

REPORT ON BOILERS.

No. 52530

Date of writing Report

19

When handed in at Local Office

24

5

1931

Port of

Glasgow

Received at London Office

12 JUN 1932

No. in Survey held at
Reg. Book.

Glasgow

Date, First Survey

29. 9. 31

Last Survey

23-5

1932

on the

new steel S/S "HARMATRIS"

(Number of Visits 100)

Gross 5395

Net 3195

Master

Built at

Port Glasgow

By whom built

Lithgows Ltd

Yard No. 853

When built 1932

Engines made at

Glasgow

By whom made

Davie Rowan & Co Ltd

Engine No. 942

When made 1932

Boilers made at

Glasgow

By whom made

Davie Rowan & Co Ltd

Boiler No. 942

When made 1932

Nominal Horse Power

502

Owners

J & C. Harrison Ltd

Port belonging to

London

MULTITUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel

L. Whittles Ltd

Total Heating Surface of Boilers

5000 sq ft

Is forced draught fitted

yes

(Letter for Record (r))

Coal or Oil fired

coal

No. and Description of Boilers

Two single ended

Working Pressure 220 lb

Tested by hydraulic pressure to

380

Date of test

18-2-32

No. of Certificate

19094 Can each boiler be worked separately

yes

Area of Firegrate in each Boiler

53.15 sq ft

No. and Description of safety valves to each boiler

Two Improved Highlift

Area of each set of valves per boiler

per Rule 8.86 sq ft

as fitted 9.82 sq ft

Pressure to which they are adjusted

225

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

2'-0"

Is oil fuel carried in the double bottom under boilers

no

Smallest distance between shell of boiler and tank top plating

2'-6"

Is the bottom of the boiler insulated

yes

Largest internal dia. of boilers

15'-3 1/2"

Length

11'-6"

Shell plates: Material

steel

Tensile strength 29-33 tons

Thickness

1 1/2"

Are the shell plates welded or flanged

no

Description of riveting: circ. seams

end

DR

long. seams

WBS. TR

Diameter of rivet holes in

circ. seams

F 1 3/8" B 1 1/2"

Pitch of rivets

F 3.43" B 4.083"

Percentage of strength of circ. end seams

plate F 60. B 63.2

rivets F 46.8 B 46.8

Percentage of strength of circ. intermediate seam

plate

rivets

Percentage of strength of longitudinal joint

plate

rivets

combined

Working pressure of shell by Rules

222

Thickness of butt straps

outer 1 1/4"

inner 1 1/4"

No. and Description of Furnaces in each Boiler

Three Deighton

Material

steel

Tensile strength

26-30 tons

Smallest outside diameter

46 1/4"

Length of plain part

top

bottom

Thickness of plates

crown

bottom

Description of longitudinal joint

welded

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

Working pressure of furnace by Rules

238

End plates in steam space: Material

steel

Tensile strength

26-30 tons

Thickness

13/8"

Pitch of stays 19" x 21"

How are stays secured

W.N.

Working pressure by Rules

221

Tube plates: Material

front steel

back

Tensile strength

26-30 tons

Thickness

15/16"

25/32"

Mean pitch of stay tubes in nests

9 3/4" x 9.6

Pitch across wide water spaces

14"

Working pressure

front 228

back 236

Girders to combustion chamber tops: Material

steel

Tensile strength

28-32 tons

Depth and thickness of girder

at centre

2 @ 9 5/8" x 1 1/8"

Length as per Rule

34.5"

Distance apart

9 5/8"

No. and pitch of stays

in each

3 @ 8 1/4"

Working pressure by Rules

220

Combustion chamber plates: Material

steel

Tensile strength

26-30 tons

Thickness: Sides

23/32"

Back

23/32"

Top

23/32"

Bottom

29/32"

Pitch of stays to ditto: Sides

8 1/4" x 9 5/8"

Back

10" x 8"

Top

8 1/4" x 9 5/8"

Are stays fitted with nuts or riveted over

nuts

Working pressure by Rules

220

Front plate at bottom: Material

steel

Tensile strength

26-30 tons

Thickness

1 1/2"

Lower back plate: Material

steel

Tensile strength

26-30 tons

Thickness

13/16"

Pitch of stays at wide water space

13 1/2"

Are stays fitted with nuts or riveted over

nuts

Working Pressure

220

Main stays: Material

steel

Tensile strength 28-32 tons

Diameter

At body of stay,

3" & 3 1/4"

No. of threads per inch

9.6

Area supported by each stay 3528 4330"

Working pressure by Rules

224 & 220

Screw stays: Material

steel

Iron

Tensile strength

26-30 tons 21 1/2 tons

Diameter

At turned off part,

or

Over threads

No. of threads per inch

9.6

Area supported by each stay 800"

Working pressure by Rules 266 Are the stays drilled at the outer ends no Margin stays: Diameter ^{At turned off part,} 2"
No. of threads per inch 9 Area supported by each stay 960" Working pressure by Rules 257
Tubes: Material Iron External diameter ^{Plain} 3" Thickness 3/16" No. of threads per inch 9
Pitch of tubes 4 3/16" x 4 1/8" Working pressure by Rules 250 Manhole compensation: Size of opening in
shell plate 19 1/2" x 15 1/2" Section of compensating ring 10 1/2" x 1 1/2" No. of rivets and diameter of rivet holes 34 @ 1 1/2"
Outer row rivet pitch at ends 10 7/16" Depth of flange if manhole flanged 3" Steam Dome: Material none
Tensile strength Thickness of shell Description of longitudinal joint
Diameter of rivet holes 5/8" Pitch of rivets 1 1/2" Percentage of strength of joint ^{Plate} 100%
Internal diameter 24" Working pressure by Rules 250 Thickness of crown 3/16" No. and diameter of
stays 12 Inner radius of crown 12" Working pressure by Rules 250
How connected to shell by stays Size of doubling plate under dome 12" x 12" Diameter of rivet holes and pitch
of rivets in outer row in dome connection to shell 5/8" @ 1 1/2"

Type of Superheater Smoke tube Manufacturers of See copy of Nuc cert N° 9932 herewith
Number of elements 1 Material of tubes Iron Internal diameter and thickness of tubes 24" x 3/16"
Material of headers Iron Tensile strength 40,000 Thickness 3/16" Can the superheater be shut off and
the boiler be worked separately no Is a safety valve fitted to every part of the superheater which can be shut off from the boiler yes
Area of each safety valve 1.770" Are the safety valves fitted with easing gear yes Working pressure as per
Rules 250 Pressure to which the safety valves are adjusted 227 Hydraulic test pressure:
tubes 250 castings 250 and after assembly in place 440 Are drain cocks or valves fitted
to free the superheater from water where necessary yes

Have all the requirements of Sections 14 to 22 inclusive for boilers been complied with yes
The foregoing is a correct description,
For David Roway & Co. Ltd. Manufacturer.
Arch. H. Grierson.
Dates of Survey ^{During progress of} work in shops - -
^{while} building ^{During erection on} board vessel - -
SEE ACCOMPANYING MACHINERY REPORT. Total No. of tests 100

Is this Boiler a duplicate of a previous case no If so, state Vessel's name and Report No. no

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.)
The materials and workmanship are good.
The boilers have been constructed under special survey in accordance
with the Rules, satisfactorily fitted in the vessel and their safety valves adjusted

Survey Fee £ 19 When applied for, 19
Travelling Expenses (if any) £ 19 When received, 19

Committee's Minute GLASGOW 31 MAY 1932
Assigned SEE ACCOMPANYING MACHINERY REPORT
S. C. Davis.
Engineer Surveyor to Lloyd's Register of Shipping.
© 2021 Lloyd's Register Foundation