

REPORT ON BOILERS.

No. 175

Writing Report 19th JULY 1950

When handed in at Local Office 1st AUG 1950

Received at London Office

20 SEP 1950

Survey held at KOBE JAPAN

Port of KOBE

Date, First Survey 2nd MAY

Last Survey 18th MAY 1950

on the STEEL SINGLE SCREW STEAMER "YUKIKAWA MARU"

(Number of Visits 10)

Built at KOBE

By whom built KAWASAKI JUKOGYO K.K.

Gross 4501 Tons

Net 2658

Lines made at KOBE

By whom made KAWASAKI JUKOGYO K.K.

Yard No. 648

When built SEPT. 1941

Boilers made at KOBE

By whom made KAWASAKI JUKOGYO K.K.

Engine No. -

When made SEPT. 1941

Indicated Horse Power 447.4

Owners KAWASAKI KISEN K.K.

Boiler No. 1061

When made SEPT. 1941

Port belonging to KOBE

MANUFACTURE OF TUBULAR BOILERS - MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel YAWATA WORKS, NIPPON IRON & STEEL MFG. CO. LTD.

Heating Surface of Boilers $222.9 \text{ m}^2 \times 2 = 445.8 \text{ m}^2$

(Letter for Record)

2-5-50 and Description of Boilers 2 MULTITUBULAR DRY COMBUSTION BOILERS

Is forced draught fitted YES

Coal or Oil fired COAL

2-5-50 and by hydraulic pressure to 17.5 kg/cm^2 Date of test 10-5-50 No. of Certificate -

Working Pressure 17.5 kg/cm^2

2-5-50 of Firegrate in each Boiler 5.97 m^2 No. and Description of safety valves to each boiler -

Can each boiler be worked separately YES

steam 18-5-50 of each set of valves per boiler 73.4 cm^2

Pressure to which they are adjusted 18 kg/cm^2 Are they fitted with easing gear YES

Use of donkey boilers, state whether steam from main boilers can enter the donkey boiler -

Least distance between boilers or uptakes and bunkers or woodwork 500 mm

Is oil fuel carried in the double bottom under boilers NO

Least distance between shell of boiler and tank top plating 450 mm

Is the bottom of the boiler insulated YES

Least internal dia. of boilers 4600 mm Length 2600 mm

Shell plates: Material MILD STEEL Tensile strength 44 kg/mm^2

Are the shell plates welded or flanged NO

Description of riveting: circ. seams 41.5 mm end 2 RAYS

Seams: 3 RAW BUTT STRAP RIVETING WITH OUTSIDE RAW DOUBLE PITCH

Diameter of rivet holes in circ. seams 41.5 mm

long. seams 43.5 mm

Pitch of rivets 110.53 mm OUTER RAW 299 mm

Percentage of strength of circ. end seams

plate 62.5

rivets 45.8

Percentage of strength of circ. intermediate seam

plate 85.2

rivets 87.2

combined 87.2

Working pressure of shell by Rules 17.9 kg/cm^2 AT 44 mm t

52.5 Percentage of strength of longitudinal joint

plate 85.2

rivets 87.2

combined 87.2

Thickness of butt straps outer 34 mm inner 37 mm

No. and Description of Furnaces in each Boiler

3 CORRUGATED

Material MILD STEEL

Tensile strength 41 kg/mm^2

of plain part top bottom

Thickness of plates crown 20 mm bottom 20 mm

Smallest outside diameter 1140 mm ϕ

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

Description of longitudinal joint BUTT ELECTRICAL WELDING

Stays in steam space: Material MILD STEEL Tensile strength 41 kg/mm^2

Working pressure of furnace by Rules 18.5 kg/cm^2

Stays secured BY NUT FROM IN*OUTSIDE

Thickness 34 mm Pitch of stays 400 mm LONG. VERT.

plates: Material front MILD STEEL back MILD STEEL

Tensile strength 41 kg/mm^2

Working pressure by Rules 19.45 kg/cm^2 AT 34 mm t

Pitch of stay tubes in nests 275 mm

Pitch across wide water spaces 350 mm

Thickness 34 mm ϕ 27 mm ϕ 26 mm ϕ

to combustion chamber tops: Material

Tensile strength

Working pressure front 17.5 kg/cm^2 back 17.5 kg/cm^2

Length as per Rule

Distance apart

Depth and thickness of girder

Working pressure by Rules

No. and pitch of stays

Stays to ditto: Sides

Thickness: Sides

Back

Top

Bottom

Working pressure by Rules

Are stays fitted with nuts or riveted over

Stays at wide water space

Lower back plate: Material MILD STEEL Tensile strength 41 kg/mm^2

Thickness 26 mm

pressure 17.5 kg/cm^2

Are stays fitted with nuts or riveted over

NUTS

At body of stay 70 mm $(80 \text{ mm} \phi 8 \text{ mm})$

Main stays: Material MILD STEEL

Tensile strength 45 kg/mm^2

Over threads

No. of threads per inch 6

Area supported by each stay $70 \text{ mm} \phi$ 980 cm^2 $80 \text{ mm} \phi$ 1600 cm^2 $85 \text{ mm} \phi$ 1850 cm^2

Working pressure by Rules 32.4 kg/cm^2 $80 \text{ mm} \phi$

Screw stays: Material

Tensile strength

turned off part

No. of threads per inch

Area supported by each stay

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Working pressure by Rules. - Are the stays drilled at the outer ends. - Margin stays: Diameter $\frac{1}{4}$ turned off part. -
No. of threads per inch. - Area supported by each stay. - Working pressure by Rules. -
Tubes: Material MILD STEEL External diameter $\frac{1}{2}$ Plain 82.55% 60% WATER TUBE 4.5%
Pitch of tubes. 112% 110% Thickness 9.53% No. of threads per inch 9
shell plate. 585% x 485% Section of compensating ring 25.168 mm² No. of rivets and diameter of rivet holes 36% x 23.5%
Outer row rivet pitch at ends. 291% Depth of flange if manhole flanged 105% Steam Dome: Material -
Tensile strength. - Thickness of shell. - Description of longitudinal joint. -
Diameter of rivet holes. - Pitch of rivets. - Percentage of strength of joint $\frac{1}{4}$ Plate. -
Internal diameter. - Working pressure by Rules. - Thickness of crown. - No. and diameter
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 SHMIDT TYPE

Manufacturers of Tubes FUSO METAL WORKS Co. Ltd.
Steel forgings. -
Steel castings. -
Number of elements 2 Material of tubes MILD STEEL Internal diameter and thickness of tubes $16\frac{1}{2}\phi \times 3.15\frac{1}{2}x$
Material of headers CAST STEEL Tensile strength 45 kg/cm² Thickness 20 mm Can the superheater be shut off
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 34.48 cm² Are the safety valves fitted with easing gear YES Working pressure as per
Rules 33.2 kg/cm² Pressure to which the safety valves are adjusted 17.5 kg/cm² Hydraulic test pressure
tubes 35 kg/cm² forgings and castings 35 kg/cm² and after assembly in place 43.75 kg/cm² Are drain cocks
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.

The foregoing is a correct description,

A. Nara

Manufacturer

Dates of Survey while building During progress of work in shops - NOT BUILT UNDER SURVEY Are the approved plans of boiler and superheater forwarded herewith 29-3-55
During erection on board vessel - - - - - (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.)

SEE REPORT 9 ATTACHED (NO. 174)

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

S. T. Bellin & A. Thrus
Engineer Surveyor to Lloyd's Register of Shipping

Committee's Minute FRI. 20 OCT 1950

Assigned See F.E. Mch. rpt.



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