

REPORT ON BOILERS.

No. 8517.

Received at London Office 1 JUN 1931

Date of writing Report 27th May 1931 When handed in at Local Office

19

Port of Copenhagen

No. in Reg. Book.

Survey held at

Copenhagen

Date, First Survey

10th September 1930 Last Survey 20th May 1931

(Number of Visits 25)

Gross 10223.89

Net 8349.72

0386

on the

Steel Single Screw Motor Vessel **EUROPA**

Built at

Copenhagen

By whom built

Mkts. Burmeister & Wain's Maskin- og Skibsbyggeri

Yard No. 581

When built 1931

Engines made at

Copenhagen

By whom made

Mkts. Burmeister & Wain's Maskin- og Skibsbyggeri

Engine No. 1852

When made 1931

Boilers made at

Copenhagen

By whom made

Mkts. Petersen & Wraae Maskinfabrik og Koldsmide

Boiler No. 243

When made 1931

Owners

Mkts. Det Danske Handelskøbsmandsselskab

Port belonging to

Copenhagen

VERTICAL DONKEY BOILER

Made at

Copenhagen

By whom made Mkts. Petersen & Wraae Maskinfabrik og Koldsmide

Boiler No.

When made 1930/31 Where fixed in the machinery space

Manufacturers of Steel

Lloyds, Coalbridge RIVETS: Henry Bros Copenhagen

Total Heating Surface of Boiler

130 square feet

Is forced draught fitted

No

Coal or Oil fired oil fired

No. and Description of Boilers

One off vertical cross tube

Working pressure 100 lbs per sq in

Tested by hydraulic pressure to

200 lbs per sq in

Date of test

24th November 1930

No. of Certificate 527

Area of Firegrate in each Boiler

No. and Description of safety valves to each boiler

2 off directly spring loaded

Area of each set of valves per boiler

per rule 3.54 sq in
as fitted 6.30 sq in

Pressure to which they are adjusted

80 lbs per sq in

Are they fitted with easing gear

yes

State whether steam from main boilers can enter the donkey boiler

No main boiler fitted

Smallest distance between boiler or uptake and bulkhead

on woodwork

1' 4"

Is oil fuel carried in the double bottom under boiler

yes

Smallest distance between base of boiler and tank top plating

2' 3"

Is the base of the boiler insulated

yes

Largest internal dia. of boiler

1619 7/8 in

Height 3550 7/8 in

Shell plates: Material

Siemens Martin Steel

Tensile strength

29.7 Tons per sq in

Thickness

9.5 7/8 in

Are the shell plates welded or flanged

No

Description of riveting: circ. seams

end lap joint - single neck
inter lap joint - single neck

lap joint double neck

Dia. of rivet holes in

circ. seams 19 7/8 in
long. seams 19 7/8 in

Pitch of rivets

45 7/8 in
60 7/8 in

Percentage of strength of circ. seams

plate 57.8%
rivets 54.28%

of Longitudinal joint

plate 68.3%
rivets 81.4%
combined

Working pressure of shell by rules

7.22 kg/cm² ~ 102.7 lbs per sq in

Thickness of butt straps

outer
inner

Shell Crown:

Whether complete hemisphere, dished partial spherical, or flat

dished partial spherical

Material

Siemens Martin Steel

Tensile strength

28.6 Tons per sq in

Thickness

16 7/8 in

Radius

1600 7/8 in

Working pressure by rules

8.83 kg/cm² ~ 118.5 lbs per sq in
SIDE: 28.9 Tons per sq in

Description of Furnace:

Plain, spherical, or dished crown

dished partial spherical

Material

Siemens Martin Steel

Thickness

17 7/8 in

External diameter

top 1334 7/8 in
bottom 1434 7/8 in

Length as per rule

1630 7/8 in

Working pressure by rules

8.84 kg/cm² ~ 125.7 lbs per sq in
CROWN: 28.6 Tons per sq in

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

1300 7/8 in

Working pressure by rule

10.93 kg/cm² ~ 155.4 lbs per sq in
CROWN: 28.6 Tons per sq in

Thickness of Ogee Ring

17 7/8 in

Diameter as per rule

D 1619 7/8 in
d 1434 7/8 in

Working pressure by rule

8.84 kg/cm² ~ 125.7 lbs per sq in

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

front
back

Tensile strength

✓

Thickness

✓

Mean pitch of stay tubes in nests

✓

If comprising shell, Dia. as per rule

front
back

Pitch in outer vertical rows

✓

Dia. of tube holes FRONT

stay
plain

BACK

stay
plain

Is each alternate tube in outer vertical rows a stay tube

✓

Working pressure by rules

front
back

Girders to combustion chamber tops: Material

✓

Tensile strength

✓

Depth and thickness of girder at centre

✓

Length as per rule

✓

Distance apart

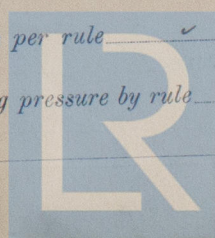
✓

No. and pitch of stays in each

✓

Working pressure by rule

✓



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W35-0126

Crown stays: Material ☒ Tensile strength ☒ Diameter ☒ { at body of stay, ☒
over threads ☒
No. of threads per inch ☒ Area supported by each stay ☒ Working pressure by rules ☒
Screw stays: Material ☒ Tensile strength ☒ Diameter ☒ { at turned off part, ☒
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 ☒ External diameter ☒ { plain ☒
stay ☒ Thickness ☒
No. of threads per inch ☒ Pitch of tubes ☒ Working pressure by rules ☒
Manhole Compensation: Size of opening in shell plate $305 \frac{7}{8} \times 405 \frac{7}{8}$ Section of compensating ring flat No. of rivets and diameter
of rivet holes $32 \frac{1}{4} - 19 \frac{1}{4}$ Outer row rivet pitch at ends ☒ Depth of flange if manhole flanged ☒
Uptake: External diameter $424 \frac{7}{8}$ Thickness of uptake plate $12 \frac{7}{8}$
Cross Tubes: No. 4 External diameters $240 \frac{7}{8}$ Thickness of plates $10 \frac{7}{8}$

Have all the requirements of Sections 14 to 23 inclusive for boilers been complied with yes.

The foregoing is a correct description,

PETERSEN & WRAAE

Manufacturers.

Dates of Survey { During progress of work in shops - 1930: 10/19 - 24/19 - 4/10 - 9/10 - 20/10 - 31/10 - 4/11 - 22/11 - 24/11
while building { During erection on board vessel - 1931: 24/2 - 6/3 - 24/3 - 30/3 - 8/4 - 10/4 - 13/4 - 16/4 - 17/4 - 21/4 - 27/4 - 30/4
9/5 - 16/5 - 19/5 - 20/5
Is the approved plan of boiler forwarded herewith yes.
(If not state date of approval.)
Total No. of visits 25.

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

This boiler has been built under Special Survey in accordance with the Rules, the approved plan, with amendment to the furnace as shown on the plan and on the accompanying sketch, and the requirements contained in the Secretary's letter E dated 8th August 1930.

The material used in the construction has been tested as required by the Rules as per certificates produced and the workmanship is of good description throughout. The boiler has been fitted on board the above named vessel and completed to our entire satisfaction.

An "Eureka" duplex feed pump $90 \frac{7}{8} \times 60 \frac{7}{8} \times 90 \frac{7}{8}$ and a feed injector have been installed.

Recommend the vessel to have notation of DB-80 lbs in the Register Book

Survey Fee £ 76.44 : When applied for, 4/2 1931
Travelling Expenses (if any) £ : : When received, 7/2 1931

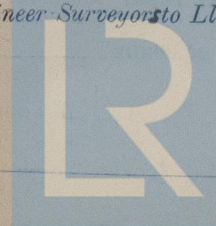
Committee's Minute

FRI. 5 JUN 1931

Assigned

See F.C. Rpt.

Engineer-Surveyor to Lloyd's Register of Shipping.



Lloyd's Register Foundation