

REPORT ON BOILERS.

No. 12647

Received at London Office 13 OCT 1932

Date of writing Report SEPT. 23rd 1932. When handed in at Local Office 7.10.1932. Port of GENOA.

No. in Survey held at GENOA. Date, First Survey JULY 7th 1930. Last Survey SEPTEMBER 8th 1932.

376 on the STEEL SCREW STEAMER "REX". (Number of Visits 47) Tons { Gross 51062
Net 30622.68

Master ✓ Built at SESTRI PONENTE, GENOA. By whom built S.A. ANSALDO. Yard No. 296. When built 1932.

Engines made at SANPIERDARENA, GENOA. By whom made S.A. ANSALDO, STABILIMENTO MECCANICO. Engine No. 825-678. When made 1932.

Boilers made at SANPIERDARENA, GENOA. By whom made S.A. ANSALDO, STABILIMENTO MECCANICO. Boiler No. 3259.60. When made 1932.

Nominal Horse Power 22070. Owners S.A. ITALIA (FLOTTE RIUNITE COSULCHI, LLOYD SABAUDO, NAVIGAZIONE GENERALE). Port belonging to GENOA.

MULTITUBULAR BOILERS—~~WATER TUBE~~ OR DONKEY.

Manufacturers of Steel ACCIAIERIE ANSALDO, GENOA. WILIAM BEARDMORE & CO. GLASGOW. (Letter for Record S.)

Total Heating Surface of Boilers 530. Sq. METRES. Is forced draught fitted YES. Coal or Oil fired OIL.

No. and Description of Boilers TWO CYLINDRICAL MULTITUBULAR. Working Pressure 16. Kg. CM².

Tested by hydraulic pressure to 27.5 Kg. CM². Date of test 6-2-1931. No. of Certificate 205, 206. 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 11420. Sq. mm
as fitted 14176. Sq. mm. Pressure to which they are adjusted 16. Kg. CM². Are they fitted with easing gear YES.

In case of donkey boilers, state whether steam from main boilers can enter the donkey boiler NO.

Smallest distance between boilers or uptakes and bunkers 650. mm. Is oil fuel carried in the double bottom under boilers YES.

Smallest distance between shell of boiler and tank top plating 700. mm. Is the bottom of the boiler insulated YES.

Largest internal dia. of boilers 4900. mm. Length 3620. mm. Shell plates: Material STEEL. Tensile strength 49-55. Kgs.

Thickness 38. mm. Are the shell plates welded or flanged ✓. Description of riveting: circ. seams { end DOUBLE
inter. 120.26. mm

Long. seams TREBLE. Diameter of rivet holes in { circ. seams 42. mm
long. seams 40.5. mm. Pitch of rivets { 265. mm

Percentage of strength of circ. end seams { plate 65
rivets 53.25. Percentage of strength of circ. intermediate seam { plate ✓
rivets ✓

Percentage of strength of longitudinal joint { plate 84.70
rivets 88
combined 87. Working pressure of shell by Rules 16.1. Kg. CM².

Thickness of butt straps { outer 34. mm
inner 34. mm. No. and Description of Furnaces in each Boiler THREE CORRUGATED MORRISON SECTION.

Material STEEL. Tensile strength 41-47. Kgs. Smallest outside diameter 1239. mm.

Length of plain part { top ✓
bottom ✓. Thickness of plates { crown 19.57. mm
bottom 19.57. mm. Description of longitudinal joint WELDED.

Dimensions of stiffening rings on ✓ c.c. bottom 80 x 80 x 15. mm. Working pressure of furnace by Rules 16.29. Kg. CM².

End plates in steam space: Material STEEL. Tensile strength 41-47. Kgs. Thickness 25. mm. Pitch of stays 390 x 380. mm.

How are stays secured NUTS AND WASHERS. Working pressure by Rules 19.52 Kg. CM².

Tube plates: Material { front STEEL
back STEEL. Tensile strength { 41-47. Kgs
Thickness { 20. mm

Mean pitch of stay tubes in nests 216. mm. Pitch across wide water spaces 376. mm. Working pressure { front 34.4 Kg. CM²
back 21.65 Kg. CM².

Girders to combustion chamber tops: Material STEEL. Tensile strength 44-50. Kgs. Depth and thickness of girder

at centre 200. mm x 23. mm. Length as per Rule 762. mm. Distance apart 190. mm. No. and pitch of stays

in each THREE 190. mm. Working pressure by Rules 18.5 Kg. CM². Combustion chamber plates: Material STEEL.

Tensile strength 41-47. Kgs. Thickness: Sides 18. mm. Back 18. mm. Top 18. mm. Bottom 25.5. mm.

Pitch of stays to ditto: Sides 190 x 190. mm. Back 190 x 190. mm. Top 190 x 190. mm. Are stays fitted with nuts or riveted over NUTS.

Working pressure by Rules 22. Kg. CM². Front plate at bottom: Material STEEL. Tensile strength 41-47. Kgs.

Thickness 25. mm. Lower back plate: Material STEEL. Tensile strength 41-47. Kgs. Thickness 25. mm.

Pitch of stays at wide water space 381. mm x 190. mm. Are stays fitted with nuts or riveted over NUTS.

Working Pressure 20. Kg. CM². Main stays: Material STEEL. Tensile strength 44-50. Kgs.

Diameter { At body of stay, 64. mm
or 70. mm. No. of threads per inch 6. Area supported by each stay 148,200. Sq. mm

Working pressure by Rules 16.7. Kg. CM². Screw stays: Material STEEL. Tensile strength 41-47. Kgs.

Diameter { At turned off part, 36. mm
or 40. mm. No. of threads per inch 9. Area supported by each stay 36,100. Sq. mm



Working pressure by Rules 17.7 Kg/cm^2 . Are the stays drilled at the outer ends No. Margin stays: Diameter $\begin{cases} \text{At turned off part, } 48 \text{ mm} \\ \text{Over threads } 52 \text{ mm} \end{cases}$
No. of threads per inch 9. Area supported by each stay 54245 Sq mm . Working pressure by Rules 21.84 Kg/cm^2
Tubes: Material STEEL. External diameter $\begin{cases} \text{Plain } 76 \text{ mm} \\ \text{Stay } 76 \text{ mm} \end{cases}$. Thickness $\begin{cases} 4 \text{ mm} \\ 7 \text{ mm} \end{cases}$. No. of threads per inch 9.
Pitch of tubes 108 mm . Working pressure by Rules 17.5 Kg/cm^2 . Manhole compensation: Size of opening in
shell plate $450 \text{ mm} \times 550 \text{ mm}$. Section of compensating ring $900 \text{ mm} \times 34 \text{ mm}$. No. of rivets and diameter of rivet holes 36. 40.5 mm DIA
Outer row rivet pitch at ends 260 mm . Depth of flange if manhole flanged 110 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 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 SMOKE TUBE. Manufacturers of Tubes FABRICA ITALIANA TUBI, SESTRI LEVANTE,
ANSALDO S.A. GENOVA.
Number of elements 88. Material of tubes S.O. STEEL. Internal diameter and thickness of tubes 16 mm DIA. 3 mm THICK.
Material of headers CAST STEEL. Tensile strength $44-50 \text{ Kgs}$. Thickness 35 mm AND 19 mm . 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 2642 Sq mm . Are the safety valves fitted with easing gear YES. Working pressure as per
Rules 113 Kg/cm^2 . Pressure to which the safety valves are adjusted 16 Kgs/cm^2 . Hydraulic test pressure:
tubes 50 Kg/cm^2 . castings 48 Kg/cm^2 and after assembly in place 32 Kg/cm^2 . 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.

"ANSALDO", Società Anonima
STABILIMENTI MECCANICI
SAMPIERDARENA

The foregoing is a correct description,

Chief Engineer

Manufacturer.

Dates of Survey 1930. JULY 7. AUG. 8. 23. SEPT. 2. 10. 22. 30. OCT. 7. 11. 17. 27. NOV. 6. 11. 18. 21. 25. 28. DEC. 5. 9. 12. 15. 19. 29.
During progress of work in shops - JAN. 8. 20. 31. FEB. 6. 25. MAR. 3. APR. 4. Are the approved plans of boiler and superheater forwarded herewith YES.
while building - MAY 2. 5. 15. 21. (If not state date of approval.)
During erection on board vessel - 1931. SEPT. 15. 16. 21. OCT. 5. 18. NOV. 3. 23. Total No. of visits FORTY SEVEN. (47)
DEC. 6. 19. 1932. JAN. 13. MAY. 16. JULY 11. SEPT. 8.

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

THESE BOILERS HAVE BEEN CONSTRUCTED UNDER SPECIAL SURVEY OF TESTED MATERIALS AND ARE IN ACCORDANCE WITH THE SECRETARY'S LETTERS, APPROVED PLANS AND RULE REQUIREMENTS.

THE MATERIALS AND WORKMANSHIP ARE OF A GOOD QUALITY AND THE BOILERS WHEN EXAMINED UNDER A HYDROSTATIC TEST OF 27.5 KILOGRAMMES PER SQUARE CENTIMETRE WERE FOUND ENTIRELY SATISFACTORY.

THEY HAVE NOW BEEN SATISFACTORILY FITTED ON BOARD, THEIR SAFETY VALVES ADJUSTED TO 16 Kg/cm^2 AND AN ACCUMULATION TEST HELD ON EACH WITH SATISFACTORY RESULTS. THEIR SUPERHEATER SAFETY VALVES HAVE ALSO BEEN ADJUSTED TO 16 Kg/cm^2 .

AN OIL FUEL INSTALLATION, FITTED TO RULE REQUIREMENTS, HAS BEEN SATISFACTORILY PLACED ON BOARD IN CONJUNCTION WITH THESE BOILERS.

For Fees see
Survey Fee
Travelling Expenses (if any)

Lit 2915.00
Lit.

When applied for, 27.9.32
When received, 12/12/1932

DUAL SURVEY
L.R. & R.I.

Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute

TUE. 25 OCT 1932

Assigned

See other Rpt
for 12647

TUE. 3 JAN 1933

FRI. 3 MAR 1933

FRI. 26 MAY 1933