

REPORT ON BOILERS.

No. 88674

19.23.

22.25.

Date of writing Report

19

When handed in at Local Office

30 MAY 1932

Received at London Office

31 MAY 1932

Port of Newcastle-on-Tyne

No. in
g. Book.

Survey held at

Wallsend-on-Tyne

Date, First Survey

13 Nov/31

Last Survey

27 May 1932

on the

New Steel S.S. Harpation

(Number of Visits)

Gross

Tons

Net

Master

Built at

Hebburn

By whom built

Hawthorn Leslie & Co. Ltd.

Yard No.

When built

Engines made at

Wallsend

By whom made

North Eastern Marine & Cold.

Engine No.

When made

Boilers made at

Wallsend

By whom made

North Eastern Marine & Cold.

Boiler No.

When made

Nominal Horse Power

482

Owners

National & S. Coy. Ltd.

Port belonging to

London

MULTITUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel

The Steel Company of Scotland Ltd.

(Letter for Record)

Total Heating Surface of Boilers

4952

See amp's forced draught fitted

yes

Coal or Oil fired

coal

No. and Description of Boilers

Two single ended

Working Pressure

220 lbs

Tested by hydraulic pressure to

380

Date of test

15-3-32

No. of Certificate

592

Can each boiler be worked separately

yes

Area of Firegrate in each Boiler

46 3/4

No. and Description of safety valves to each boiler

Two spring loaded

Area of each set of valves per boiler

per Rule

13.2

as fitted

14.14

Pressure to which they are adjusted

225 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

See amp's

3'-5"

Is oil fuel carried in the double bottom under boilers

no

Smallest distance between shell of boiler and tank top plating

2'-8"

Is the bottom of the boiler insulated

yes

Largest internal dia. of boilers

15'-3 1/2"

Length

11'-6"

Shell plates: Material

Steel

Tensile strength

29 to 33 tons

Thickness

1 1/2"

Are the shell plates welded or flanged

no

Description of riveting: circ. seams

end

D.R.

Long. seams

T.R.D.B.S.

Diameter of rivet holes in

circ. seams

1 1/2"

Pitch of rivets

4 1/4"

10 3/8"

Percentage of strength of circ. end seams

plate

64.4

rivets

44.9

Percentage of strength of circ. intermediate seam

plate

85.54

rivets

86.95

Percentage of strength of longitudinal joint

plate

85.54

rivets

86.95

Working pressure of shell by Rules

222 lbs

Thickness of butt straps

outer

1 1/2"

inner

1 1/4"

No. and Description of Furnaces in each Boiler

3 corrugated

Material

Steel

Tensile strength

26 to 30 tons

Smallest outside diameter

3'-8 3/4"

Length of plain part

top

bottom

check

Thickness of plates

crown

3/4"

bottom

Description of longitudinal joint

weld.

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

Working pressure of furnace by Rules

25 1/2 lbs

End plates in steam space: Material

Steel

Tensile strength

26 to 30 tons

Thickness

1 1/2"

Pitch of stays

1'-10 x 1'-8 3/4"

How are stays secured

double nuts

Working pressure by Rules

222 lbs

Tube plates: Material

front

back

Steel

Tensile strength

26 to 30 tons

Thickness

3/4"

Mean pitch of stay tubes in nests

8 1/2"

Pitch across wide water spaces

14 1/4" x 8 1/2"

Working pressure

front

235

back

248.3

Girders to combustion chamber tops: Material

Steel

Tensile strength

29 to 33 tons

Depth and thickness of girder

at centre

2 @ 10 1/4" x 1 1/8"

Length as per Rule

2'-10"

Distance apart

11"

No. and pitch of stays

in each

3 @ 1 1/2"

Working pressure by Rules

229

Combustion chamber plates: Material

Steel

Tensile strength

26 to 30 tons

Thickness: Sides

2 1/2"

Back

2 1/2"

Top

2 1/2"

Bottom

2 1/2"

2 1/2"

2 1/2"

2 1/2"

2 1/2"

2 1/2"

2 1/2"

2 1/2"

2 1/2"

2 1/2"

2 1/2"

2 1/2"

Pitch of stays to ditto: Sides

10 3/4" x 9 1/8"

Back

9 1/4" x 9 1/4"

Top

11" x 1 1/2"

11" x 1 1/2"

11" x 1 1/2"

11" x 1 1/2"

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11" x 1 1/2"

11" x 1 1/2"

Working pressure by Rules

222 lbs

Front plate at bottom: Material

Steel

Tensile strength

26 to 30 tons

Thickness

2 1/2"

Thickness

3 1/2"

Lower back plate: Material

Steel

Tensile strength

26 to 30 tons

Pitch of stays at wide water space

14 1/4" x 9 1/4"

Are stays fitted with nuts or riveted over

nuts

Working Pressure

225 lbs

Main stays: Material

Steel

Tensile strength

26 to 30 tons

Diameter

At body of stay,

or

Over threads

3 3/4"

No. of threads per inch

6

Area supported by each stay

456.5"

Working pressure by Rules

234

Screw stays: Material

W. Iron

Tensile strength

21 1/2 tons min.

Diameter

At turned off part,

or

Over threads

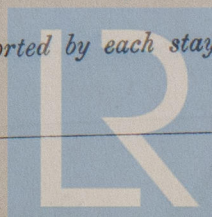
2"

No. of threads per inch

9

Area supported by each stay

941.0"

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Working pressure by Rules 255 lbs. Are the stays drilled at the outer ends no Margin stays: Diameter 2 1/4" At turned off part, or Over threads 2 1/4" ✓
No. of threads per inch 9 Area supported by each stay 118.25 Working pressure by Rules 255 lbs.
Tubes: Material S.D. Steel External diameter 3" Thickness 8 L.S.G. No. of threads per inch 9
Pitch of tubes 1 1/4" x 1 1/4" Working pressure by Rules W.W.S. 243 lbs. Manhole compensation: Size of opening 3H @ 1 1/4"
shell plate 21x17 Section of compensating ring 25" x 1 1/2" No. of rivets and diameter of rivet holes 3H @ 1 1/4"
Outer row rivet pitch at ends 10 3/4" Depth of flange if manhole flanged 3 1/2" 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 _____
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 North Eastern smoke tube Manufacturers of Stewart & Dyke Ltd. The Birmingham Steel Coy Ltd.
Number of elements 114 Material of tubes S.D. Steel Internal diameter and thickness of tubes 1 1/4" x 1/8"
Material of headers W.P. Steel Tensile strength 26 to 30 tons Thickness 1/8" Can the superheater be shut off yes.
the boiler be worked separately no 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 3.1416" Are the safety valves fitted with easing gear yes. Working pressure as per Rules 220 lbs.
Pressure to which the safety valves are adjusted 225 lbs. Hydraulic test pressure 550 lbs.
tubes 1500 lbs. castings 660 lbs. and after assembly in place 550 lbs. Are drain cocks or valves fitted yes.
to free the superheater from water where necessary yes.
Have all the requirements of Sections 14 to 22 inclusive for boilers been complied with yes.

The foregoing is a correct description,
THE NORTH EASTERN MARINE ENGINEERING CO., LTD.

Dates of Survey During progress of work in shops - - See inquiry report Are the approved plans of boiler and superheater forwarded herewith yes.
while building During erection on board vessel - - (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.
Materials & Workmanship good. Hydraulic tests satisfactory.

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

William Butler
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute FRI. 3 JUN 1932

Assigned See F.E. Rpt.



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Foundation