

REPORT ON BOILERS.

No. 7207

Received at London Office

9 APR 1931

Date of writing Report 2-2-31

102

When handed in at Local Office 2-2-31

102

Port of Kobe

No. in Reg. Book.

Survey held at Kobe

Date, First Survey 18-8-30

Last Survey 12-1-31

192

on the

Steel steam motor ship

"RYOYO MARU"

(Number of Visits 8)

Gross 5973.8

Net 3649.87

Master

Built at Kobe

By whom built

Kawasaki Dockyard

Yard No. 562

When built 1930

Engines made at Augsburg, Germany

By whom made

M.A.N.

Engine No.

When made 1930

Boilers made at Kobe

By whom made

Kawasaki Dockyard

Boiler No. 562

When made 1930

Nominal Horse Power

Owners

Toyo Kisen Kaisha

Port belonging to

Akashi

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

Manufacturers of Steel Kawasaki Dockyard Fukui Plate & Sheet Mills

(Letter for Record S)

Total Heating Surface of Boilers 231.73 sq. ft.

Is forced draught fitted

Yes

Coal or Oil fired

Oil

No. and Description of Boilers One single ended multitubular

Working Pressure 100 lbs.

Tested by hydraulic pressure to 200 lbs.

Date of test 8-10-30

No. of Certificate

Can each boiler be worked separately

Area of Firegrate in each Boiler 24.13

No. and Description of safety valves to each boiler

2 x 1 1/2 dia. direct spring

Area of each set of valves per boiler

per Rule

as fitted

3.14

Pressure to which they are adjusted

100 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

Is oil fuel carried in the double bottom under boilers

No

Smallest distance between shell of boiler and tank top plating

6"

Is the bottom of the boiler insulated

Yes

Largest internal dia. of boilers

5'-6"

Length

6'-6"

Shell plates: Material

Steel

Tensile strength

28-32

Thickness

7/16"

Are the shell plates welded or flanged

No

Description of riveting: circ. seams

end

inter.

long. seams

Double Lap

Diameter of rivet holes in

circ. seams

13/16"

long. seams

13/16"

Pitch of rivets

13/4"

2 1/2"

Percentage of strength of circ. end seams

plate

53.6

rivets

65-65

Percentage of strength of circ. intermediate seam

plate

-

rivets

-

Percentage of strength of longitudinal joint

plate

67.6

rivets

78

combined

73.7

Working pressure of shell by Rules

118.6 lbs.

Thickness of butt straps

outer

inner

No. and Description of Furnaces in each Boiler

One Plain

Material

Steel

Tensile strength

26-30

Smallest outside diameter

2'-0 7/8"

Length of plain part

top

53.5

bottom

60.75

Thickness of plates

crown

7/16"

bottom

7/16"

Description of longitudinal joint

Weld

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

Yes

Working pressure of furnace by Rules

116.2 lbs.

End plates in steam space: Material

Steel

Tensile strength

26-30

Thickness

9/16"

Pitch of stays

12"

How are stays secured

double nuts & washers

Working pressure by Rules

122

Tube plates: Material

front

Steel

back

"

Tensile strength

26-30

Thickness

9/16"

9/16"

Mean pitch of stay tubes in nests

8 1/2"

Pitch across wide water spaces

Yes

Working pressure

front

back

118.4

Girders to combustion chamber tops: Material

Steel

Tensile strength

28-32

Depth and thickness of girder

at centre

4 1/4 x 7/8"

Length as per Rule

17"

Distance apart

7/4"

No. and pitch of stays

in each

2 @ 6 1/4"

Working pressure by Rules

141.5

Combustion chamber plates: Material

Steel

Tensile strength

26-30

Thickness: Sides

7/16"

Back

7/16"

Top

7/16"

Bottom

7/16"

Pitch of stays to ditto: Sides

6 1/4 x 6 1/4"

Back

6 1/2 x 6 1/2"

Top

6 1/4 x 7 1/4"

Are stays fitted with nuts or riveted over

nuts

Working pressure by Rules

138

Front plate at bottom: Material

Steel

Tensile strength

26-30

Thickness

9/16"

Lower back plate: Material

Steel

Tensile strength

26-30

Thickness

9/16"

Pitch of stays at wide water space

Yes

Are stays fitted with nuts or riveted over

nuts

Working Pressure

398 lbs.

Main stays: Material

Steel

Tensile strength

28-32

Diameter

At body of stay,

or

2"

No. of threads per inch

6

Area supported by each stay

175.6 sq. in.

Working pressure by Rules

149 lbs.

Screw stays: Material

Steel

Tensile strength

26-30

Diameter

At turned off part,

or

1 1/8"

No. of threads per inch

9

Area supported by each stay

45.30

Working pressure by Rules 134 lb. Are the stays drilled at the outer ends no Margin stays: Diameter { At turned off part, 1 1/4" or Over threads 1 1/4" }
No. of threads per inch 9 Area supported by each stay 48.7 Working pressure by Rules 163.6 lb.
Tubes: Material Steel External diameter { Plain 3 1/4" Stay 3 1/4" } Thickness { 10 L.F. 1/4" } No. of threads per inch 9
Pitch of tubes 8 1/2" x 8 1/2" Working pressure by Rules 152 lb. Manhole compensation: Size of opening in shell plate 14 1/2" x 18 1/2" Section of compensating ring 12.450" No. of rivets and diameter of rivet holes 52 @ 1 3/16"
Outer row rivet pitch at ends 2 3/4" Depth of flange if manhole flanged 1 3/4" 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 _____ 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,
J. Morris for Kawasaki D. Y. Co. Manufacturer.

Dates of Survey { During progress of work in shops - - } 1930 Aug. 18-25-27. Sept 10-Oct 8 Are the approved plans of boiler and superheater forwarded herewith (If not state date of approval.)
while building { During erection on board vessel - - - } Dec. 15-27. Jan 1931, 12 Total No. of visits 8

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

This boiler has been constructed under special survey in accordance with the Rules and approved plans. The workmanship and materials are good and found to be tight & sound. The boiler was afterwards efficiently installed in the hull and the safety valves adjusted under steam to 100 lbs per sq. inch and eligible, in my opinion, to have record of D.B. 100 lbs.

Survey Fee ¥ 63.00 : When applied for 22/1/1931
Travelling Expenses (if any) (See Hull Report) : When received, 6/2/1931

J. Morris
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute FRI. 17 APR 1931

Assigned See F.C. Rpt.



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