

## REPORT ON BOILERS.

No. 21932.

Received at London Office

13 AUG 1942

Date of writing Report 1<sup>st</sup> AUG 1942. When handed in at Local Office 1<sup>st</sup> AUGUST 1942. Port of GREENOCKNo. in Survey held at  
Reg. Book.

GREENOCK

Date, First Survey 18<sup>th</sup> JUNE 1941.Last Survey 6<sup>th</sup> AUGUST 1942

on the

TWIN SC. STEAMER EMPIRE MIGHT

(Number of Visits ✓)

Gross 9208.67.  
Net 4921.63.

Built at GREENOCK

By whom built

GREENOCK DOCKYARD CO LTD

Yard No. 450 When built 1942

Engines made at GREENOCK

By whom made

JOHN G. KINCAID &amp; CO LTD

Engine No. 734 When made 1942

Boilers made at GREENOCK

By whom made

JOHN G. KINCAID &amp; CO LTD

Boiler No. 734 When made 1942

Nominal Horse Power 1562

Owners

MINISTRY OF WAR TRANSPORT

Port belonging to GREENOCK.

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

Manufacturers of Steel

The Steel Co. of Scotland

(Letter for Record S)

Total Heating Surface of Boilers

17780

Is forced draught fitted Yes

Coal or Oil fired Both

No. and Description of Boilers

5 SE multitubular

Working Pressure 220 lb

Tested by hydraulic pressure to

380 lb

Date of test

23-1-42

No. of Certificate

2268

Can each boiler be worked separately Yes

Area of Firegrate in each Boiler

80.5

No. and Description of safety valves to each boiler

2 1/2" double opening 144

Area of each set of valves per boiler

per Rule

4.725

as fitted

4.91

Pressure to which they are adjusted

220 lb

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

18"

Is oil fuel carried in the double bottom under boilers No

Smallest distance between shell of boiler and tank top plating

1'-10 1/2"

Is the bottom of the boiler insulated No

Largest internal dia. of boilers

16'-8 3/4"

Length

12'-1 1/4"

Shell plates: Material S

Tensile strength 29/33 tons

Thickness

1 5/8"

Are the shell plates welded or flanged No

Description of riveting: circ. seams

end DR.

Long. seams

T.P. DBS.

Diameter of rivet holes in

circ. seams

1 3/32"

long. seams

1 5/8"

Pitch of rivets

4.674"

Percentage of strength of circ. end seams

plate

64.5

rivets

44.9

Percentage of strength of circ. intermediate seam

plate

94.85

rivets

85.1

Percentage of strength of longitudinal joint

plate

84.5

rivets

85.1

combined

87.35

Thickness of butt straps

outer

1 1/4"

inner

1 3/8"

No. and Description of Furnaces in each Boiler

Four Daington

Material

S

Tensile strength

26/30 tons

Smallest outside diameter

3'-7 5/16"

Length of plain part

top

✓

bottom

✓

Thickness of plates

crown

2 1/32"

bottom

2 1/32"

Description of longitudinal joint

Weld.

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

End plates in steam space: Material S

Tensile strength

26/30 tons

Thickness

1 1/4"

Pitch of stays 20" x 16"

How are stays secured

D.N.

End plates: Material

front

S

back

S

Tensile strength

26/30 tons

Thickness

1 5/16"

25/32"

Can pitch of stay tubes in nests

9.5"

Pitch across wide water spaces

1'-2"

Orders to combustion chamber tops: Material S

Tensile strength

29/33 tons

Depth and thickness of girder

centre

10 1/4" x 1 1/2"

Length as per Rule

2'-10 7/32"

Distance apart

8 1/2"

No. and pitch of stays

each

3 @ 8 1/4"

Combustion chamber plates: Material S

Tensile strength

26/30 tons

Thickness: Sides

1 1/16"

Back

1 1/16"

Top

1 1/16"

Bottom

1 3/16"

Pitch of stays to ditto: Sides

8 1/4" x 8 1/2"

Back

8 1/2" x 8 5/8"

Top

8 1/2" x 8 1/4"

Are stays fitted with nuts or riveted over Yes except the shell

End plate at bottom: Material S

Tensile strength

26/30 tons

Thickness

1 5/16"

Lower back plate: Material S

Tensile strength

26/30 tons

Thickness

7/8"

Pitch of stays at wide water space

1'-2"

Are stays fitted with nuts or riveted over Nuts

In stays: Material

S

Tensile strength

28/32 tons

Pitch of stays

At body of stay,

or

3"

No. of threads per inch

6

New stays: Material

S

Tensile strength

26/30 tons

Pitch of stays

At turned off part,

or

1 3/4"

No. of threads per inch

9.



© 2020

Lloyd's Register  
Foundation

005403-005411-0208



Are the stays drilled at the outer ends No ✓ Margin stays: Diameter { At turned off part, 1 7/8" or Over threads 1 7/8" ✓  
No. of threads per inch 9 ✓  
Tubes: Material S. External diameter { Plain 3" ✓ Stay 3" ✓ Thickness { 5/32" ✓ No. of threads per inch 9 ✓  
Pitch of tubes 4 1/8" x 4 1/4" ✓ Manhole compensation: Size of opening in shell plate 16 1/2" x 20 1/2" ✓ Section of compensating ring 3'-0" x 3'-3" x 1 1/8" ✓ No. of rivets and diameter of rivet holes 36 - 1 1/8" ✓  
Outer row rivet pitch at ends 1 1/4" ✓ Depth of flange of manhole flanged McNeil type ✓ 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 ✓ Thickness of crown ✓ No. and diameter of stays ✓ Inner radius of crown ✓  
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 NORTH EASTERN SMOKE TUBE

Manufacturers of

Tubes Galbot Steel  
Steel forgings Froddingham Steel Co  
Steel castings

Number of elements 370 Material of tubes Solid Down Steel Internal diameter and thickness of tubes 17 1/2" x 2 1/2" ✓  
Material of headers Forged Steel Tensile strength 26/30 tons Thickness 7/8" 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 3.14" ✓ Are the safety valves fitted with easing gear Yes ✓  
Pressure to which the safety valves are adjusted 225 lbs/sq" ✓ Hydraulic test pressure tubes 1500 lbs forgings and castings 660 lbs and after assembly in place 550 lbs ✓ Are drain cocks 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 ✓

The foregoing is a correct description,  
For JOHN G. KINCAID & CO. LIMITED.  
McCart Director. Manufacture

Dates of Survey { During progress of work in shops - - }  
while building { During erection on board vessel - - }  
SEE

MACHINERY REPORT

Are the approved plans of boiler and superheater forwarded herewith (If not state date of approval.)  
Total No. of visits

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

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

These boilers have been built under special survey in accordance with the Rules and approved plans. The materials & workmanship are sound & good. Please see machinery report for recommendations

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

See machinery report

Charles J. Hunter  
Engineer Surveyor to Lloyd's Register of Shipping

Committee's Minute GLASGOW 11 AUG 1942

Assigned SEE ACCOMPANYING MACHINERY REPORT.



© 2020

Lloyd's Register Foundation