

Received at London Office

11 JAN 1937

Date of writing Report

19/12/ 1936

When handed in at Local Office

19/12/ 1936

Port of

YOKOHAMA

No. in Reg. Book.

Survey held at

Yokohama.

Date, First Surcey

7/4/36

Last Surcey

20th Oct. 1936.

on the Ship NO. 250.

NO. 1

(Number of Visits 19)

Gross Tons

Net

Master

Built at

Hikoshima

By whom built

Yard No. 5.250

When built

Engines made at

By whom made

Engine No.

When made

Boilers made at

Yokohama

By whom made

Mitsubishi Jukogyo K.K.
Yokohama Dock.

Boiler No. M.584

When made

Nominal Horse Power

Owners

Port belonging to

MULTITUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel

Messrs. Colvilles Ltd., & Asano S. B. & Co. Ltd.,

(Letter for Record

Total Heating Surface of Boilers

84.97 square meter. = 914 sq. ft.

Is forced draught fitted

no

Coal or Oil fired

oil.

No. and Description of Boilers

One - Marine cylindrical boiler.

Working Pressure

7 Kg/cm².

Tested by hydraulic pressure to

14 Kg/cm²

Date of test

20-10-36

No. of Certificate

NO. 47

Can each boiler be worked separately

Area of Firegrate in each Boiler

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

3050 mm

Length

3200 mm

Shell plates: Material

steel

Tensile strength

44-55 Kg/mm²

Thickness

16 mm

Are the shell plates welded or flanged

flanged

Description of riveting: circ. seams

end

inter.

long. seams

double butt & double rivet

Diameter of rivet holes in

circ. seams

26.5

long. seams

23

Pitch of rivets

80

95

Percentage of strength of circ. end seams

plate

66.9 %

rivets

66.4 %

Percentage of strength of circ. intermediate seam

plate

75.7 %

rivets

83.9 %

Percentage of strength of longitudinal joint

plate

75.7 %

rivets

83.9 %

combined

Working pressure of shell by Rules

8.2 Kg/cm²

Thickness of butt straps

outer

16

inner

16

No. and Description of Furnaces in each Boiler

Two plain furnaces with Adamson joints.

Material

Tensile strength

41-47 Kg/mm²

Smallest outside diameter

924

Length of plain part

top

730

bottom

785

Thickness of plates

crowd

14

bottom

14

Description of longitudinal joint

Welded.

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

two on furnace.

Working pressure of furnace by Rules

9.66 Kg/cm²

End plates in steam space: Material

steel

Tensile strength

41-47 Kg/mm²

Thickness

18

Pitch of stays

330-350

How are stays secured

double nut, washers in place

Working pressure by Rules

8.3 Kg/cm²

Tube plates: Material

front

steel

back

steel

Tensile strength

41-47 Kg/mm²

Thickness

16

14

Mean pitch of stay tubes in nests

204

Pitch across wide water spaces

224

350 in place

Working pressure

front

back

7.9 Kg/cm²

Girders to combustion chamber tops: Material

steel

Tensile strength

44-55 Kg/mm²

Depth and thickness of girder

at centre

190 x 14

Length as per Rule

712 mm

Distance apart

285

No. and pitch of stays

in each

two x 220

Working pressure by Rules

8.4 Kg/cm²

Combustion chamber plates: Material

steel.

Tensile strength

41-47 Kg/mm²

Thickness: Sides

14

Back

14

Top

14

Bottom

14

Pitch of stays to ditto: Sides

250 x 45

Back

250 x 40

Top

220 x 38

Are stays fitted with nuts or riveted over

nuts.

Working pressure by Rules

7.26 Kg/cm²

Front plate at bottom: Material

steel

Tensile strength

41-47 Kg/mm²

Thickness

16

Lower back plate: Material

steel

Tensile strength

41-47 Kg/mm²

Thickness

16

Pitch of stays at wide water space

240

350 in place

Are stays fitted with nuts or riveted over

Nuts.

Working Pressure

7.5 Kg/cm²

Main stays: Material

steel

Tensile strength

44-55 Kg/mm²

Diameter

At body of stay,

44

No. of threads per inch

6

Area supported by each stay

1137.5 sq. cm.

Working pressure by Rules

9.8 Kg/cm²

Screw stays: Material

steel

Tensile strength

44-55 Kg/mm²

Diameter

At turned off part,

1 1/2" x 1 3/8"

No. of threads per inch

9 per inch.

Area supported by each stay

600 sq. cm.

Working pressure by Rules $7.6 \frac{\text{kg}}{\text{cm}^2}$. Are the stays drilled at the outer ends no Margin stays: Diameter $\begin{cases} \text{At turned off part,} \\ \text{or} \\ \text{Over threads} \end{cases} \begin{matrix} 1\frac{1}{2}'' \times 1\frac{5}{8}'' \\ 1\frac{1}{2}'' \times 1\frac{5}{8}'' \end{matrix}$ ✓
No. of threads per inch 9 per inch. Area supported by each stay 725 sq. centim. Working pressure by Rules 7.8 kg/cm².
Tubes: Material Steel External diameter $\begin{cases} \text{Plain} \\ \text{Stay} \end{cases} \begin{matrix} 3'' \\ 3'' \end{matrix}$ Thickness $\begin{cases} 9 \text{ L.S.G.} \\ 16'' \end{cases}$ No. of threads per inch 9 per inch.
Pitch of tubes 102 x 112. Working pressure by Rules 7.5 kg/cm². Manhole compensation: Size of opening in
shell plate 305 x 407. Section of compensating ring oval flanged. No. of rivets and diameter of rivet holes 40 rivets, 23φ.
Outer row rivet pitch at ends 140. Depth of flange if manhole flanged 80. Steam Dome: Material ✓
Tensile strength Thickness of shell Description of longitudinal joint
Diameter of rivet holes Pitch of rivets Percentage of strength of joint $\begin{cases} \text{Plate} \\ \text{Rivets} \end{cases}$
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 $\begin{cases} \text{Tubes} \\ \text{Steel forgings} \\ \text{Steel castings} \end{cases}$
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 forgings and castings and after assembly in place Are drain cocks of
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 Yes.

The foregoing is a correct description,

M. Hattori

Manufacturer

Dates of Survey $\begin{cases} \text{During progress of} \\ \text{work in shops} - - \end{cases} \begin{matrix} 7/4/36 \text{ to } 20/10/36 \\ (19 \text{ visits}) \end{matrix}$ Are the approved plans of boiler and superheater forwarded herewith 19-3-36
(If not state date of approval.)
while building $\begin{cases} \text{During erection on} \\ \text{board vessel} - - \end{cases}$ Total No. of visits

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

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.) This boiler has been built under special survey in accordance with the Rules and approved plan. Material and Workmanship good.
This boiler has now been sent to Hikoshima and will be fitted on board the vessel no. 250, now being built by Messrs. Mitsubishi Jukogyo Kaisha, Hikoshima Dock.

Survey Fee £ 11 : 9 : 0 When applied for, 21-12-1936
Travelling Expenses (if any) 4 : 3 : 0 When received, 19
TELEGRAM 7 1.45

Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute

Assigned

See other copy
Mag. 2224



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Foundation