

Rpt. 5a.

REPORT ON BOILERS.

No. 10654.

Received at London Office

15 JUL 1931

Date of writing Report 13 July 1931

1931

When handed in at Local Office 13 July 1931

1931

Port of Belfast.

No. in Reg. Book.

Survey held at

Belfast.

Date, First Survey

Sept. 10th 1930

Last Survey

8th July

1931

71202. on the Steel Yarn S. "Kosmos II".

(Number of Visits 90)

Gross 14800.
Tons Net 8800.

Master

Built at

Belfast.

By whom built

Workman, Black (1928) Ltd.

Yard No. 522.

When built 1931.

Engines made at

Belfast.

By whom made

Workman, Black (1928) Ltd.

Engine No. 522

When made 1931.

Boilers made at

Belfast.

By whom made

Workman, Black (1928) Ltd.

Boiler No. 522

When made 1931.

Nominal Horse Power

938.

Owners

Hvalfangerselsk. "Kosmos II" A/S.
(A. Jahre)

Port belonging to Sandefjord.

MULTITUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel Witkowitz, Bergbau etc. Balduins.

(Letter for Record S.)

Total Heating Surface of Boilers 14320 ϕ

Is forced draught fitted Yes.

Coal or Oil fired oil.

No. and Description of Boilers

5 S.E. Multit.

Working Pressure 250 lbs.

Tested by hydraulic pressure to

425 lbs.

Date of test 19/3/31.

No. of Certificate 960.

Can each boiler be worked separately Yes.

Area of Firegrate in each Boiler

No. and Description of safety valves to each boiler

8-87 0"

2 1/2" Rockburst Double Improved High Lift.

Area of each set of valves per boiler

per Rule

8-87 0"

as fitted

9-8 0"

Pressure to which they are adjusted 250 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

2'-0"

Is oil fuel carried in the double bottom under boilers Yes.

Smallest distance between shell of boiler and tank top plating

2'-0"

Is the bottom of the boiler insulated Yes.

Largest internal dia. of boilers

16 feet.

Length

12'-3"

Shell plates: Material

Steel.

Tensile strength 31/35 tons.

Thickness

1 21/32"

Are the shell plates welded or flanged

No.

Description of riveting: circ. seams

Double.

long. seams

Double riveted D.B. Straps.

Diameter of rivet holes in

circ. seams

1 1/16"

Pitch of rivets

4-1107"

Percentage of strength of circ. end seams

plate

rivets

Percentage of strength of circ. intermediate seam

plate

rivets

Percentage of strength of longitudinal joint

plate

rivets

combined

Working pressure of shell by Rules

253.5 lbs.

Thickness of butt straps

outer

1 1/4"

inner

1 3/8"

No. and Description of Furnaces in each Boiler

4 - Deighton.

4

Material

Steel.

Tensile strength

26 tons.

Smallest outside diameter

41 13/32"

Length of plain part

top

bottom

Thickness of plates

crown

45/64"

bottom

45/64"

Description of longitudinal joint

Welded.

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

Working pressure of furnace by Rules

250 lbs.

End plates in steam space: Material

Steel.

Tensile strength

26/30 tons.

Thickness

1 5/16"

Pitch of stays 20 x 15 1/2"

How are stays secured

Double nuts.

Working pressure by Rules

252 lbs.

Tube plates: Material

front

Steel.

back

Steel.

Tensile strength

26/30 tons.

Thickness

1"

Mean pitch of stay tubes in nests

11 1/4 x 7 1/4"

Pitch across wide water spaces

13 1/2"

Working pressure

front

257 lbs.

back

300 lbs.

Girders to combustion chamber tops: Material

Steel.

Tensile strength

28/32 tons.

Depth and thickness of girder

at centre

11 1/4 x 15 5/8"

Length as per Rule

38-453"

Distance apart

8 5/8"

No. and pitch of stays

in each

4 - 7"

Working pressure by Rules

259 lbs.

Combustion chamber plates: Material

Steel.

Tensile strength

26/30 tons.

Thickness: Sides

23/32"

Back

45/64"

Top

23/32"

Bottom

29/32"

Pitch of stays to ditto: Sides

8 x 9"

Back

7 1/2 x 8 3/4"

Top

7 x 8 5/8"

Are stays fitted with nuts or riveted over

nuts.

Working pressure by Rules

261 lbs.

Front plate at bottom: Material

Steel.

Tensile strength

26/30 tons.

Thickness

1"

Lower back plate: Material

Steel.

Tensile strength

26/30 tons.

Thickness

15/16"

Pitch of stays at wide water space

13 1/2"

Are stays fitted with nuts or riveted over

nuts.

Working Pressure

287 lbs.

Main stays: Material

Steel.

Tensile strength

28/32 tons.

Diameter

At body of stay,

or

Over threads

3 3/4"

No. of threads per inch

6

Area supported by each stay

310 0"

Working pressure by Rules

260 lbs.

Screw stays: Material

Steel.

Tensile strength

26/30 tons.

Diameter

At turned off part,

or

Over threads

1 1/2 to 1 3/4" dia.

No. of threads per inch

9

Area supported by each stay

65.15 0"

Working pressure by Rules 267 lbs. Are the stays drilled at the outer ends No Margin stays: Diameter { At turned off part, 1 7/8" or Over threads 1 7/8" }
No. of threads per inch 9 Area supported by each stay 37.030" Working pressure by Rules 256 lbs.
Tubes: Material Plain, iron. External diameter { Plain 2 1/2" Stay 2 3/8", 2 1/2" } Thickness { 8 WG. 5/16", 3/8" } No. of threads per inch 9
Pitch of tubes 3 3/4" x 3 5/8" Working pressure by Rules 283 lbs. Manhole compensation: Size of opening in shell plate 15 1/4" x 19 1/4" Section of compensating ring 3'-0" x 1 5/8" No. of rivets and diameter of rivet holes 36 - 1 1/8"
Outer row rivet pitch at ends 11" Depth of flange if manhole flanged Doubling Flange 3 1/4" 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 of 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 Sugdens Manufacturers of { Tubes ✓ Steel castings ✓ }
Number of elements 120 Material of tubes SD steel. Internal diameter and thickness of tubes 1" x 10 WG.
Material of headers Mild steel. Tensile strength 24/28 tons. Thickness 3/4" Can the superheater be shut off and the boiler be worked separately yes. 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 3.14 sq" Are the safety valves fitted with easing gear yes. Working pressure as per Rules 250 lbs. Pressure to which the safety valves are adjusted 250 lbs. Hydraulic test pressure: tubes Header. 750 lbs. and after assembly in place 750 lbs. 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,
pro WORKMAN CLARK (1928) LIMITED,
J. Cunningham Manufacturer.
H. A. H. Secretary.

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

See 8.5. mach. Report

Are the approved plans of boiler and superheater forwarded herewith Yes.
(If not state date of approval.)
Total No. of visits

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

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

These boilers were constructed under special survey to an approved design. The materials and workmanship are good. They were subjected to hydraulic test in accordance with the rules and were efficiently fastened in the vessel. The safety valves were adjusted to 250 lbs. under steam.

Survey Fee £ See mech. report. When applied for, 19
Travelling Expenses (if any) £ See mech. report. When received, 19

John. K. Williams.
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute WED. 5 AUG 1931

Assigned See F.E. Rpt.



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Foundation