

REPORT ON BOILERS.

No. 11909
LONDON RPT 88044

Received at London Office

FRI. APR. 25 1924

Date of writing Report

102

When handed in at Local Office

23.4.24 192

Port of

Huddersburgh

No. in
Book.

Survey held at

Stockton-on-Tees

Date, First Survey

18th February

Last Survey

16th April

1924

on the

Steel Tug. "Carnrock"

(Number of Visits

17)

Gross

Tons

Net

Master

Built at

Leppikuk (Holland)

By whom built

T. Van Duijn & Co. Schiedamschedijk

No.

When built 1924

Engines made at

Gt. Yarmouth

By whom made

Thos. Crabb & Co. Ltd.

Engine No.

When made 1924

Boilers made at

Stockton

By whom made

Thos. Blair & Co. Ltd.

Boiler No.

When made 1924

Nominal Horse Power

Owners

Messrs. Harrison (London) Ltd.

Port belonging to

London.

MULTITUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel

D. Bellville & Sons (Plates) & John Aspin & Sons (Bars)

(Letter for Record

(5)

Total Heating Surface of Boilers

1393 sq ft

Is forced draught fitted

No

Coal or Oil fired

Coal

No. and Description of Boilers

One single ended

Working Pressure

140

Tested by hydraulic pressure to

260

Date of test

16.4.24

No. of Certificate

6356

Can each boiler be worked separately

Area of Firegrate in each Boiler

37 sq ft

No. and Description of safety valves to each boiler

2. Spring loaded

Area of each set of valves per boiler

per Rule

11.24

as fitted

11.24

Pressure to which they are adjusted

145 lb

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

18"

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'-4 3/8"

Length

10'-5"

Shell plates: Material

Steel

Tensile strength

28-32

Thickness

13/16"

Are the shell plates welded or flanged

no

Description of riveting: circ. seams

end D. Riv. Laps

long. seams

D. Butt - 3 Riveted

Diameter of rivet holes in

circ. seams

1 1/2"

Pitch of rivets

3 1/2"

Percentage of strength of circ. end seams

plate

70.7

rivets

50.0

Percentage of strength of circ. intermediate seam

plate

✓

rivets

✓

Percentage of strength of longitudinal joint

plate

88.07

rivets

87.7

combined

90.5

Working pressure of shell by Rules

144 lb

Thickness of butt straps

outer 13 5/8" x 5/8"

inner 13 5/8" x 3/4"

No. and Description of Furnaces in each Boiler

Two plain

Material

Steel

Tensile strength

26-30

Smallest outside diameter

41.81"

Length of plain part

top 73 3/4"

bottom 60 1/2"

Thickness of plates

crown

21/32"

bottom

3/32"

Description of longitudinal joint

Weld

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

none

Working pressure of furnace by Rules

143 lb

End plates in steam space: Material

Steel

Tensile strength

26-30

Thickness

15/16"

Pitch of stays

20" x 16 1/2"

How are stays secured

nuts & 9 1/2" dia x 3/4" long washers

Working pressure by Rules

140 lb

Tube plates: Material

front Steel

back Steel

Tensile strength

26-30

Thickness

15/16"

3/4"

Mean pitch of stay tubes in nests

10.59"

Pitch across wide water spaces

14 1/2" x 9 1/2"

Working pressure

front 152 lb

back 179 "

Girders to combustion chamber tops: Material

Steel

Tensile strength

28-32 tons

Depth and thickness of girder

at centre

7" x 14"

Length as per Rule

26 1/2"

Distance apart

10 1/4"

No. and pitch of stays

in each

2 @ 9 1/4"

Working pressure by Rules

164 lb

Combustion chamber plates: Material

Steel

Tensile strength

26-30

Thickness: Sides

5/8"

Back

5/8"

Top

5/8"

Bottom

5/8"

Pitch of stays to ditto: Sides

9 1/2" x 9 1/2"

Back

9" x 9 1/2"

Top

10 1/4" x 9 1/4"

Are stays fitted with nuts or riveted over

nuts

Working pressure by Rules

146 lb

Front plate at bottom: Material

Steel

Tensile strength

26-30

Thickness

15/16"

Lower back plate: Material

Steel

Tensile strength

26-30

Thickness

1"

Pitch of stays at wide water space

14" x 9 1/2"

Are stays fitted with nuts or riveted over

nuts

Working Pressure

281 lb

Main stays: Material

Steel

Tensile strength

28-32

Diameter

At body of stay,

2 5/8"

Over threads,

2 5/8"

No. of threads per inch

6

Area supported by each stay

310

Working pressure by Rules

148 lb

Screw stays: Material

Steel

Tensile strength

26-30

Diameter

At turned off part,

1 3/8"

Over threads,

1 3/8"

No. of threads per inch

8

Area supported by each stay

88.87

010012-010023-01146

Working pressure by Rules 171 lb Are the stays drilled at the outer ends on ✓ Margin stays: Diameter { At turned off part, or Over threads 1 3/4" ✓
 No. of threads per inch 8 ✓ Area supported by each stay 113.5 Working pressure by Rules 159
 Tubes: Material Iron ✓ External diameter { Plain 3 1/4" ✓ Thickness { 1/2 - 45.9 ✓ No. of threads per inch 9 ✓
 Pitch of tubes 4 1/2" x 4 5/8" ✓ Working pressure by Rules 180 + 201 Manhole compensation: Size of opening in
 shell plate 16" x 12" ✓ Section of compensating ring 7 1/2" x 1 1/2" ✓ No. of rivets and diameter of rivet holes 28 @ 1 1/2"
 Outer row rivet pitch at ends 6 1/2" ✓ Depth of flange if manhole flanged ✓ Steam Dome: Material none
 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 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 casing 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.
BLAIR & CO., LIMITED. N. P. Hamilton Manufacturer.

Dates of Survey { During progress of 1924, Feb. 18, 22, 26, Mar. 3, 4, 7, 10, 14, 17. Are the approved plans of boiler and superheater forwarded herewith Yes
 work in shops - - - 21, 24, 28, 31, Apr. 3, 4, 6. (If not state date of approval.)
 while building { During erection on board vessel - - - Total No. of visits 17

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

This boiler has been built under special survey: is of good material & workmanship and on completion was tested by hydraulic pressure with satisfactory results

This boiler has been satisfactorily fitted in the vessel examined under steam & the safety valves adjusted to 145 lbs.

Survey Fee ... £ 9-6-0 When applied for, 192
 Travelling Expenses (if any) £ ✓ : When received, 192

W. Morrison T.A.R. Lammie
 Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute FRI 29 AUG 1924

Assigned

FRI 12 SEP 1924



© 2021

Lloyd's Register Foundation