space: Material

Steel

Tensile strength

26 to 30 tons \square

Thickness

1 3/16"

Pitch of stays

1' 6" x 1' 10 3/8"

How are stays secured

Double Nuts and Washers.

Working pressure by Rules

180.5 lbs \square

Tube plates: Material

front Steel

back Steel

Tensile strength

26 to 30 tons \square

Thickness

1 5/16"

Pitch of stays

1' 6" x 1' 10 3/8"

Mean pitch of stay tubes in nests

Pitch across wide water spaces

14 1/2"

Working pressure

front W.W. space 180.3 lbs \square back 229 lbs \square

Girders to combustion chamber tops: Material

Steel

Tensile strength

28 to 32 tons \square

Depth and thickness of girder

10"

No. and pitch of stays

at centre

8 1/4" x 2 1/4"

Length as per Rule

36 9/16"

Distance apart

10"

No. and pitch of stays

in each

3 x 9"

Working pressure by Rules

182 lbs \square

Combustion chamber plates: Material

Steel

Tensile strength

26 to 30 tons \square

Thickness: Sides

1 1/16"

Back

1 1/16"

Top

1 1/16"

Bottom

1 1/16"

Pitch of stays to ditto: Sides

10" x 9"

Back

11" x 7 3/4"

Top

10" x 9"

Are stays fitted with nuts or riveted over

Fitted with Nuts

Working pressure by Rules

Sides 182.5 lbs \square

Backs 180.5

Front plate at bottom: Material

Steel

Tensile strength

26 to 30 tons \square

Thickness

7/8"

Pitch of stays at wide water space

13 5/8" x 11"

Are stays fitted with nuts or riveted over

Fitted with Nuts.

Working Pressure

204 lbs \square

Main stays: Material

Steel

Tensile strength

28 to 32 tons \square

Diameter

At body of stay,

3 1/8"

Over threads

No. of threads per inch

6"

Area supported by each stay

402.75 \square

Working pressure by Rules

184

Screw stays: Material

Steel

Tensile strength

26 to 30 tons \square

Diameter

At turned off part,

1 3/4" & 1 7/8"

Over threads

No. of threads per inch

9"

Area supported by each stay

Sides 90 \square Backs 86.625 \square

Working pressure by Rules ^{Centre back 184 lbs 0"}
^{Way back 181.5 lbs 0"} ^{shades 29.62} Are the stays drilled at the outer ends *No* Margin stays: Diameter { At turned off part, *1 7/8"* or Over threads *✓*
No. of threads per inch *9* Area supported by each stay *117.560"* Working pressure by Rules *180.3 lbs 0"*
Tubes: Material *Wrought Iron* External diameter { Plain *3 1/4"* Thickness { *8 W. 4."* No. of threads per inch *9*
Pitch of tubes *4 1/2" x 4 1/2"* Working pressure by Rules *Plain tubes 216 lbs 0"* Manhole compensation: Size of opening in *✓*
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 3/4"* 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 Boiler
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 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 and
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 per
Rules Pressure to which the safety valves are adjusted Hydraulic test pressure
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,

Dates of Survey { During progress of work in shops - - - *Please see Machinery Report* 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 ... £ *Please see Machinery Report* When applied for, 192
Travelling Expenses (if any) £ When received, 192

Committee's Minute

TUES. 18 OCT 1927

Assigned *See Minute on Sld Rpt*

29526 attached

A. T. Griffiths.

Engineer Surveyor to Lloyd's Register of Shipping



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