

# REPORT ON BOILERS.

No. 84052

Received at London Office

15 APR 1929

Date of Writing Report

192

When handed in at Local Office

192

Port of

NEWCASTLE-ON-TYNE

No. in Survey held at

Kalberd - on - Tyne

Date, First Survey

Last Survey

192

g. Book.

on the

New Steel S.S. Yarmsum

(Number of Visits

Gross 5346

Net 5089

Master

Built at Capelle d'Yssel

By whom built

A. Kuyk & Zonen

Yard No. 565

When built 1929

Engines made at

Kalberd - on - Tyne

By whom made

North Eastern Harb. & Eng. Co.

Engine No. 2640

When made 1929

Boilers made at

Kalberd - on - Tyne

By whom made

North Eastern Harb. & Eng. Co.

Boiler No. 2640

When made 1929

Nominal Horse Power

549

Owners

Port belonging to Amsterdam

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

Manufacturers of Steel

The Steel Company of Scotland Ltd.

(Letter for Record S)

Total Heating Surface of Boilers

8004

Is forced draught fitted

yes

Coal or Oil fired

coal

No. and Description of Boilers

Three single ended

Working Pressure

220 lbs

Tested by hydraulic pressure to

330 lbs.

Date of test

23-1-29

No. of Certificate

324

Can each boiler be worked separately

yes

Area of Firegrate in each Boiler

51.6 sq ft

No. and Description of safety valves to each boiler

2 Spring loaded.

Area of each set of valves per boiler

per Rule 14.1

as fitted 19.2

Pressure to which they are adjusted

225 lbs.

Are they fitted with easing gear

yes

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

yes

Smallest distance between uptakes and bunkers

4'-5"

Is oil fuel carried in the double bottom under boilers

no

Smallest distance between shell of boiler and tank top plating

2'-6"

Is the bottom of the boiler insulated

yes

Largest internal dia. of boilers

15'-3 1/2"

Length

12'-0"

Shell plates: Material

Steel

Tensile strength

29-33 tons

Thickness

1 15/32"

Are the shell plates welded or flanged

no

Description of riveting: circ. seams

end R.R.

Int. seams

T.R.D.B.S.

Diameter of rivet holes in

circ. seams 1 1/2"

long. seams 1 1/2"

Pitch of rivets

4"

10"

Percentage of strength of circ. end seams

plate 62.5

rivets 44.6

Percentage of strength of circ. intermediate seam

plate 85

rivets 89.4

Percentage of strength of longitudinal joint

plate 85

rivets 89.4

Working pressure of shell by Rules

220.4 lbs

Thickness of butt straps

outer 1 1/8"

inner 1 1/4"

No. and Description of Furnaces in each Boiler

3 corrugated

3 C.F.

Material

Steel

Tensile strength

26 to 30 tons

Smallest outside diameter

3'-8 5/8"

Length of plain part

top 1 1/2"

bottom 1 1/2"

Thickness of plates

1 1/16"

Description of longitudinal joint

weld

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

Working pressure of furnace by Rules

225.9 lbs

End plates in steam space

Material Steel

Tensile strength

26 to 30 tons

Thickness

1 1/2"

Pitch of stays

1'-10 1/2" x 1'-9 3/4"

How are stays secured

D. Nuts

Working pressure by Rules

220.9 lbs

End plates

Material Steel

Tensile strength

26 to 30 tons

Thickness

1 3/4"

Can pitch of stay tubes in nests

8 1/2"

Pitch across wide water spaces

14 1/4" x 14 1/4"

Working pressure

front 226 lbs

back 248 lbs

Orders to combustion chamber tops

Material Steel

Tensile strength

29 to 33 tons

Depth and thickness of girder

Centre

2 @ 9 3/4" x 1 1/8"

Length as per Rule

2'-9"

Distance apart

10 3/4"

No. and pitch of stays

Each

2 @ 1 1/4"

Working pressure by Rules

220 lbs

Combustion chamber plates

Material Steel

Tensile strength

26 to 30 tons

Thickness: Sides

2 5/32"

Back

2 5/32"

Top

2 5/32"

Bottom

1"

Pitch of stays to ditto

Sides 9 3/8" x 9 3/4"

Back

9 3/4" x 9 1/8"

Top

1 1/4" x 10 3/4"

Are stays fitted with nuts or riveted over

Nuts

Working pressure by Rules

221 lbs

Front plate at bottom

Material Steel

Tensile strength

26 to 30 tons

Thickness

1"

Lower back plate

Material Steel

Tensile strength

26 to 30 tons

Thickness

1 5/16"

Pitch of stays at wide water space

14 1/4" x 9 3/4"

Are stays fitted with nuts or riveted over

Nuts

Working Pressure

247.5 lbs

Main stays

Material Steel

Tensile strength

28 to 32 tons

Diameter

At body of stay, 3 1/2"

Over threads, 3 3/4"

No. of threads per inch

6

Area supported by each stay

481 sq in

Working pressure by Rules

225 lbs

Screw stays

Material Steel

Tensile strength

26 to 30 tons

Diameter

At turned off part, 1 1/4"

Over threads, 1 1/4"

No. of threads per inch

9

Area supported by each stay

96.2 sq in

Working pressure by Rules 221 lbs Are the stays drilled at the outer ends no Margin stays: Diameter <sup>At turned off part.</sup> 2 1/2" <sub>or Over threads</sub>

No. of threads per inch 9 Area supported by each stay 1190" Working pressure by Rules 241 lbs

Tubes: Material steel External diameter <sup>Plain</sup> 3" Thickness 8 L 5 G No. of threads per inch 9

Pitch of tubes 1 1/4" x 1 1/4" Working pressure by Rules 255 lbs. Manhole compensation: Size of opening in none

END 16" x 17" Section of compensating ring dished No. of rivets and diameter of rivet holes none

Outer row rivet pitch at ends  Depth of flange if manhole flanged 1 5/8" Steam Dome: Material none.

Tensile strength 200 Thickness of shell 1/2" Description of longitudinal joint butt

Diameter of rivet holes 1/4" Pitch of rivets 2" Percentage of strength of joint <sup>Plate</sup> 100% <sub>Rivets</sub> 100%

Internal diameter 2 1/2" Working pressure by Rules 255 lbs. Thickness of crown 1/8" No. and diameter of stays 10

How connected to shell none Size of doubling plate under dome none Diameter of rivet holes and pitch of rivets in outer row in dome connection to shell none

Type of Superheater North Eastern Smoke Tube (Schmidt) Tubes The Weldless steel tube Coy. Ltd

Number of elements 126 Material of tubes A.S. Steel Steel castings The Birmingham Steel Coy. Ltd

Material of headers forged steel Tensile strength 76,530 lbs Thickness 1 1/2" Can the superheater be shut off and the boiler be worked separately no

Area of each safety valve 3.1416 Are the safety valves fitted with easing gear yes Working pressure as per Rules 220 lbs

Pressure to which the safety valves are adjusted 225 lbs Hydraulic test pressure: 550 lbs

tubes 1500 lbs and after assembly in place 550 lbs Are drain cocks or 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

The foregoing is a correct description, W. R. P. Dutt SECRETARY, Manufacturer.

Dates of Survey: During progress of work in shops - - - See Machinery Report. Are the approved plans of boiler and superheater forwarded herewith (If not state date of approval.) yes

while building: During erection on board vessel - - - See Machinery Report. Total No. of visits 1

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

These Boilers have been built under Special Survey. Materials & Workmanship good. Hydraulic tests satisfactory. They have been efficiently installed & fixed in the vessel, examined under steam & safety valves adjusted.

Survey Fee ... £ : : When applied for. 192

Travelling Expenses (if any) £ : : When received. 192

W. R. P. Dutt  
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute FRI, 19 APR 1929

Assigned see minute on  
above Rpt 84052

