

pt. 5a.

## REPORT ON BOILERS.

No.

Received at London Office

24 NOV 1941

No. of writing Report

192

When handed in at Local Office

192

Port of

CARDIFF

No. in Survey held at

CARDIFF

Date, First Survey

Last Survey

192

No. on the

M.V. "KING ALFRED"

(Number of Visits)

Gross 6919  
Net 4151

Built at

GREENOCK

By whom built

GREENOCK DOCKYARD CO. LD.

When built 1941

Lines made at

GLASGOW.

By whom made

BARCLAY CURLE &amp; CO. LTD.

Engine No.

When made 1941

Boilers made at

GLASGOW

By whom made

BARCLAY CURLE &amp; CO. LTD.

Boiler No.

When made 1941

Nominal Horse Power

687

Owners

KING LINE LTD.

Port belonging to LONDON

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

Manufacturers of Steel

(Letter for Record)

Total Heating Surface of Boilers

1,684

Is forced draught fitted

Yes

Coal or Oil fired

Oil

and Description of Boilers

One Multitubular Scotch Boiler

Working Pressure 120 lbs.

Tested by hydraulic pressure to

230 lbs.

Date of test

No. of Certificate

Can each boiler be worked separately

Yes

Area of Firegrate in each Boiler

15.6

No. and Description of safety valves to each boiler

2 spring loaded

Area of each set of valves per boiler

per Rule

as fitted

Pressure to which they are adjusted 120 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

Is oil fuel carried in the double bottom under boilers

Smallest distance between shell of boiler and tank top plating

Is the bottom of the boiler insulated

Largest internal dia. of boilers

12'-9"

Length

11'-0"

Shell plates: Material

S.M. steel

Tensile strength 29.33

Thickness

23/32

Are the shell plates welded or flanged

flanged

Description of riveting: circ. seams

end 3/4 rivets

Circ. seams

3/4 rivets

Diameter of rivet holes in

circ. seams

13/16"

long. seams

13/16"

Pitch of rivets

2.414

5.75

Percentage of strength of circ. end seams

plate

66.36

rivets

47.41

Percentage of strength of circ. intermediate seam

plate

-

rivets

-

Percentage of strength of longitudinal joint

plate

85.86

rivets

93.28

combined

92.12

Working pressure of shell by Rules

123 lbs.

Thickness of butt straps

outer

9/16"

inner

11/16"

No. and Description of Furnaces in each Boiler

Three Corrugated (Deighton)

Material S.M. Steel

Tensile strength

26.30

Smallest outside diameter

3'-4 1/2"

Thickness of plain part

top

8 3/4"

bottom

8 3/4"

Thickness of plates

crown

3/8"

bottom

3/8"

Description of longitudinal joint

-

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

-

Working pressure of furnace by Rules

130 lbs. per sq. in.

Plates in steam space: Material

S.M. Steel

Tensile strength

26.30

Thickness

15/16"

Pitch of stays 18 1/2" x 18"

Are stays secured

Double nuts and washers

Working pressure by Rules

121.4

Plates: Material

front

S.M. steel

Tensile strength

26.30

back

S.M. steel

Tensile strength

26.30

Thickness

23/32"

11/16"

Pitch of stay tubes in nests

8 3/8"

Pitch across wide water spaces

14

Working pressure

front

back

Boilers to combustion chamber tops: Material

S.M. Steel

Tensile strength

28.32

Depth and thickness of girder

Centre 8" x 19/32" double

Length as per Rule

- 2'-8 3/4"

Distance apart

9 1/2"

No. and pitch of stays

Back 2 9 1/2" x 10 1/2"

Working pressure by Rules

123.6 lbs. per sq. in.

Combustion chamber plates: Material S.M. Steel

Tensile strength

26.30

Thickness: Sides

19/32"

Back

9/16"

Top

19/32"

Bottom

19/32"

Pitch of stays to ditto: Sides

9 1/2" x 10 1/2"

Back

9 1/2" x 9 1/2"

Top

9 1/2" x 10 1/2"

Are stays fitted with nuts or riveted over

Nuts

Working pressure by Rules

Sides

121

Back

139

Front plate at bottom: Material S.M. Steel

Tensile strength 26.30

Thickness

23/32"

Lower back plate: Material S.M. Steel

Tensile strength

26.30

Thickness

21/32"

Pitch of stays at wide water space

9 1/2" x 14"

Are stays fitted with nuts or riveted over

Nuts

Working Pressure

122

Main stays: Material

S.M. Steel

Tensile strength

28.32

At body of stay,

2 1/2"

Over threads

No. of threads per inch

6

Area supported by each stay

333 sq. ins.

Working pressure by Rules

134 lbs.

Screw stays: Material

S.M. Steel

Tensile strength

26.30

At turned off part,

1 1/2"

Over threads

No. of threads per inch

9

Area supported by each stay

86.68 sq. ins.



Working pressure by Rules **144 lbs.** Are the stays drilled at the outer ends **No** Margin stays: Diameter { At turned off part, or Over threads **1 5/8"**  
No. of threads per inch **9** Area supported by each stay **107 sq. ins.** Working pressure by Rules **142 lbs.**  
**Tubes: Material Steel** External diameter { Plain **3"** Stay **3"** Thickness { **10 W.G.** **5/16"** No. of threads per inch **9**  
Pitch of tubes **4 1/8" x 4 1/4"** Working pressure by Rules **140** Manhole compensation: Size of opening  
shell plate **20" x 16"** Section of compensating ring **9 1/2" x 23/32"** No. of rivets and diameter of rivet holes **20 - 15/16" holes**  
Outer row rivet pitch at ends **6"** Depth of flange if manhole flanged **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  
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 **-**  
The foregoing is a correct description,  
Manufacturer

Dates of Survey { During progress of work in shops - - - 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.)

This boiler was built under the Survey of the British Corporation Registry. The material and workmanship is good. The boilers are eligible in our opinion to be classed for a working pressure of 120 lbs.

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

Hannish W. H. Paton & W. E. Danks  
Engineer Surveyor to Lloyd's Register of Shipping

Committee's Minute **FIL 1 APR 1913**

Assigned



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