

RECEIVED
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REPORT ON BOILERS.

No. 19373.

Received at London Office 10 MAY 1951

Date of writing Report 5th May. 1951. When handed in at Local Office 9th May. 1951. Port of MIDDLESBROUGH.
No. in Reg. Book. Survey held at Stockton-on-Tees. Date, First Survey 12th Oct. 1950. Last Survey 3rd May. 1951.
on the M.T. ASTRID ONSTAD. (Number of Visits 11.)
Gross Tons
Net Tons
Master Built at By whom built Yard No. When built
Engines made at By whom made Engine No. When made
Boilers made at Stockton-on-Tees. By whom made STOCKTON C.E. & RILEY BLRS. Boiler No. 7184. When made 1951.
Nominal Horse Power. Owners. Port belonging to.

MULTITUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel Appleby Frodingham Steel Co. Ltd., (Letter for Record S)
Total Heating Surface of Boilers 2720 Is forced draught fitted Yes. Coal or Oil fired Yes.
No. and Description of Boilers 1 S.E. Multitubular Marine Working Pressure 150 lbs./sq. in.
Tested by hydraulic pressure to 275 lbs. Date of test 3.5.51. No. of Certificate 7345. Can each boiler be worked separately.
Area of Firegrate in each Boiler No. and Description of safety valves to each boiler
Area of each set of valves per boiler per Rule. Pressure to which they are adjusted. Are they fitted with easing gear.
In case of donkey boilers, state whether steam from main boilers can enter the donkey boiler
Smallest distance between boilers or uptakes and bunkers or woodwork. Is oil fuel carried in the double bottom under boilers.
Smallest distance between shell of boiler and tank top plating. Is the bottom of the boiler insulated.
Largest internal dia. of boilers 14'3" Length 11'7.11/16" Shell plates: Material steel. Tensile strength 29-33
Thickness 31/32" Are the shell plates welded or flanged No. Description of riveting: circ. seams {end DRL
inter 3.38"
long. seams TRDBS. Diameter of rivet holes in {circ. seams 1.1/16"
long. seams 1.1/16" Pitch of rivets {3.38"
7.7/16"
Percentage of strength of circ. end seams {plate 67 1/2%
rivets 45.1% Percentage of strength of circ. intermediate seam {plate
rivets 85.65%
Percentage of strength of longitudinal joint {plate 85.65%
rivets 91.5% Working pressure of shell by Rules 153 lbs. per sq. inch.
combined
Thickness of butt straps {outer 3/4"
inner 7/8" No. and Description of Furnaces in each Boiler 3 Daighen.
Material steel. Tensile strength 26-30 Smallest outside diameter 3'5 1/4"
Length of plain part {top
bottom Thickness of plates {crown 1/2"
bottom Description of longitudinal joint welded.
Dimensions of stiffening rings on furnace or c.c. bottom Working pressure of furnace by Rules 174 lbs. per sq. inch.
End plates in steam space: Material steel. Tensile strength 26-30 Thickness 1" Pitch of stays 19 x 17 1/2"
How are stays secured double nuts and washers. Working pressure by Rules 167 lbs. per sq. inch.
Tube plates: Material {front steel. Tensile strength 26-30 Thickness {7/8"
back 3/4" 185 lbs./sq. in.
Mean pitch of stay tubes in nests 11'1.1/16" Pitch across wide water spaces 13 1/2" Working pressure {front 164 lbs./sq. in.
back
Girders to combustion chamber tops: Material steel. Tensile strength 28-32 Depth and thickness of girder
at centre 7 3/4" - 2 @ 5/8" Length as per Rule 2'6 1/2" Distance apart 9" No. and pitch of stays
in each 26-10" Working pressure by Rules 157 lbs./sq. in. Combustion chamber plates: Material steel.
Tensile strength 26-30 Thickness: Sides 21/32" Back 21/32" Top 21/32" Bottom 21/32"
Pitch of stays to ditto: Sides 9 x 10" Back 9 1/2 x 9 3/4" Top 10 x 9" Are stays fitted with nuts or riveted over nuts
Working pressure by Rules 162 lbs./sq. in. Front plate at bottom: Material steel. Tensile strength 26-30
Thickness 7/8" Lower back plate: Material steel. Tensile strength 26-30 Thickness 13/16"
Pitch of stays at wide water space 13 1/2" Are stays fitted with nuts or riveted over nuts.
Working pressure 177 lbs. per sq. in. Main stays: Material steel. Tensile strength 28-32
Diameter {At body of stay 2 3/4"
or
Over threads No. of threads per inch 6 Area supported by each stay 332-5 sq. in.
Working pressure by Rules 166 lbs./sq. in. Screw stays: Material steel. Tensile strength 26-30
Diameter {At turned off part 1 3/8"
or
Over threads No. of threads per inch 9 T.P.L. Area supported by each stay 92.63 sq. ins.

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Working pressure by Rules 163 lbs./sq.in. Are the stays drilled at the outer ends No. Margin stays: Diameter { At turned off part or Over threads 1 1/2" ✓

No. of threads per inch 9 Area supported by each stay 112 sq.in. Working pressure by Rules 162 lbs./sq.in.

Tubes: Material HR Weldless S External diameter { Plain 2 1/2" ✓ Stay 2 1/2" Thickness { 9 W.G. ✓ 5/16" No. of threads per inch 9 ✓

Pitch of tubes 3 5/8 x 3 5/8 Working pressure by Rules 230 lbs./sq.in. Manhole compensation: Size of opening

shell plate 21" x 17" Section of compensating ring 7" x 1 1/2" No. of rivets and diameter of rivet holes 48 - 1.1/16" No. in reg. Bo

Outer row rivet pitch at ends 7 1/2" ✓ Depth of flange if manhole flanged Steam Dome: Material None.

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

stays Inner radius of crown Working pressure by Rules

How connected to shell Size of doubling plate under dome Diameter of rivet holes and pi

of rivets in outer row in dome connection to shell

Type of Superheater Manufacturers of { Tubes Steel forgings Steel castings

Number of elements Material of tubes Internal diameter and thickness of tubes

Material of headers Tensile strength Thickness Can the superheater be shut off

the boiler be worked separately Is a safety valve fitted to every part of the superheater which can be shut off from the boiler

Area of each safety valve Are the safety valves fitted with easing gear Working pressure as

Rules Pressure to which the safety valves are adjusted Hydraulic test press

tubes forgings and castings and after assembly in place Are drain cocks

valves fitted to free the superheater from water where necessary

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

For and The foregoing is a correct description,
STOCKTON CHEMICAL ENGINEERS & RILEY BOILERS LTD.

Dates of Survey { During progress of work in shops - - 1950. Oct. 12. Nov. 2. 20. Dec. 14. Jan. 16. 1951. Feb. 2. 21. Apr. 5. 10. 17. May. 3. Are the approved plans of boiler and superheater forwarded herewith (If not state date of approval.)

while building { During erection on board vessel - - - Total No. of visits 11.

Is this Boiler a duplicate of a previous case Yes. If so, state Vessel's name and Report No. Middlesbrough Rpt. No. 1937

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

This boiler has been built under Special Survey and in accordance with the Rule Requirements and approved plan.

The materials and workmanship are good and on completion the boiler was hydraulically tested to 275 lbs. per sq. inch and found satisfactory.

This boiler is being despatched to Sweden for Gotaverken's Contract No. 660.

Survey Fee ... £ 45 : 7 : 0 } When applied for, 9. 5. 19. 51.

Travelling Expenses (if any) £ : : } When received 19.

L. Hornum Stuart
Engineer Surveyor to Lloyd's Register of Shipping

FRI. 2 MAY 1952

Committee's Minute

Assigned See F.E. mch. rpt.



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