

REPORT ON BOILERS.

No. 13058

22 SEP 1941

Received at London Office

Date of writing Report

When handed in at Local Office

19

Port of

Belfast.

No. in Survey held at

Belfast.

Date, First Survey

Last Survey 30th Aug. 1941.

on the

M.V. "DERWENTDALE"

(Number of Visits)

Gross 8398
Net 4910

Built at

Belfast.

By whom built

Harland & Wolff Ltd

Yard No. 1052

When built 1941

Engines made at

Belfast

By whom made

Harland & Wolff Ltd

Engine No. 1052

When made 1941

Boilers made at

Belfast

By whom made

Harland & Wolff Ltd

Boiler No. 1052

When made 1941

Nominal Horse Power

502

Owners

The Admiralty

Port belonging to

London

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

Manufacturers of Steel

Messrs Colvilles Ltd

(Letter for Record)

5

Total Heating Surface of Boilers

3836 Sq ft

Is forced draught fitted

Yes

Coal or Oil fired OIL & EXH. GAS

No. and Description of Boilers

Two single ended cylindrical multitubular

Working Pressure

150 lbs

Tested by hydraulic pressure to

275 lbs

Date of test

18/12/40

No. of Certificate

1123

Can each boiler be worked separately

Yes

Area of Firegrate in each Boiler

✓

No. and Description of safety valves to each boiler

One double improved high lift type

Area of each set of valves per boiler

per Rule

as fitted

2-2 1/4" Pressure to which they are adjusted

150 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

✓

Smallest distance between shell of boiler and tank top plating

Separate Dile House

Is the bottom of the boiler insulated

Yes

Largest internal dia. of boilers

12' 6"

Length

11' 0"

Shell plates: Material

Steel

Tensile strength

29-33 tons

Thickness

7/8"

Are the shell plates welded or flanged

No

Description of riveting: circ. seams

end

inter.

DR

long. seams

TR double Butt Strap

Diameter of rivet holes in

circ. seams

1 3/32"

long. seams

1 1/32"

Pitch of rivets

3.038"

6 1/16"

Percentage of strength of circ. end seams

plate

rivets

56.1

Percentage of strength of circ. intermediate seam

plate

rivets

Percentage of strength of longitudinal joint

plate

rivets

106.7

Working Pressure of Shell by Rules 154.6 lbs

Thickness of butt straps

outer

1 1/16"

inner

1 3/16"

No. and Description of Furnaces in each Boiler

Two Corrugated "Seymour" section

Material

Steel

Tensile strength

26-30 tons

Smallest outside diameter

42"

Length of plain part

top

bottom

Thickness of plates

crown

1/2"

Description of longitudinal joint

Fine weld.

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

✓

End plates in steam space: Material

Steel

Tensile strength

26-30 tons

Thickness

15/16"

Pitch of stays

Various

How are stays secured

nuts & washers inside & outside

Tube plates: Material

front Steel

back Steel

Tensile strength

26-30 tons

Thickness

7/8"

Mean pitch of stay tubes in nests

8.54" 9.47"

Pitch across wide water spaces

13 1/2"

Girders to combustion chamber tops: Material

Steel

Tensile strength

28-32 tons

Depth and thickness of girder

at centre

8 1/4" x (2 x 3/4")

Length as per Rule

29.94"

Distance apart

11"

No. and pitch of stays

in each

3 @ 7 1/4"

Combustion chamber plates: Material

Steel

Tensile strength

26-30 tons

Thickness: Sides

3/4"

Back

3/4"

Top

3/4"

Bottom

3/4"

Pitch of stays to ditto: Sides

8 1/4" x 9 3/4"

Back

9 1/4" x 8"

Top

11" x 7 1/4"

Are stays fitted with nuts or riveted over

marginal & girder stays nutted all other riveted

Front plate at bottom: Material

Steel

Tensile strength

26-30 tons

Thickness

7/8"

Lower back plate: Material

Steel

Tensile strength

26-30 tons

Thickness

15/16"

Pitch of stays at wide water space

13"

Are stays fitted with nuts or riveted over

riveted over

Main stays: Material

Steel

Tensile strength

28-32 tons

Diameter

At body of stay, or over threads

2 1/2"

No. of threads per inch

6

Screw stays: Material

Steel

Tensile strength

26-30 tons

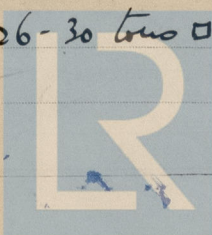
Diameter

At turned off part, or over threads

1 1/2", 1 5/8"

No. of threads per inch

9



© 2021

Lloyd's Register
Foundation

Are the stays drilled at the outer ends

no.

Margin stays: Diameter { At turned off part, 1 5/8" or Over threads

No. of threads per inch 9

Tubes: Material *weldless steel* External diameter { Plain 2 1/2" Stay 2 1/2" Thickness { 10 L S G. 1/4 5/16 3/8 No. of threads per inch 9

Pitch of tubes 3 3/4 x 3 5/8

Manhole compensation: Size of opening in shell plate 16 1/2 x 12 1/2 Section of compensating ring 2 x [(10 x 3/4) + (1 x 1)] No. of rivets and diameter of rivet holes 28 (2 17/32 dia holes)

Outer row rivet pitch at ends 9" Depth of flange if manhole flanged 3 3/8 in end plate 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 Thickness of crown No. and diameter of stays

How connected to shell Inner radius of crown

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 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 casing 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

FOR HARLAND AND WOLFF, LIMITED.

The foregoing is a correct description,

A. J. Harland Manufacturer.

Secretary

Dates of Survey { During progress of work in shops - - - During erection on board vessel - - -

Are the approved plans of boiler and superheater forwarded herewith 22/2/40 (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.)

These boilers have been constructed under Special Survey in accordance with the Society's Rules and approved plan.

The materials and workmanship are good.

These boilers have been efficiently installed on board the vessel, all safety valves adjusted under steam and accumulation tests carried out with satisfactory results.

Survey Fee ... £ 25 : - : -

When applied for, 19 9 4

Travelling Expenses (if any) £ : : -

When received, 19

A. J. Shaw

Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute

TUE. 14 OCT 1941

Assigned

See Ref. J.C. 13058



© 2021

Lloyd's Register Foundation