

REPORT ON BOILERS.

No. 5384

Received at London Office

3 DEC 1934

Date of writing Report 19th October 1934 When handed in at Local Office 29/10/ 1934 Port of Yokohama.No. in Survey held at Uraga Date, First Survey 13th December 1933 Last Survey 22nd October 1934
No. of Visits 19
Gross Tons 7139
Net Tons 4272.5

674 on the Single Screw M/V "NAKO MARU"

Built at Uraga By whom built Uraga Dock Co Ltd Yard No. 388 When built 1934-10
 Engines made at Yokohama By whom made Yokohama Dock Co Ltd Engine No. 4703 When made 1934
 Boilers made at Uraga By whom made Uraga Dock Co Ltd Boiler No. ☒ When made 1934
 Owners Nippon Yusen K. K. Port belonging to Tokio

VERTICAL DONKEY BOILER.

Made at Uraga By whom made Uraga Dock Co Ltd Boiler No. ☒ When made 1934 Where fixed above thrust screws
 Manufacturers of Steel Imperial Steel Works Japan

Total Heating Surface of Boiler 632.4 sq ft. Is forced draught fitted No Coal or Oil fired oil exhaust gas
 Working pressure 7 Kg/cm²

No. and Description of Boilers One, Shimba Tube Date of test 15th June 1934 No. of Certificate 40
 Tested by hydraulic pressure to 14 Kg/cm²

Area of Firegrate in each Boiler ☒ No. and Description of safety valves to each boiler 2-70 mm dia Spring Loaded
 Area of each set of valves per boiler ☒ Pressure to which they are adjusted 7 Kg/cm² Are they fitted with easing gear Yes

State whether steam from main boilers can enter the donkey boiler ☒ Smallest distance between boiler or uptake and bunkers
 or woodwork ☒ Is oil fuel carried in the double bottom under boiler ☒ Smallest distance between base of boiler and tank top plating

Is the base of the boiler insulated ☒ Largest internal dia. of boiler 2600 mm Height 4400 mm
 Shell plates: Material Steel Tensile strength 44/55 Kg/mm² Thickness 14 mm

Are the shell plates welded or flanged No Description of riveting: circ. seams SR+DR. Lap long. seams D.R.D.B.S.
 Dia. of rivet holes in ☒ Pitch of rivets 55x70.3 % Percentage of strength of circ. seams ☒ of Longitudinal joint ☒

Working pressure of shell by rules 8.1 Kg/cm² Thickness of butt straps ☒ outer 14 mm inner 16 mm
 Thickness of plate 77
 rivets 136
 combined 99.5

Shell Crown: Whether complete hemisphere, dished partial spherical, or flat flat Material Steel
 Tensile strength 41/47 Kg/cm² Thickness 25 mm Radius ☒ Working pressure by rules ☒

Description of Furnace: included in tube plate plain Material Steel Tensile strength 41/47 Kg/cm²
 Thickness 30 mm External diameter ☒ top 1620 mm Length as per rule 2550 mm Working pressure by rules 14.7 Kg/cm²

Pitch of support stays circumferentially ☒ and vertically ☒ Are stays fitted with nuts or riveted over ☒

Diameter of stays over thread ☒ Radius of spherical or dished furnace crown ☒ Working pressure by rule ☒

Thickness of end plate (flat) 25 mm Diameter as per rule ☒ Working pressure by rule ☒

Combustion Chamber: Material ☒ Tensile strength ☒ Thickness of top plate ☒

Radius if dished ☒ Working pressure by rule ☒ Thickness of back plate ☒ Diameter if circular ☒

Length as per rule ☒ Pitch of stays ☒ Are stays fitted with nuts or riveted over ☒

Diameter of stays over thread ☒ Working pressure of back plate by rules ☒

Tube Plates: Material ☒ Tensile strength ☒ Thickness ☒ Mean pitch of stay tubes in nests ☒

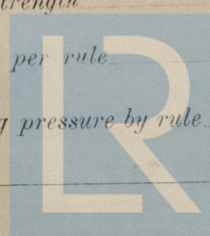
If comprising shell, Dia. as per rule ☒ Pitch in outer vertical rows ☒ Dia. of tube holes FRONT ☒ BACK ☒

Is each alternate tube in outer vertical rows a stay tube ☒ Working pressure by rules ☒

Girders to combustion chamber tops: Material ☒ Tensile strength ☒

Depth and thickness of girder at centre ☒ Length as per rule ☒

Distance apart ☒ No. and pitch of stays in each ☒ Working pressure by rule ☒



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Crown stays: Material ✓

Tensile strength

No. of threads per inch

Area supported by each stay

Diameter { at body of stay, or over threads

Working pressure by rules

Screw stays: Material ✓

Tensile strength

Diameter { at turned off part, or over threads

No. of threads per inch

Area supported by each stay

Working pressure by rules

Are the stays drilled at the outer ends

Tubes: Material *Steel Thimble Tubes*

External diameter

Thimble 82-55 mm

Thickness { *6 L.S.G.*

No. of threads per inch

Pitch of tubes *203.6 x 139 mm*

Working pressure by rules *19.3 Kg*

Manhole Compensation: Size of opening in shell plate *445 x 546 mm*

Section of compensating ring *225 x 14 mm*

No. of rivets and diameter

of rivet holes *36 @ 28.5 mm*

Outer row rivet pitch at ends

140 mm

Depth of flange if manhole flanged

Uptake: External diameter

1032 mm

Thickness of uptake plate

16 mm

Cross Tubes: No. ✓

External diameters {

Thickness of plates

Have all the requirements of Sections 14 to 22 inclusive for boilers been complied with

yes

The foregoing is a correct description,

Dates of Survey { During progress of work in shops - *13/12/33 10, 23, 26/1, 1, 12/2 1, 7/3 2, 10/4 7, 14/5 9, 15/6/34*
while building { During erection on board vessel - *28/8 27/9 4, 13, 22/10/34*

Is the approved plan of boiler forwarded herewith (If not state date of approval.) *24/5/33*

Total No. of visits *19*

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. On completion of fitting on board, the Boiler was examined under full working conditions and also accumulation trials were carried out with satisfactory results.

The Donkey Boiler of this Vessel is eligible in my opinion to be classed with the machinery + L.M.C. 10.34.

Survey Fee ... £ *5* : *5* :

Travelling Expenses (if any) £ *✓* :

When applied for, *5-11-1934*

When received, *5-1-1935*

also shown on Mch Rpt.

G. H. Macdonald

Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute

FRI. 17 DEC 1934

Assigned

See J. E. Machy



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Has the Steel been tested as required by the Rules? *yes*