

Rpt. 5a.

## REPORT ON BOILERS.

No. 16585

Received at London Office 6 SEP 1929

Date of writing Report

192

When handed in at Local Office

5/9/1929

Port of

Antwerp

No. in  
Survey held at

Seraing and Antwerp

Date, First Survey

20-7-29

Last Survey

30-8-

1929

No. in  
on the

Steel. Twin. S. S. Leopoldville

(Number of Visits)

34

Gross

11000

Net

Master

Built at

Hoboken

By whom built

St. A. M. J. Bockerill

Yard No.

623

When built

1929

Engines made at

Seraing

By whom made

St. A. M. J. Bockerill

Engine No.

5923

When made

1929

Boilers made at

Seraing

By whom made

St. A. M. J. Bockerill

Boiler No.

52816

When made

1929

Nominal Horse Power

1019

Owners

C. Belge Maritime du long

Port belonging to

Antwerp

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

Manufacturers of Steel

Mannemannröhren. The Scottil Tube Co. Ltd. de l'Industrie

St. A. M. J. Bockerill.

Letter for Record

S

Total Heating Surface of Boilers

230 m<sup>2</sup> x 6 = 1380 m<sup>2</sup>

Is forced draught fitted

Yes

Coal or Oil fired

Coal

No. and Description of Boilers

Six Multitubular Single ended cylindrical Boilers

Working Pressure

15.25 K<sub>a</sub>

Tested by hydraulic pressure to

26.375 K<sub>a</sub>

Date of test

24/3/28 + 3/5/28

No. of Certificate

74-75-76-77-78-79

Can each boiler be worked separately

Yes

Area of Firegrate in each Boiler

66.75 m<sup>2</sup>

No. and Description of safety valves to each boiler

Two Spring loaded

Area of each set of valves per boiler

per Rule

10374 m<sup>2</sup>

as fitted

16342 m<sup>2</sup>

Pressure to which they are adjusted

15.5 K<sub>a</sub>

Are they fitted with easing gear

Yes

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

none

Smallest distance between boilers or uptakes and bunkers or woodwork

0.84 m.

Is oil fuel carried in the double bottom under boilers

No

Smallest distance between shell of boiler and tank top plating

0.56 m.

Is the bottom of the boiler insulated

Yes

Largest internal dia. of boilers

4.500 m.

Length

3.658 m.

Shell plates: Material

S. M. Steel

Tensile strength

44-50 K<sub>a</sub>

Thickness

41 m

Are the shell plates welded or flanged

flanged

Description of riveting: circ. seams

end

double riveted

Long. seams

Diameter of rivet holes in

circ. seams

41 m

long. seams

41 m

Pitch of rivets

101 m

247 m

Percentage of strength of circ. end seams

plate

59.4

rivets

86.25

Percentage of strength of circ. intermediate seam

plate

83.4

rivets

-

Percentage of strength of longitudinal joint

plate

83.4

rivets

99.75

combined

87

Working pressure of shell by Rules

16.73 K<sub>a</sub>

Thickness of butt straps

outer

29 m

inner

32 m

No. and Description of Furnaces in each Boiler

3 corrug. Morrison furnaces

(Bottle neck)

Material

S. M. Steel

Tensile strength

41-47 K<sub>a</sub>

Smallest outside diameter

1136 m

Length of plain part

top

5

Thickness of plates

crown

18 m

bottom

18 m

Description of longitudinal joint

lap welded

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

none

Working pressure of furnace by Rules

16.35 K<sub>a</sub>

End plates in steam space: Material

S. M. Steel

Tensile strength

41-47

Thickness

28 m

Pitch of stays

460 x 400

How are stays secured

Riveted washer + nuts both sides

Working pressure by Rules

16.9 K<sub>a</sub>

Tube plates: Material

front S. M. Steel

back S. M. Steel

Tensile strength

41-47 K<sub>a</sub>

Thickness

25 m

22 m

Lean pitch of stay tubes in nests

190 x 190 m

Pitch across wide water spaces

464 m

Working pressure

front

30.3 K<sub>a</sub>

back

20 K<sub>a</sub>

Girders to combustion chamber tops: Material

S. M. Steel

Tensile strength

44-55 K<sub>a</sub>

Depth and thickness of girder

centre

230 x 40 m

Length as per Rule

266 m

Distance apart

210 m

each

3 x 200 m

Pitch

Working pressure by Rules

15.74 K<sub>a</sub>

Combustion chamber plates: Material

S. M. Steel

Tensile strength

41-47 K<sub>a</sub>

Thickness

Sides

17 m

Back

17 m

Top

17 m

Bottom

24 m

Pitch of stays to ditto: Sides

200 x 190 m

Back

190 x 220 m

Top

240 x 200 m

Are stays fitted with nuts or riveted over

with nuts

Working pressure by Rules

16.77 K<sub>a</sub>

Front plate at bottom: Material

S. M. Steel

Tensile strength

41-47 K<sub>a</sub>

Thickness

25 m

Lower back plate: Material

S. M. Steel

Tensile strength

41-47 K<sub>a</sub>

Thickness

25 m

Are stays fitted with nuts or riveted over

with nuts

Pitch of stays at wide water space

600 x 250 m

Working Pressure

27.3 K<sub>a</sub>

Main stays: Material

S. M. Steel

Tensile strength

44-55 K<sub>a</sub>

Diameter

At body of stay,

76 m

Over threads

No. of threads per inch

9

Area supported by each stay

184000 m<sup>2</sup>

Working pressure by Rules

20.1 K<sub>a</sub>

Screw stays: Material

S. M. Steel

Tensile strength

41-47 K<sub>a</sub>

Diameter

At turned off part,

40 m

Over threads

No. of threads per inch

9

Area supported by each stay

41800 29 m<sup>2</sup>

Lloyd's Register

Foundation



Working pressure by Rules 20.2 lb Are the stays drilled at the outer ends no Margin stays: Diameter { At turned off part, 54 mm or Over threads

No. of threads per inch 9 Area supported by each stay 51529 mm<sup>2</sup> Working pressure by Rules 28 lb

Tubes: Material iron External diameter { Plain 63.5 mm Stay 63.5 mm Thickness { 4 mm No. of threads per inch 9

Pitch of tubes 9.5 x 9.5 mm Working pressure by Rules 21 lb Manhole compensation: Size of opening in shell plate 536 x 436 mm Section of compensating ring 976 x 876 x 44 mm No. of rivets and diameter of rivet holes 36 rivets 41 mm

Outer row rivet pitch at ends 192 mm Depth of flange if manhole flanged 100 mm 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 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.

The foregoing is a correct description,

SOCIÉTÉ ANONYME JOHN COCKERILL Manufacturer

Dates of Survey { During progress of work in shops - - 20/7/27-10/8-12/9-3/10-10/10-20/10-4/11-24/11-12/12/27-26/1/28-6/2-20/2-12/3-23/3-29/3-25/4-10/5-26/6-20/10/28-24/12-27/2/29-14/5-5/6-7/6-18/6-27/7-9/7-28/7-26/7-7/8-28/8-30/8

Are the approved plans of boiler and superheater forwarded herewith (If not state date of approval.)

Total No. of visits 34

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

The materials and workmanship are good and have been tested by the Society's Surveyors. The boilers have been constructed under special survey. The boilers satisfactorily fitted in the vessel have afterwards been tried under steam also for the accumulation test with satisfactory results. The boilers were fitted out for burning fuel oil and same were tested for same but this installation has been dismantled. The machinery of this vessel is in good condition and eligible in my opinion to have record of - L.M.C. 9-29 in the Society's Register Book. The boilers were marked for identification.

N <sup>o</sup> 74	N <sup>o</sup> 75	N <sup>o</sup> 76	N <sup>o</sup> 77	N <sup>o</sup> 78	N <sup>o</sup> 79
LLOYD'S TEST	LLOYD'S TEST	LLOYD'S TEST	LLOYD'S TEST	LLOYD'S TEST	LLOYD'S TEST
W.P. 217 lb.	W.P. 217 lb.	W.P. 217 lb.	W.P. 217 lb.	W.P. 217 lb.	W.P. 217 lb.
T.P. 376 lb.	T.P. 376 lb.	T.P. 376 lb.	T.P. 376 lb.	T.P. 376 lb.	T.P. 376 lb.
F.L.R. 29.3.28	F.L.R. 29.3.28	F.L.R. 29.3.28	F.L.R. 3.5.28	F.L.R. 3.5.28	F.L.R. 3.5.28

Survey Fee ... £

Travelling Expenses (if any) £

When applied for, 192

When received, 192

J. L. Raboy

Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute

FRI. 13 SEP 1929

Assigned

See Minute on Ant. Rn 155-86



© 2019

Lloyd's Register Foundation