

Rpt. 5a.

## REPORT ON BOILERS.

No. 16019

Received at London Office

3 - JAN 1927

Date of writing Report 17-12-1926 When handed in at Local Office

192

Port of Rotterdam

No. in Survey held at

Rotterdam

Date, First Survey

12-11-25

Last Survey

14-12-1926

Reg. Book.

on the steel screw steamer "EMMAPLEIN."

(Number of Visits 14)

Gross 5435

Net 3155

Master

Built at

Rotterdam

By whom built

P. Smits &amp; Co. S.

Yard No. 375

When built 1926

Engines made at

Rotterdam

By whom made

So

Engine No. 358

When made 1926

Boilers made at

So

By whom made

So

Boiler No. 475-67

When made 1926

Nominal Horse Power

420

Owners

M. Scheepvaart Mij. "Millingen"

Port belonging to

Rotterdam

MULTITUBULAR BOILERS—MAIN, ~~AUXILIARY~~, OR DONKEY.

Manufacturers of Steel

Messrs. Mannesman Werke A.G. Schults-Krauss

(Letter for Record S.)

Total Heating Surface of Boilers

630  $16^2$  6779  $ft^2$ 

Is forced draught fitted

no

Coal or Oil fired

Coal

No. and Description of Boilers

3 single ended multitubular

Working Pressure

180  $lb$  12.65  $kg$ 

Tested by hydraulic pressure to

320  $lb$ 

Date of test 9-11-26

No. of Certificate 852

Can each boiler be worked separately

Yes

Area of Firegrate in each Boiler

6.5  $16^2$  70  $ft^2$ 

No. and Description of safety valves to each boiler

2 spring loaded high lifting

Area of each set of valves per boiler

(per Rule)

diam 70  $mm$ 

Pressure to which they are adjusted

180  $lb$ 

Are they fitted with easing gear

Yes

In case of donkey boilers, state whether steam from main boilers can enter the donkey boiler

none

Smallest distance between boilers or uptakes and bunkers or woodwork

over 18"

Is oil fuel carried in the double bottom under boilers

no

Smallest distance between shell of boiler and tank top plating

over 12"

Is the bottom of the boiler insulated

Yes

Largest internal dia. of boilers

4500  $mm$ 

Length

3360  $mm$ 

Shell plates: Material

S.M. steel

Tensile strength

45-51  $kg$ 

Thickness

30  $mm$ 

Are the shell plates welded or flanged

Yes

Description of riveting: circ. seams

end Lap 2 x riv

long. seams

double butt 3 x riv.

Diameter of rivet holes in

circ. seams 34  $mm$ long. seams 32  $mm$ 

Pitch of rivets

110  $mm$ 

Percentage of strength of circ. end seams

plate 68.2%

rivets 61%

Percentage of strength of circ. intermediate seam

plate

Percentage of strength of longitudinal joint

plate 90.6%

rivets 101.5%

Working pressure of shell by Rules

13.22  $kg$ 

Thickness of butt straps

outer 25  $mm$ inner 20  $mm$ 

No. and Description of Furnaces in each Boiler

3 Morison's furnaces

Material

S.M. steel

Tensile strength

41-47  $kg$ 

Smallest outside diameter

1150  $mm$ 

Length of plain part

top

bottom

Thickness of plates

crown 15  $mm$ 

Description of longitudinal joint

welded

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

none

Working pressure of furnace by Rules

12.9  $kg$ 

End plates in steam space: Material

S.M. steel

Tensile strength

41-47  $kg$ 

Thickness

22  $mm$ 

Pitch of stays

440 x 300  $mm$ 

How are stays secured

screwed in plate and nuts and washers

Working pressure by Rules

15.10  $kg$ 

Tube plates: Material

front S.M. steel

back S.M. steel

Tensile strength

41-47  $kg$ 

Thickness

22  $mm$ 

Mean pitch of stay tubes in nests

220 x 220  $mm$ 

Pitch across wide water spaces

370  $mm$ 

Working pressure

front 14.34  $kg$ back 15.6  $kg$ 

Girders to combustion chamber tops: Material

S.M. steel

Tensile strength

45-51  $kg$ 

Depth and thickness of girder

at centre

2 x 14 x 225  $mm$ 

Length as per Rule

800  $mm$ 

Distance apart

220  $mm$ 

No. and pitch of stays

in each

3 x 180  $mm$ 

Working pressure by Rules

13.1  $kg$ 

Combustion chamber plates: Material

S.M. steel

Tensile strength

41-47  $kg$ 

Thickness: Sides

16.5  $mm$ 

Back

16.5  $mm$ 

Top

16.5  $mm$ 

Bottom

20  $mm$ 

Pitch of stays to ditto: Sides

180 x 180  $mm$ 

Back

175 x 185  $mm$ 

Top

180 x 220  $mm$ 

Are stays fitted with nuts or riveted over

riveted over

Working pressure by Rules

14.2  $kg$  13.6  $kg$ 

Front plate at bottom: Material

S.M. steel

Tensile strength

41-47  $kg$ 

Thickness

22  $mm$ 

Lower back plate: Material

S.M. steel

Tensile strength

41-47  $kg$ 

Thickness

21  $mm$ 

Pitch of stays at wide water space

370  $mm$ 

Are stays fitted with nuts or riveted over

riveted over

Working Pressure

15.1  $kg$ 

Main stays: Material

S.M. steel

Tensile strength

45-51  $kg$ 

Diameter

At body of stay, 70  $mm$ Over threads, 46  $mm$ 

No. of threads per inch

6

Area supported by each stay

16 x 200  $mm^2$ 

Working pressure by Rules

10  $kg$ 

Screw stays: Material

S.M. steel

Tensile strength

41-47  $kg$ 

Diameter

At turned off part, 34.4  $mm$ Over threads, 30  $mm$ 

No. of threads per inch

9

Area supported by each stay

32400  $mm^2$ 

Lloyd's Register

W 38710339



Working pressure by Rules 13.5 kg Are the stays drilled at the outer ends m Margin stays: Diameter { At turned off part, 37.4 mm or Over threads 41. mm ✓  
No. of threads per inch 9 ✓ Area supported by each stay 51245 mm Working pressure by Rules 15.1 kg ✓  
Tubes: Material S.M. steel ✓ External diameter { Plain 89 mm ✓ Stay 89 mm ✓ Thickness { 8.22 mm ✓ No. of threads per inch 9 ✓  
Pitch of tubes 114x114 mm ✓ Working pressure by Rules 15.1 kg ✓ Manhole compensation: Size of opening in shell plate 420x560 mm Section of compensating ring 770x780x29 mm No. of rivets and diameter of rivet holes 32 x 34 mm ✓  
Outer row rivet pitch at ends 245 mm ✓ Depth of flange if manhole flanged ✓ Steam Dome: Material ✓  
Tensile strength ✓ Thickness of shell ✓ Description of longitudinal joint ✓  
Diameter of rivet holes ✓ Pitch of rivets ✓ Percentage of strength of joint { Plate ✓ Rivets ✓  
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 Schmidt's ✓ Manufacturers of { Tubes The Superheaters Co. Ltd. Manchester Steel castings 80 Internal diameter and thickness of tubes  
Number of elements 12 Material of tubes steel Tensile strength ✓ Thickness ✓ Can the superheater be shut off and 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 diam 50 mm high lifting ✓ Are the safety valves fitted with easing gear Yes ✓ Working pressure as per Rules Pressure to which the safety valves are adjusted 190 lbs ✓ Hydraulic test pressure: tubes 1000 lb castings 555 lb and after assembly in place 555 lb Are drain cocks or valves fitted to free the superheater from water where necessary Yes ✓  
Have all the requirements of Sections 14 to 23 inclusive for boilers been complied with Yes ✓

The foregoing is a correct description,  
**MACHINEFABRIEK & SCHEEPSWERF**  
J. van der SMIT Jr., ROTTERDAM Manufacturer.  
J. H. J. van Bennekom

Dates of Survey { During progress of work in shops - - 12/11 - 24/11 - 7-17/12 - 25/12 - 23/1 - 8-24/1 Are the approved plans of boiler and superheater forwarded herewith (If not state date of approval) no  
while building { During erection on board vessel - - - 22/4 - 3/6 - 9/11 - 26/11 - 8-11-14/12 - 26 Total No. of visits 14 ✓  
Checked with Office copy.

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.) These boilers have been made under special survey in accordance with the approved plans Secretary's letters and the Society's Rules, tested by hydraulic pressure and found sound and tight.

Survey Fee ... £ Please see machinery report. When applied for, 192  
Travelling Expenses (if any) £ machinery report. When received, 192

H. Bource  
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute FRI, 7 JAN 1927  
Assigned See S. E. rpt. attached



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