

Rpt. 5a.

REPORT ON BOILERS.

No. 48827

10 APR 1929

Received at London Office

30 JAN 1929

Date of writing Report

192

When handed in at Local Office

26.1.1929

Port of Glasgow

Date First Survey

9.10.28

Last Survey

23.1.1929

No. in Survey held at Reg. Book.

(Number of Visits)

Tons

Net

LEEWARDEN

Master

Built at

Troom

By whom built

Ailsa S B Co

Yard No.

409

When built 1929

Engines made at

Troom

By whom made

Ailsa S B Co

Engine No.

144

When made 1929

Boilers made at

Glasgow

By whom made

Daniel Raman & Co Ltd

Boiler No.

367

When made 1929

Nominal Horse Power

Owners

Port belonging to

MULTITUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel

Daniel B Shille & Sons Ltd & James Dunlop & Co Ltd

(Letter for Record 6)

Total Heating Surface of Boilers

5834 sq ft

Is forced draught fitted

No

Coal or Oil fired

coal

No. and Description of Boilers

Two single ended

Working Pressure

200

Tested by hydraulic pressure to

350

Date of test

28.12.28

No. of Certificate

18157

Can each boiler be worked separately

Area of Firegrate in each Boiler

80 sq ft

No. and Description of safety valves to each boiler

Area of each set of valves per boiler

per Rule
as fitted

Pressure to which they are adjusted

Are they fitted with easing gear

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

16'-6"

Length

11'-6"

Shell plates: Material

Steel

Tensile strength

29-33 tons

Thickness

1 1/16"

Are the shell plates welded or flanged

No

Description of riveting: circ. seams

end

inter.

long. seams

VR & TR

Diameter of rivet holes in

circ. seams

F 13/8"

B 1 1/2"

Pitch of rivets

F 3.405"

B 4.068"

Percentage of strength of circ. end seams

plate

F 60.2

B 63.1

Percentage of strength of circ. intermediate seam

plate

✓

Percentage of strength of longitudinal joint

plate

85.36

88.9

88.5

Working pressure of shell by Rules

200

Thickness of butt straps

outer

inner

3/16"

No. and Description of Furnaces in each Boiler

Two Draught

Material

Steel

Tensile strength

26-30 tons

Smallest outside diameter

3'-5 7/8"

Length of plain part

top

bottom

✓

Thickness of plates

crowd

bottom

1 3/8"

Description of longitudinal joint

welded

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

none

Working pressure of furnace by Rules

204

End plates in steam space: Material

Steel

Tensile strength

26-30 tons

Thickness

1 1/8"

Pitch of stays

20 1/2" x 20 1/4"

How are stays secured

WN

Working pressure by Rules

201

Tube plates: Material

front

back

Steel

Tensile strength

26-30 tons

Thickness

15/16"

13/16"

Working pressure

front

205

back

202

Mean pitch of stay tubes in nests

10.84"

Pitch across wide water spaces

14 1/2"

Working pressure

front

205

back

202

Girders to combustion chamber tops: Material

Steel

Tensile strength

28-32 tons

Depth and thickness of girder

at centre

2 @ 9 1/4" x 7/8"

Length as per Rule

34 11/32"

Distance apart

9 3/4"

No. and pitch of stays

in each

3 @ 8 1/4"

Working pressure by Rules

201

Combustion chamber plates: Material

Steel

Tensile strength

26-30 tons

Thickness: Sides

11/16"

Back

21/32"

Top

11/16"

Bottom

3/4"

Pitch of stays to ditto: Sides

8 1/4" x 9 3/4"

Back

8 3/4" x 8 1/2"

Top

8 1/4" x 9 3/4"

Are stays fitted with nuts or riveted over

nuts

Working pressure by Rules

202

Front plate at bottom: Material

Steel

Tensile strength

26-30 tons

Thickness

51/64"

Thickness

15/16"

Lower back plate: Material

Steel

Tensile strength

26-30 tons

Thickness

51/64"

Pitch of stays at wide water space

13 1/2"

Are stays fitted with nuts or riveted over

nuts

Working Pressure

203

Main stays: Material

Steel

Tensile strength

28-32 tons

Diameter

At body of stay

or

Over threads

3 1/4" & 3

No. of threads per inch

6

Area supported by each stay

430" & 379"

Working pressure by Rules

218 & 208

Screw stays: Material

Steel

Tensile strength

26-30 tons

Diameter

At turned off part

or

Over threads

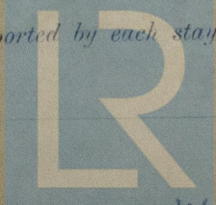
1 9/8" & 1 1/4"

No. of threads per inch

9

Area supported by each stay

743" & 280.4"



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Working pressure by Rules **205 & 225** Are the stays drilled at the outer ends **no** Margin stays: Diameter { At turned off part, 1 7/8" or Over threads }
No. of threads per inch **9** Area supported by each stay **94.56** Working pressure by Rules **225**
Tubes: Material **Iron** External diameter { Plain **3 1/2"** Stay **3 1/2"** Thickness { **8 w.s.** 1/4" 5/16" 3/8" } No. of threads per inch **9**
Pitch of tubes **4 5/8" x 4 5/8"** Working pressure by Rules **226** Manhole compensation: Size of opening in shell plate **19 1/2" x 15 1/2"** Section of compensating ring **10 1/2" x 1 7/8"** No. of rivets and diameter of rivet holes **34 @ 1 1/2"**
Outer row rivet pitch at ends **10 1/4"** Depth of flange if manhole flanged **3"** Steam Dome: Material **none**
Tensile strength **90A** Thickness of shell **20 w.s. solid** Description of longitudinal joint
Diameter of rivet holes **1 1/4"** Pitch of rivets **2 1/2"** Percentage of strength of joint { Plate Rivets }
Internal diameter **10 1/2"** Working pressure by Rules **226** Thickness of crown **20 w.s. solid** No. and diameter of stays **10 1/2"** Inner radius of crown **20 w.s. solid** Working pressure by Rules **226**
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 castings }
Number of elements **1** Material of tubes **20 w.s. solid** Internal diameter and thickness of tubes **20 w.s. solid**
Material of headers **20 w.s. solid** Tensile strength **90A** Thickness **20 w.s. solid** 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** Working pressure as per Rules **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 22 inclusive for boilers been complied with

The foregoing is a correct description,
DAVID ROWAN & CO., LIMITED Manufacturer.

Dates of Survey { During progress of work in shops - - } **1928 Oct 9-17-30 Nov 6-8-17-20-23** Are the approved plans of boiler and superheater forwarded herewith (If not state date of approval.)
while building { During erection on board vessel - - } **26 Dec 6-14-18-20-28 (1929) Jan 1-3-5-7-9-11-13-15-17-19-21-23-25-27-29-31** Total No. of visits **16**

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

The materials and workmanship
The boiler has been constructed under special survey in accordance with the rules
This boiler has been securely fitted on board S/s Leeuwarden (see E/s Rpt N° 49044)

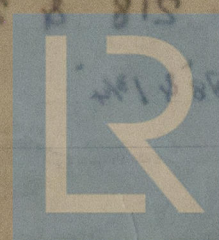
It is submitted that
this vessel is eligible for
THE RECORD

Survey Fee ... £ **31 : 19** : When applied for, **28 JAN 1929**
Travelling Expenses (if any) £ ... : When received, **31.1.1929**

Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute **GLASGOW 29 JAN 1929**

Assigned **TRANSMIT TO LONDON**



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