

REPORT ON BOILERS.

No. 10664

Received at London Office 16 JAN 1935

Date of writing Report 12/12/1934 When handed in at Local Office 12/12/1934

Port of TRIESTE

No. in Survey held at Reg. Book.

PALERMO

Date, First Survey

11th October 1934Last Survey 3rd Dec. 1934

88308 on the

M.D. "ANTEO"

(Number of Visits 4)

Gross

6771.65

Net

4036.60

Master

Built at

PALERMO

By whom built

CANTIERI NAVALI RIUNITI

Yard No. 111

When built 1934

Engines made at

TURIN

By whom made

FIAT STABILIMENTO GRANDI MOTORI

Engine No. 1715

When made 1934

Boilers made at

PALERMO

By whom made

CANTIERI NAVALI RIUNITI

Boiler No. 4645

When made 1934

Nominal Horse Power

913

Owners

SOCIETA' LIGURE DI ARMAMENTO

Port belonging to

GENOA

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

Manufacturers of Steel

Brown & Tansie - Dundee

(Letter for Record S)

Total Heating Surface of Boilers

200 m²

Is forced draught fitted

yes

Cooler Oil fired exhaust gases.

No. and Description of Boilers

one single ended cylindrical

Working Pressure 11 atm.

Tested by hydraulic pressure to

20 atm

Date of test 15.3.34(R1)

No. of Certificate 4645

Can each boiler be worked separately yes

Area of Firegrate in each Boiler

✓

No. and Description of safety valves to each boiler

Two spring loaded

Area of each set of valves per boiler

{ per Rule 12827 mm²
as fitted 15708 mm²

Pressure to which they are adjusted 11 atm.

Are they fitted with easing gear yes

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 no

Smallest distance between shell of boiler and tank top plating

✓

Is the bottom of the boiler insulated yes

Largest internal dia. of boilers

3150 mm

Length 2400 mm

Shell plates: Material

S.M. steel

Tensile strength 44-50 Kg/mm²

Thickness

30 mm

Are the shell plates welded or flanged

✓

Description of riveting: circ. seams

{ end D.R. lap
inter. ✓

long. seams

T.R - D.B.S.

Diameter of rivet holes in

{ circ. seams 23 mm.
long. seams 23 mm.

Pitch of rivets

70 mm.

160 mm.

Percentage of strength of circ. end seams

{ plate 67.14
rivets 50.28

Percentage of strength of circ. intermediate seam

{ plate ✓
rivets ✓

Percentage of strength of longitudinal joint

{ plate 85.62
rivets 72.89
combined 89.47

Working pressure of shell by Rules

10 kg/cm²

Thickness of butt straps

{ outer 20 mm.
inner 20 mm.

No. and Description of Furnaces in each Boiler

one MORISON

Material

S.M. steel

Tensile strength

41 kg/mm²

Smallest outside diameter

850 mm.

Length of plain part

{ top ✓
bottom ✓

Thickness of plates

{ crown 10 mm.
bottom 10 mm.

Description of longitudinal joint

✓

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

✓

Working pressure of furnace by Rules

11.69 Kg/cm²

End plates in steam space: Material

S.M. steel

Tensile strength 41-47 Kg/mm²

Thickness 19 mm.

Pitch of stays 370 mm.

How are stays secured NUT INSIDE, DOUBLING PLATE AND NUT OUTSIDE

Working pressure by Rules 14.23 Kg/cm²

Tube plates: Material

{ front S.M. steel
back S.M. steel

Tensile strength

41-47 Kg/mm²

Thickness

19 mm.

Mean pitch of stay tubes in nests

273 mm

Pitch across wide water spaces

190 mm

Working pressure

{ front 12.17 Kg/cm²
back 12.17 Kg/cm²

Girders to combustion chamber tops: Material

none

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 Rules

✓

Combustion chamber plates: Material

none

Tensile strength

✓

Thickness: Sides

✓

Back

✓

Top

-

Bottom

-

Pitch of stays to ditto: Sides

✓

Back

✓

Top

✓

Are stays fitted with nuts or riveted over

✓

Working pressure by Rules

✓

Front plate at bottom: Material

S.M. steel

Tensile strength 41-47 Kg/mm²

Thickness

19 mm

Lower back plate: Material

S.M. steel

Tensile strength 41-47 Kg/mm²

Thickness 19 mm

Pitch of stays at wide water space

190 mm

Are stays fitted with nuts or riveted over

STAY TUBES

Working Pressure

11.19 Kg/cm²

Main stays: Material

S.M. steel

Tensile strength 44-50 Kg/mm²

Diameter

{ At body of stay, 55 mm.
Over threads 64 mm.

No. of threads per inch

6

Area supported by each stay 139860 mm²

Working pressure by Rules

14.7 Kg/cm²

Screw stays: Material

✓

Tensile strength

✓

Diameter

{ At turned off part, ✓
Over threads ✓

No. of threads per inch

✓

Area supported by each stay

✓

003487-003494-0069

Lloyd's Register
Foundation

Working pressure by Rules ✓ Are the stays drilled at the outer ends ✓ Margin stays: Diameter { At turned off part, ✓
or
Over threads ✓
No. of threads per inch ✓ Area supported by each stay ✓ Working pressure by Rules ✓
Tubes: Material S.M. steel External diameter { Plain 70 mm. Thickness { 3 mm. No. of threads per inch 9
Stay 70 mm. 7 mm.
Pitch of tubes 273 x 273 mm. Working pressure by Rules 11.14 Kg/cm² Manhole compensation: Size of opening in
shell plate 500 x 400 mm. Section of compensating ring 800 x 700 x 20 mm. No. of rivets and diameter of rivet holes 32 by 23 mm.
Outer row rivet pitch at ends 130 mm. Depth of flange if manhole flanged 80 mm. Steam Dome: Material S.M. steel
Tensile strength 44-50 Kg/mm² Thickness of shell 12 mm. Description of longitudinal joint T.R. lap
Diameter of rivet holes 20 mm. Pitch of rivets 80 mm. Percentage of strength of joint { Plate 75
Rivets 47.25 80
Internal diameter 935 mm. Working pressure by Rules 11.94 Kg/cm² 18.5 Thickness of crown 15 mm. No. and diameter of
stays ✓ Inner radius of crown 915 mm. Working pressure by Rules 13.6 Kg/cm²
How connected to shell D.R. ✓ Size of doubling plate under dome φ 700 x 20 mm. Diameter of rivet holes and pitch
of rivets in outer row in dome connection to shell 23 x 70 mm.

Type of Superheater Manufacturers of { Tubes
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 and
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 per
Rules Pressure to which the safety valves are adjusted Hydraulic test pressure:
tubes, castings and after assembly in place Are drain cocks or valves fitted
to free the superheater from water where necessary

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

The foregoing is a correct description,
S. M. Palermo Manufacturer.

Dates of Survey { During progress of work in shops - -
white { During erection on board vessel - - - 1934 Oct 11, 14 - Nov. 26 - Dec. 3
building
Are the approved plans of boiler and superheater forwarded herewith no
(If not state date of approval.) E-11, 10, 34
Total No. of visits 4

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

This boiler has been examined internally and externally together with its mountings, safety valves, doors and fastenings and found in good condition. The workmanship is good and the boiler is satisfactorily fitted in place. The safety valves have been adjusted to blow off at 14 atm. The scantling of this boiler has been checked with the approved plan and found in accordance.

This boiler has been constructed and tested hydraulically at Palermo by the Cantieri Navali Riuniti under the special Survey of the R.I.N.A. & B.C. (please see letter E-12, 10, 34). - This boiler is marked:
"No 4645 - P.P. 20 Kg - P.S. 11 Kg - C.B. - 15, 3, 34" (Certificates of test for the material used, herewith attached)

Please see also pound donkey boiler Report.

A copy of the approved plan forwarded by the Genoa Surveyors on the 4. 10. 34, has been retained in London. For notation please see Machinery Report.

Survey Fee ... £ } Please see Machinery Rpt 46
Travelling Expenses (if any) £ } When applied for, 192
When received, 192

Memiram & T. Aurel
Engineer Surveyors to Lloyd's Register of Shipping.

Committee's Minute TUE. 29 JAN 1935
Assigned See for J.L. 13728