

REPORT ON BOILERS.

No. 12805

DEC -2 1940

Received at London Office

5a.

Writing Report

192

When handed in at Local Office

192

Port of

Belfast

Asits included in 7. E. nch. rpt.

Survey held at

Belfast

Date, First Survey

Last Survey

192

on the

Steel Sc

"FREESIA"

(Number of Visits)

Gross 724.47
Net 265.49

Built at

Belfast

By whom built

Harland & Wolff Ltd

Yard No.

1074

When built

1940

es made at

Belfast

By whom made

Harland & Wolff Ltd

Engine No.

1074

When made

1940

s made at

Belfast

By whom made

Harland & Wolff Ltd

Boiler No.

1074

When made

1940

al Horse Power

409

Owners

The Admiralty

Port belonging to

"

LTITUBULAR BOILERS MAIN, AUXILIARY, OR DONKEY.

facturers of Steel

Harland & Wolff Ltd

(Letter for Record S)

Heating Surface of Boilers

7080 sq ft.

Is forced draught fitted

Yes

Coal or Oil fired Oil

nd Description of Boilers

Two Single-Ended Return Tube

Working Pressure 225 lb

d by hydraulic pressure to

387 lb

Date of test

23.9.40

No. of Certificate

1106

FR. B.L.R.

each boiler be worked separately

Yes

of Firegrate in each Boiler

No. and Description of safety valves to each boiler

Two - Improved High Lift 2 3/4 dia

of each set of valves per boiler

per Rule

9.21 sq ft

as fitted

11.88 sq ft

Pressure to which they are adjusted

225 lb

Are they fitted with easing gear

Yes

se of donkey boilers, state whether steam from main boilers can enter the donkey boiler

lest distance between boilers or uptakes and bunkers or woodwork

9"

Is oil fuel carried in the double bottom under boilers

No.

lest distance between shell of boiler and tank top plating

Is the bottom of the boiler insulated

Yes

est internal dia. of boilers

16'-6"

Length

12'-6"

Shell plates: Material

Steel

Tensile strength

30/34 tons

tness

1 9/16"

Are the shell plates welded or flanged

No.

Description of riveting: circ. seams

end

seams

TR DBS

Diameter of rivet holes in

circ. seams

1 1/2"

Pitch of rivets

4"

entage of strength of circ. end seams

plate

62.5

rivets

Percentage of strength of circ. intermediate seam

plate

43.45

entage of strength of longitudinal joint

plate

85.2

rivets

86.5

combined

87.8

Working pressure of shell by Rules

225.2 lb

hness of butt straps

outer

1 3/16"

inner

1 5/16"

No. and Description of Furnaces in each Boiler

Three Corrugated "Deighton" Section

erial

Steel

Tensile strength

26/30 tons

Smallest outside diameter

48 1/2"

th of plain part

top

Thickness of plates

bottom

3/4"

Description of longitudinal joint

Line weld

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

Working pressure of furnace by Rules

227.7 lb

plates in steam space: Material

Steel

Tensile strength

26/30 tons

Thickness

1 3/16"

Pitch of stays

18 5/8" x 22 1/2"

are stays secured

Nuts and washers inside & outside

Working pressure by Rules

228 lb

e plates: Material

front

Steel

Tensile strength

26/30 tons

Thickness

1 3/16"

n pitch of stay tubes in nests

8.69"

Pitch across wide water spaces

13 1/2"

Working pressure

front 253.5 lb

back 236.5 lb

lders to combustion chamber tops: Material

Steel

Tensile strength

28/32 tons

Depth and thickness of girder

entre

10 3/8" x (2 x 5/16")

Length as per Rule

36 5/16"

Distance apart

10 1/4"

No. and pitch of stays

ach

3 x 8 5/8"

Working pressure by Rules

232 lb

Combustion chamber plates: Material

Steel

ile strength

26/30 tons

Thickness: Sides

25/32"

Back

1 1/16"

Top

25/32"

Bottom

1"

h of stays to ditto: Sides

10 3/4" x 8 5/8"

Back

8 3/4" x 8"

Top

10 1/4" x 8 5/8"

Are stays fitted with nuts or riveted over

Fitted with nuts

rking pressure by Rules

227 lb

Front plate at bottom: Material

Steel

Tensile strength

26/30 tons

ckness

1 5/16"

Lower back plate: Material

Steel

Tensile strength

26/30 tons

Thickness

1"

h of stays at wide water space

15"

Are stays fitted with nuts or riveted over

Fitted with nuts

rking Pressure

237 lb

Main stays: Material

Steel

Tensile strength

28/32 tons

meter

At body of stay,

3 1/2"

No. of threads per inch

6.

Area supported by each stay

420 sq in.

rking pressure by Rules

226 lb

Screw stays: Material

Steel

Tensile strength

26/30 tons

meter

At turned off part,

1 3/4", 1 7/8", 2", 2 1/8"

No. of threads per inch

9

Area supported by each stay

70 sq in, 92.8 sq in

Lloyd's Register
Foundation

Date of writing Report.

No. in Survey Reg. Book.

on the

Built at

Owners

Electrical Installa

Is vessel fitted

Have plans been su

Heating

has the governing

trip switch as pe

if not compound

arranged to run

positive

test for machin

of the generato

Starbo

near unprotect

injury and da

contact

are they in a

and oil

material is v

semi-insulat

Is the const

to pilot and

side of swit

B

and for ea

Are comp

ammeters

equaliser

Working pressure by Rules ^{257, 230 lbs} Are the stays drilled at the outer ends ^{No} Margin stays: Diameter { At turned off part, ^{1 3/8"} Over threads ^{227 lbs}

No. of threads per inch ⁹ Area supported by each stay ^{94 sq. in} Working pressure by Rules ^{227 lbs}

Tubes: Material ^{Steel} External diameter { Plain ^{2 1/2"} Stay ^{2 1/2"} Thickness { ^{5/16", 3/8", 7/16"} No. of threads per inch ⁹

Pitch of tubes ^{3 3/4" x 3 3/4"} Working pressure by Rules ^{300 lbs} Manhole compensation: Size of opening

shell plate ^{16 1/2" x 20 1/2"} Section of compensating ring ^{2 (9 x 1 9/16")} No. of rivets and diameter of rivet holes ^{36 @ 1 1/2" holes}

Outer row rivet pitch at ends ^{11"} 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 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 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}

For HARLAND AND WOLFE, LIMITED.
The foregoing is a correct description,
^{as Marshall} Manufacturer.

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

Are the approved plans of boiler and superheater forwarded herewith ^{Approved London}
(If not state date of approval.)
Total No. of visits

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

These boilers have been constructed under Special Survey in accordance with the Rules and approved plan.
The materials and workmanship are good.
The boilers have been efficiently installed onboard the vessel.
All safety valves adjusted under steam and accumulation tests carried out with satisfactory results.

Survey Fee ... £ : : When applied for, 192
Travelling Expenses (if any) £ : : When received, 192

^{Allen S. Home}

Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute

FRI. 6 DEC 1940

Assigned

See Bel. J.E 12805



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