

REPORT ON BOILERS.

Received at London Office 11 AUG 1928

Date of writing Report

102

When handed in at Local Office

10 AUG 1928

Port of Sunderland

No. in Survey held at

Sunderland

Date, First Survey

Last Survey

Aug 8 1928

10103 on the

S. S. "FAIRWATER"

(Number of Visits)

Gross 4108

Net 2605

Master

Built at Sunderland By whom built R. Thompson & Sons Ltd Yard No. 331 When built 1928

Engines made at

Sunderland

By whom made North Eastern Marine Eng Co. Ltd

Engine No. 2654 When made 1928

Boilers made at

Sunderland

By whom made North Eastern Marine Eng Co. Ltd

Boiler No. 2654 When made 1928

Nominal Horse Power

376

Owners Fairwater Shipping Co. Ltd

Port belonging to Bardiff

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

Manufacturers of Steel

Messrs David Colville & Sons Ltd

(Letter for Record (S))

Total Heating Surface of Boilers

6174 sq ft Is forced draught fitted No

Coal or Oil fired Coal

No. and Description of Boilers

Three-Single Ended-Marine Type-Corrugated Furnaces Working Pressure 180 lbs sq

Tested by hydraulic pressure to

320 lbs sq Date of test 25.5.28 No. of Certificate 3994

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 13.19 sq

as fitted 14.13 sq Pressure to which they are adjusted 185 lbs sq

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 boiler uptakes and bunkers 21"

Is oil fuel carried in the double bottom under boilers Yes

Smallest distance between shell of boiler and tank top plating

2' 10 1/2"

Is the bottom of the boiler insulated No

Largest internal dia. of boilers

15' 3 1/2"

Length 10' 9" (FULL)

Shell plates: Material Steel

Tensile strength 28 to 32 tons sq

Thickness

1 1/4"

Are the shell plates welded or flanged No

Description of riveting: circ. seams end D.P. Lap

Long. seams

I.R.D.B.S.

Diameter of rivet holes in

circ. seams 1 3/32"

long. seams 1 9/32"

Pitch of rivets 3 3/4"

Percentage of strength of circ. end seams

plate 65.8

rivets 45.2

Percentage of strength of circ. intermediate seam

plate 85.95

rivets 87.3

Percentage of strength of longitudinal joint

plate 85.95

rivets 87.3

Working pressure of shell by Rules

181.2 lbs sq

Thickness of butt straps

outer 1"

inner 1 1/8"

No. and Description of Furnaces in each Boiler Three-Corrugated-Deighton Type

Material

Steel

Tensile strength 26 to 30 tons sq

Smallest outside diameter 3' 8 3/8"

Length of plain part

top 9"

bottom 9"

Thickness of plates

crown 9/16"

bottom 9/16"

Description of longitudinal joint Welded

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

Yes

Working pressure of furnace by Rules

183.6 lbs sq

End plates in steam space

Material Steel

Tensile strength 26 to 30 tons sq

Thickness 1 5/16"

Pitch of stays 21 1/2" x 20 1/2"

How are stays secured

Double Nuts

Working pressure by Rules

182.8 lbs sq

Tube plates

Material Steel

Tensile strength 26 to 30 tons sq

Thickness

7/8"

Mean pitch of stay tubes in nests

10.7"

Pitch across wide water spaces 14 1/2"

Working pressure

front 193 lbs sq (W.W. space)

back 185 lbs sq

Girders to combustion chamber tops

Material Steel

Tensile strength 28 to 32 tons sq

Depth and thickness of girder

at centre

8 1/2" x 1 1/2"

Length as per Rule

30 1/2"

Distance apart

10 5/8"

No. and pitch of stays

in each

2 @ 9 1/2"

Working pressure by Rules

187 lbs sq

Combustion chamber plates

Material Steel

Tensile strength

26 to 30 tons sq

Thickness

Sides 3/4"

Back 25/32"

Top 3/4"

Bottom 3/4"

Pitch of stays to ditto

Sides 10" x 10"

Back 11 1/4" x 10 1/2"

Top 10 5/8" x 9 1/2"

Are stays fitted with nuts or riveted over Fitted with Nuts

Working pressure by Rules

198 lbs sq

Front plate at bottom

Material Steel

Tensile strength 26 to 30 tons sq

Thickness

7/8"

Lower back plate

Material Steel

Tensile strength 26 to 30 tons sq

Thickness 29/32"

Pitch of stays at wide water space

14 1/2" x 10 1/2"

Are stays fitted with nuts or riveted over

Fitted with Nuts

Working Pressure

181 lbs sq

Main stays

Material Wrought Iron

Tensile strength 22 1/2 tons sq (min)

Diameter

At body of stay

3 1/2"

No. of threads per inch

6

Area supported by each stay

440.75 sq

Working pressure by Rules

197 lbs sq

Screw stays

Material Wrought Iron

Tensile strength 21 1/2 tons sq (min)

Diameter

At turned off part

1 3/4" & 1 7/8"

No. of threads per inch

9

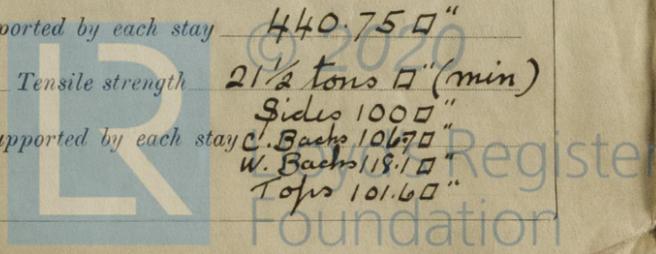
Area supported by each stay

Sides 100 sq

Back 106.7 sq

W. Back 118.1 sq

Top 101.6 sq



Sides 181.5 lbs
 C. Backs 199.9 lbs
 W. Backs 150 lbs
 Top 18 lbs

Working pressure by Rules No Are the stays drilled at the outer ends No Margin stays: Diameter 2" (At turned off part, or Over threads)

No. of threads per inch 9 Area supported by each stay 135.190" Working pressure by Rules 182 lbs

Tubes: Material Wrought Iron External diameter 3 1/4" Thickness 5/16" No. of threads per inch 9

Pitch of tubes 4 1/2" x 4 3/4" Working pressure by Rules Plain 230 lbs Stay 194 Manhole compensation: Size of opening in

END shell 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 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 stays

How connected to shell Inner radius of crown Working pressure by Rules

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,

THE NORTH EASTERN MARINE ENGINEERING CO. LTD. Manufacturer.

Archd. Berry

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. Griffiths

Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute

FRI 17 AUG 1928

Assigned

See Rpt attached



© 2020

Lloyd's Register Foundation