

5a.

## REPORT ON BOILERS.

No. 15909<sup>B</sup>

Received at London Office

18 1940

Writing Report 17 March 1940. When handed in at Local Office

19

Port of

Amsterdam

Survey held at

Amsterdam

Date, First Survey

23 June

Last Survey

2 February 1940

on the

S/S "STAD ALKMAAR"

(Number of Visits 13.)

Gross 5750

Tons

Net

Built at

Schiedam

By whom built

N.V. Wilton-Fijenoord

Yard No. 669

When built 1940

made at

Amsterdam

By whom made

N.V. Werkspoor

Engine No.

When made 1940

made at

Amsterdam

By whom made

N.V. Werkspoor

Boiler No.

2878/9

When made 1940

Horse Power

510.

Owners

Halcyon Lyn. N.V.

Port belonging to

Rotterdam

## TITUBULAR BOILERS - MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel

Broomfield Boiler works Colvilles St Glasgow.

(Letter for Record S)

Heating Surface of Boilers

672 M<sup>2</sup> (2200 ft<sup>2</sup>)

Is forced draught fitted

yes

Coal or Oil fired

Coal

Description of Boilers

True Multitubular single ended

Working Pressure

14 kg/cm<sup>2</sup>

by hydraulic pressure to

349425

Date of test

17.1.40

No. of Certificate

451

Can each boiler be worked separately

yes

Firegrate in each Boiler

5.1 M<sup>2</sup>

No. and Description of safety valves to each boiler

2 spring loaded

each set of valves per boiler

per Rule 9100 m<sup>2</sup>  
as fitted 12700 m<sup>2</sup>

Pressure to which they are adjusted

Are they fitted with easing gear

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

distance between boilers or uptakes and bunkers or woodwork

375 mm

Is oil fuel carried in the double bottom under boilers

distance between shell of boiler and tank top plating

625 mm

Is the bottom of the boiler insulated

internal dia. of boilers

4430 mm

Length

3678 mm

Shell plates: Material

SMS

Tensile strength 44.50 kg/cm<sup>2</sup>

Are the shell plates welded or flanged

35 mm

Description of riveting: circ. seams

end dbl riveted

Diameter of rivet holes in

circ. seams 32 mm

long. seams 32 mm

Pitch of rivets

87 mm

age of strength of circ. end seams

plate 63

rivets 44

Percentage of strength of circ. intermediate seam

plate

age of strength of longitudinal joint

plate 85.88

rivets 86

combined 88.9

Working pressure of shell by Rules 14.85 kg/cm<sup>2</sup>

No. and Description of Furnaces in each Boiler

3. Morrison furnaces

Tensile strength

41.47 kg

Smallest outside diameter 1080 mm

Thickness of plates

crown 15 mm

bottom 15 mm

Description of longitudinal joint

welded

Working pressure of furnace by Rules

14.2 kg

Material

SMS

Tensile strength

41.47 kg

Thickness

29 mm

Pitch of stays 420 x 440 mm

Stays secured

Screwed into plates nuts in outside

Working pressure by Rules 15.2 kg

Material

front SMS

back SMS

Tensile strength

41.47 kg

Thickness

24 mm

22 mm

Pitch of stay tubes in nests

275 mm

Pitch across wide water spaces

300 mm

Working pressure

front 14.3 kg

back 16.4 kg

to combustion chamber tops: Material

SMS

Tensile strength

44.50 kg

Depth and thickness of girder

Length as per Rule

260 mm x 2 x 22 mm

Distance apart

875 mm

No. and pitch of stays

220 mm

Working pressure by Rules

3.200 mm

19 kg

Combustion chamber plates: Material

SMS

Strength

41.47 kg

Thickness: Sides

17 mm

Back

17 mm

Top

17 mm

Bottom

25 mm

Stays to ditto: Sides

190 mm x 20 mm

Back

206 x 192.5 mm

Top

220 x 200 mm

Are stays fitted with nuts or riveted over

nuts

Pressure by Rules

16 kg

Front plate at bottom: Material

SMS

Tensile strength 41.47 kg

Lower back plate: Material

24 mm

SMS

Tensile strength

41.47 kg

Thickness 24 mm

Stays at wide water space

300 x 155 mm

Are stays fitted with nuts or riveted over

fitted with nuts

Pressure

15.6 kg

Main stays: Material

SMS

Tensile strength 44.50 kg/cm<sup>2</sup>

At body of stay, or

70 mm

No. of threads per inch

8

Area supported by each stay 1000 cm<sup>2</sup>

Over threads

3"

Screw stays: Material

SMS

Tensile strength

41.47 kg/cm<sup>2</sup>

At turned off part, or

16.5 kg/cm<sup>2</sup>

No. of threads per inch

9

Area supported by each stay 305 cm<sup>2</sup>

Over threads

1 1/2"

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W290-00208



Working pressure by Rules  $14.7 \text{ kg/cm}^2$  Are the stays drilled at the outer ends *yes* Margin stays: Diameter  $\begin{cases} \text{At turned off part,} \\ \text{or} \\ \text{Over threads } 1\frac{5}{8}'' - 1\frac{3}{4}'' \end{cases}$   
No. of threads per inch *9* Area supported by each stay  $420 - 525 - 660 \text{ cm}^2$  Working pressure by Rules  $16 - 15 - 14.7 \text{ kg/cm}^2$   
Tubes: Material *Iron* External diameter  $\begin{cases} \text{Plain } 83 \text{ mm} \\ \text{Stay } 83 \text{ mm} \end{cases}$  Thickness  $\begin{cases} 4.06 \text{ mm} \\ 7.93 \text{ mm} \end{cases}$  No. of threads per inch *9*  
Pitch of tubes  $110 \times 110$  Working pressure by Rules  $16 \text{ kg/cm}^2$  Manhole compensation: Size of shell plate  $515 \times 415 \text{ mm}$  Section of compensating ring  $\phi 25 \times 925$  No. of rivets and diameter of rivet holes  $54 - 32 \text{ mm}$   
Outer row rivet pitch at ends  $220 \text{ mm}$  Depth of flange if manhole flanged  $80 \text{ mm}$  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 distanced stays  
How connected to shell Inner radius of crown Working pressure by Rules  
of rivets in outer row in dome connection to shell Size of doubling plate under dome Diameter of rivet holes

Type of Superheater *Schmidt's type* Manufacturers of Tubes *Stewart & Lloyd's*  
Number of elements *54* Material of tubes *Solid drawn steel* Steel forgings *Werkspoor*  
Material of headers *SM5* Tensile strength  $44.50 \text{ kg}$  Steel castings *✓* Internal diameter and thickness of tubes  $19 \text{ mm} \cdot 3 \text{ mm}$   
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  $1970 \text{ cm}^2$  Are the safety valves fitted with easing gear *yes* Working pressure  
Rules  $22.3 \text{ kg/cm}^2$  Pressure to which the safety valves are adjusted Hydraulic test  
tubes  $42 \text{ kg}$  forgings and castings  $42 \text{ kg}$  and after assembly in place Are drain  
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 *yes*

WERKSPoor N.V.

The foregoing is a correct description,

1939. June 25 Sept 25. Oct. 5. 20. 30  
Dates of Survey  $\begin{cases} \text{During progress of work in shops - -} \\ \text{while building} \end{cases}$   $\begin{cases} \text{Dec 4. 13. 27. Jan 11. 17. 24. 26.} \\ \text{Feb 2.} \end{cases}$  Are the approved plans of boiler and superheater forwarded herewith (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.)

*These boilers have been built under special survey to approved, & Secretary's letters and the Society's rules.*  
*Material duly tested workmanship throughout good.*  
*On completion hydr tested to 349 LBS found sound & tight.*  
*The boilers have been shipped to Schiedam and will be fitted aboard M/s Wilton-Fyenoord Yard No 669*

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

*J. H. J. J. J.*  
Engineer Surveyor to Lloyd's Register of Shipping

Committee's Minute

Assigned

*No action*



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