

REPORT ON BOILERS.

No. 101,434

Received at London Office

3 AUG 1943

Date of writing Report

19

When handed in at Local Office

19

Port of

NEWCASTLE-ON-TYNE.

No. in
Reg. Book.

Surrey held at

Wallsend.

Date, First Survey

24 March 1943

Last Survey

29 June

1943

on the

M.V. "EMPIRE ALLIANCE"

(Number of Visits

Gross

Tons

Net

Built at

Sunderland.

By whom built

Sir J. Laing & Sons Ltd

Yard No. 747

When built 1943

Engines made at

Glasgow

By whom made

Harland & Wolff Ltd

Engine No. 2459/3

When made 1943

Boilers made at

Wallsend.

By whom made

N.E. Marine Eng Co (1939) Ltd

Boiler No. 3034

When made 1943

Nominal Horse Power

Owners Ministry of War Transport

Port belonging to

Sunderland.

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

Manufacturers of Steel

Steel Co of Scotland Ltd

(Letter for Record

S

Total Heating Surface of Boilers

4120 ft²

Is forced draught fitted

yes

Coal or Oil fired

oil

No. and Description of Boilers

2 D.B.

Working Pressure

180

Tested by hydraulic pressure to

320

Date of test

30.8.43

No. of Certificate

1039

Can each boiler be worked separately

yes

Area of Firegrate in each Boiler

✓

No. and Description of safety valves to each boiler

1 Double

Area of each set of valves per boiler

{ per Rule

13.2

{ as fitted

14.74

Pressure to which they are adjusted

185

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 1/16"

Length

11-6

Shell plates: Material

S

Tensile strength

29-33

Thickness

1 1/2"

Are the shell plates welded or flanged

no

Description of riveting: circ. seams

{ end

DR

long. seams

T.R. D.B.S.

Diameter of rivet holes in

{ circ. seams

1 1/8"

Pitch of rivets

{ 3 1/4

{ 7 13/16

Percentage of strength of circ. end seams

{ plate

65.3

{ rivets

42.7

Percentage of strength of circ. intermediate seam

{ plate

✓

{ rivets

Percentage of strength of longitudinal joint

{ plate

85.6

{ rivets

91.6

{ combined

89.5

Thickness of butt straps

{ outer

13/16"

{ inner

1 1/16"

No. and Description of Furnaces in each Boiler

3 c.f.

Material

S

Tensile strength

26-30

Smallest outside diameter

2'-8 1/8"

Length of plain part

{ top

✓

{ bottom

Thickness of plates

{ crown

7/16"

{ bottom

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

Thickness

1 1/4"

Pitch of stays 18x19"

How are stays secured

Double nuts

Tube plates: Material

{ front

S

{ back

Tensile strength

26-30

Thickness

{ 29/32"

{ 25/32"

Mean pitch of stay tubes in nests

10 1/4"

Pitch across wide water spaces

14 1/2" x 8"

Girders to combustion chamber tops: Material

S

Tensile strength

29-33

Depth and thickness of girder

at centre

7 1/2" x 25/32 D.B.S.

Length as per Rule

2'-6"

Distance apart

9"

No. and pitch of stays

in each

2 @ 9"

Combustion chamber plates: Material

S

Tensile strength

26-30

Thickness: Sides

2 1/32"

Back

2 3/32"

Top

2 1/32"

Bottom

2 1/32"

Pitch of stays to ditto: Sides

9x9"

Back

10x10"

Top

9x9"

Are stays fitted with nuts or riveted over

nuts

Front plate at bottom: Material

S

Tensile strength

26-30

Thickness

29/32"

Lower back plate: Material

S

Tensile strength

26-30

Thickness

7/8"

Pitch of stays at wide water space

14 1/2" x 10"

Are stays fitted with nuts or riveted over

nuts

Main stays: Material

S

Tensile strength

28-32

Diameter

{ At body of stay,

3"

{ Over threads

✓ 3 1/4"

No. of threads per inch

6"

Screw stays: Material

S

Tensile strength

26-30

Diameter

{ At turned off part,

1 5/8" x 1 3/4"

{ Over threads

No. of threads per inch

9"

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Foundation

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Are the stays drilled at the outer ends

no

Margin stays: Diameter { At turned off part.
or
Over threads 2" ✓

No. of threads per inch

9

Tubes: Material SD Steel

External diameter {

Plain 2 3/4"
Stay

Thickness {

9/16" 5/16"

No. of threads per inch

9

Pitch of tubes

4"x4"

Manhole compensation: Size of opening in

shell plate

none

Section of compensating ring

No. of rivets and diameter of rivet holes

Outer row rivet pitch at ends

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

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

none

Manufacturers of

Tubes

Steel forgings

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

Pressure to which the safety valves are adjusted

Hydraulic test pressure:

tubes

forgings and 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 22 inclusive for boilers been complied with

yes

THE NORTH EASTERN MARINE ENGINEERING CO. (1938) LTD.
The foregoing is a correct description,

John Neill
DIRECTOR

Manufacturer.

Dates of Survey {

During progress of
work in shops - -

March 1943

Are the approved plans of boiler and superheater forwarded herewith (If not state date of approval.)

31/3/42

while
building {

During erection on
board vessel - - -

See Machinery Report
on fitting out

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 donkey boilers have been constructed under Special Survey in accordance with the approved Plan, the requirements of the Rules & the Specification. The materials & workmanship are good & the boilers proved sound & tight under hydraulic test & satisfactory under steam.

Survey Fee

...

...

£ 24.5.0

When applied for,

19

Travelling Expenses (if any) £

:

:

When received,

19

R. C. Moffitt

Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute

FRI 13 AUG 1943

Assigned

see minute on

Sld H. Rpt 3738



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