

REPORT ON BOILERS.

No. 8857

21 JAN 1935

Received at London Office

192 When handed in at Local Office 192 Port of

No. in Survey held at KOBE. Date, First Survey 24-11-33. Last Survey 3-12-1934.

Book. on the MOTOR VESSEL "Kyokuto Maru" (Number of Visits 24) Tons Gross 10052 Net 5821.

Master Built at KOBE. By whom built KANASAKI DOCKYARD Co. Yard No. 584. When built 1934.

Engines made at KOBE. By whom made KANASAKI DOCKYARD Co. Engine No. 209 When made 1934.

Boilers made at KOBE. By whom made KANASAKI DOCKYARD Co. Boiler No. When made 1934.

nominal Horse Power 2115 Owners IINO SHOJI KABUSHIKI KAISHA. Port belonging to NAKAMAIZURU.

MULTITUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel KANASAKI DOCKYARD CO. LD. FUKUI PLATE & SHEET MILLS. (Letter for Record S.)

Total Heating Surface of Boilers 256.2 M² EACH. Is forced draught fitted YES. Coal or Oil fired OIL.

No. and Description of Boilers TWO:- OIL FIRED SINGLE ENDED. MULTITUBULAR. Working Pressure 12.5 KG/CM².

Tested by hydraulic pressure to 22.5 KG/CM². Date of test 4-10-34. No. of Certificate 42388. Can each boiler be worked separately YES.

Area of Firegrate in each Boiler OIL FUEL. No. and Description of safety valves to each boiler 2- SPRING LOADED.

Area of each set of valves per boiler {per Rule 63.6 CM². Pressure to which they are adjusted 12.5 KG/CM². 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 NO BUNKERS OR WOODWORK IN VICINITY OF BOILERS. 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 YES.

Largest internal dia. of boilers 4200 MM. Length 3854 MM. Shell plates: Material STEEL. Tensile strength 28-32.

Thickness 30 MM. Are the shell plates welded or flanged NO. Description of riveting: circ. seams {end DOUBLE RIVETED LAP.

Long. seams TREBLE RIVETED DOUBLE BUTT STRAP. Diameter of rivet holes in {circ. seams ENDS 34 MM. INTER 38 MM. Pitch of rivets {ENDS 95 MM. INTER 100 MM.

Percentage of strength of circ. end seams {plate 64.2. rivets 52.2. Percentage of strength of circ. intermediate seam {plate 62. rivets 61.7.

Percentage of strength of longitudinal joint {plate 84.6. rivets 105.5. combined 90.5. Working pressure of shell by Rules 13.1 KG/CM².

Thickness of butt straps {outer 23 MM. inner 28 MM. No. and Description of Furnaces in each Boiler TWO:- MORISON TYPE CORRUGATED.

Material STEEL. Tensile strength 28-32. Smallest outside diameter 1203.3 MM.

Length of plain part {top 160 MM. bottom 160 MM. Thickness of plates {crown 17.46 MM. bottom 17.46 MM. Description of longitudinal joint WELDED.

Dimensions of stiffening rings on furnace or c.c. bottom. Working pressure of furnace by Rules 14.9 KG/CM².

End plates in steam space: Material STEEL. Tensile strength 28-32. Thickness 28 MM. Pitch of stays 400 X 500 MM.

How are stays secured EXT:- NUTS & WASHERS. INT:- NUTS. Working pressure by Rules 14.9 KG/CM².

Tube plates: Material {front STEEL. back STEEL. Tensile strength {28-32. Thickness {23 MM. 20 MM.

Lean pitch of stay tubes in nests 210 MM. Pitch across wide water spaces 350 X 210 MM. Working pressure {front 17.6 KG/CM². back 14.4 KG/CM².

Girders to combustion chamber tops: Material STEEL. Tensile strength 28-32. Depth and thickness of girder

at centre 275 X 22 X 2 MM. Length as per Rule 960 MM. Distance apart 270 MM. No. and pitch of stays

each 3 X 250 MM. Working pressure by Rules 15.1 KG/CM². Combustion chamber plates: Material STEEL.

Tensile strength 28-32. Thickness: Sides 20 MM. Back 20 MM. Top 20 MM. Bottom 22 MM.

Pitch of stays to ditto: Sides 250 X 240 MM. Back 230 X 210 MM. Top 250 X 270 MM. Are stays fitted with nuts or riveted over NUTS.

Working pressure by Rules 14.7 KG/CM². Front plate at bottom: Material STEEL. Tensile strength 28-32.

Thickness 23 MM. Lower back plate: Material STEEL. Tensile strength 28-32. Thickness 23 MM.

Pitch of stays at wide water space 360 X 210 MM. Are stays fitted with nuts or riveted over NUTS.

Working Pressure 17.6 KG/CM². Main stays: Material STEEL. Tensile strength 28-32.

Diameter {At body of stay, 75 MM. No. of threads per inch 6. Area supported by each stay 2000 CM².

Working pressure by Rules 14.7 KG/CM². Screw stays: Material STEEL. Tensile strength 28-32.

Diameter {At turned off part, 42 & 46 MM. No. of threads per inch 11. Area supported by each stay 250 X 240 MM.

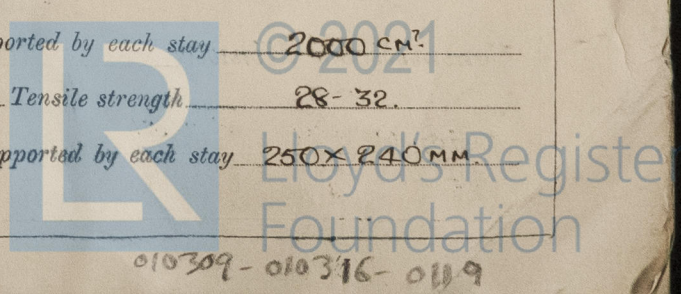
Working pressure by Rules 14.7 KG/CM². No. of threads per inch 11. Area supported by each stay 250 X 240 MM.

Diameter {At turned off part, 42 & 46 MM. No. of threads per inch 11. Area supported by each stay 250 X 240 MM.

Working pressure by Rules 14.7 KG/CM². No. of threads per inch 11. Area supported by each stay 250 X 240 MM.

Diameter {At turned off part, 42 & 46 MM. No. of threads per inch 11. Area supported by each stay 250 X 240 MM.

Working pressure by Rules 14.7 KG/CM². No. of threads per inch 11. Area supported by each stay 250 X 240 MM.



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Working pressure by Rules 14.8 kg/cm^2 Are the stays drilled at the outer ends YES Margin stays: Diameter $\begin{cases} \text{At turned off part,} & 46 \text{ mm.} \\ \text{or} & \\ \text{Over threads} & \end{cases}$
No. of threads per inch 11 Area supported by each stay 619.5 cm^2 Working pressure by Rules 14.1 kg/cm^2
Tubes; Material STEEL External diameter $\begin{cases} \text{Plain} & 76.2 \text{ mm.} \\ \text{Stay} & 76.2 \text{ mm.} \end{cases}$ Thickness $\begin{cases} \text{N}^\circ 8 \text{ LSG} & \\ 952 \pm 7.94 \text{ mm.} & \end{cases}$ No. of threads per inch 9
Pitch of tubes $105 \times 105 \text{ mm.}$ Working pressure by Rules 15.25 kg/cm^2 Manhole compensation: Size of opening
shell plate $600 \times 500 \text{ mm.}$ Section of compensating ring $500 \times 30 \text{ mm.}$ No. of rivets and diameter of rivet holes $42 - 34 \text{ mm.}$
Outer row rivet pitch at ends 220 mm. Depth of flange if manhole flanged 95 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 $\begin{cases} \text{Plate} & \\ \text{Rivets} & \end{cases}$
Internal diameter ✓ Working pressure by Rules ✓ Thickness of crown ✓ No. and diameter of rivets ✓
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 $\begin{cases} \text{Tubes} & \\ \text{Steel castings} & \end{cases}$
Number of elements ✓ Material of tubes ✓ Internal diameter and thickness of tubes ✓
Material of headers ✓ Tensile strength ✓ Thickness ✓ Can the superheater be shut off from the boiler ✓
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 tested ✓
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,
Toshiko Ono Kawasaki Dockyard

Dates of Survey $\begin{cases} \text{During progress of work in shops} & \text{Nov/23.24, Jan/24.11.26, Jul/24.3.20.26, Aug/24.7.9, 15.23.} \\ \text{while building} & \text{Dec/24.8.18.25.27.28.29, Oct/24.4.9.} \end{cases}$ Are the approved plans of boiler and superheater forwarded herewith 14.2.3
(If not state date of approval.)
During erection on board vessel $\begin{cases} \text{Oct/24.16.22.25, Nov/24.6.14, Dec/24.3.} \end{cases}$ Total No. of visits 24

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

These boilers have been constructed under Special Survey in accordance with the Rules and approved plans.

The materials and workmanship are good.

The boilers were tested by hydraulic pressure to 22.5 kg/cm^2 , and found sound and tight, afterwards efficiently installed in the vessel, and the safety valves adjusted under steam to 12.5 kg/cm^2 (178 lbs/sq. in.)

These boilers in my opinion are eligible to have the record of I.B. 178 lbs/sq. in.

Survey Fee £ 54 : 18 : 0 } When applied for, Dec. 17th 1924
Travelling Expenses (if any) £ : : : } When received, Dec. 19th 1924

A.E. Munro
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute FRI. 25 JAN 1925

Assigned See Kob. 26, 8857



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Foundation