

REPORT ON BOILERS.

No. 101648

E-3 NOV 1943

Received at London Office

15 NOV 1943

Date of writing Report

19

When handed in at Local Office

19

Port of

NEWCASTLE-ON-TYNE.

No. in
Reg. Book.

Survey held at

Wallsend.

Date, First Survey

15 June, 1942

Last Survey

5 October

1943

(Number of Visits

61

Gross

7024

Tons

Net

4734

37252

on the

S.S. EMPIRE FLAG

Built at

Walker

By whom built

Armstrong Whitworth & Co Ltd

Yard No.

4

When built

1943

Engines made at

Wallsend.

By whom made

C.B. Charney & Co (1938) Ltd

Engine No.

3082

When made

1943

Boilers made at

-

By whom made

-

Boiler No.

3026

When made

1943

Nominal Horse Power

542

Owners

Ministry of War Transport

Port belonging to

Newcastle.

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

Manufacturers of Steel

Steel Co of Scotland Ltd & Colvilles' Ltd.

(Letter for Record

S

Total Heating Surface of Boilers

2416

Is forced draught fitted

yes

Coal or Oil fired

Coal

No. and Description of Boilers

1 aux SB

Working Pressure

220

Tested by hydraulic pressure to

380

Date of test

21.9.42

No. of Certificate

1005.

Can each boiler be worked separately

yes

Area of Firegrate in each Boiler

55

No. and Description of safety valves to each boiler

Double improved high lift.

Area of each set of valves per boiler

{ per Rule

6.42.

{ as fitted

7.94

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 or woodwork

✓

Is oil fuel carried in the double bottom under boilers

no

Smallest distance between shell of boiler and tank top plating

✓

Is the bottom of the boiler insulated

yes

Largest internal dia. of boilers

15'-0 1/16"

Length

11'-8 1/32"

Shell plates: Material

S

Tensile strength

29-33

Thickness

1 7/32"

Are the shell plates welded or flanged

no

Description of riveting: circ. seams

{ end

DR

{ inter.

✓

long. seams

TR. D B B.

Diameter of rivet holes in

{ circ. seams

1 1/2"

{ long. seams

Pitch of rivets

{ 4 1/2"

{ 10 3/8"

Percentage of strength of circ. end seams

{ plate

63.6

{ rivets

46.2

Percentage of strength of circ. intermediate seam

{ plate

{ rivets

Percentage of strength of longitudinal joint

{ plate

85.5

{ rivets

86.2

{ combined

88.3

Thickness of butt straps

{ outer

1 1/8"

{ inner

1 1/4"

No. and Description of Furnaces in each Boiler

3 SB.

Material

S

Tensile strength

26-30

Smallest outside diameter

3'-9 3/4"

Length of plain part

{ top

{ bottom

Thickness of plates

{ crown

1 1/16"

{ 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 3/32"

Pitch of stays

19 1/4" x 19 3/8"

How are stays secured

Double nuts.

Tube plates: Material

{ front

S

{ back

Tensile strength

26-30

Thickness

1 5/16"

2 5/32"

Mean pitch of stay tubes in nests

9 7/16"

Pitch across wide water spaces

14" x 8 1/4"

Girders to combustion chamber tops: Material

S

Tensile strength

28-32.

Depth and thickness of girder

at centre

10 1/2" x 1 1/16" Dbl.

Length as per Rule

33 7/32"

Distance apart

9 1/4"

No. and pitch of stays

in each

5 @ 8"

Combustion chamber plates: Material

S

Tensile strength

26-30

Thickness: Sides

1 1/16"

Back

1 1/16"

Top

1 1/16"

Bottom

7/8"

Pitch of stays to ditto: Sides

9 1/4" x 8"

Back

9 1/4" x 8"

Top

9 1/4" x 8"

Are stays fitted with nuts or riveted over

nuts

Front plate at bottom: Material

S

Tensile strength

26-30

Thickness

1 7/16"

Lower back plate: Material

S

Tensile strength

26-30

Thickness

2 7/32"

Pitch of stays at wide water space

14" x 8"

Are stays fitted with nuts or riveted over

nuts

Main stays: Material

S

Tensile strength

28-32.

Diameter

{ At body of stay,

{ or

{ Over threads

3 3/4"

No. of threads per inch

6

Screw stays: Material

S

Tensile strength

26-30.

Diameter

{ At turned off part,

{ or

{ Over threads

1 3/4"

No. of threads per inch

9

Are the stays drilled at the outer ends 140 Margin stays: Diameter 1 7/8 ^{At turned off point} or ^{Over threads}

No. of threads per inch 9

Tubes: Material SD Steel External diameter 3" ^{Plain} 3" ^{Stay} Thickness 8 W.G. 3/8 x 7/16 No. of threads per inch 9

Pitch of tubes 4 1/4 x 4 1/8 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 Nall

Manufacturer.

Similar boilers 11.10.41

Dates of Survey ^{During progress of work in shops - -} ^{while building} ^{During erection on board vessel - -}

See Machinery Rpt

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

Total No. of visits

Is this Boiler a duplicate of a previous case

If so, state Vessel's name and Report No.

GENERAL REMARKS

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

This boiler has been constructed under Special Survey in accordance with the Requirements of the Rules the Approved Plans & the Specification

The materials & workmanship are good & the boiler proved sound & tight under hydraulic test & satisfactory under steam

Survey Fee

Travelling Expenses (if any)

See Machinery Rpt

When applied for,

19

When received,

19

Reilly

Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute

TUES. 30 NOV 1943

Assigned

See fe machy rpt



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