

REPORT ON BOILERS.

No. 16755
10 SEP 1927

Received at London Office

Writing Report 10 Aug 1927 When handed in at Local Office

1927 Port of Rotterdam

Survey held at Rotterdam

Date, First Survey 22 December 1926 Last Survey 5 Aug 1927

(Number of Visits 19) Gross 3800 Tons Net 2163

on the S.S. "Cottica"

Built at Rotterdam By whom built Messrs P. Smit Yard No. 410 When built 1927

Engines made at Rotterdam By whom made Messrs P. Smit Engine No. 423 When made 1927

Boilers made at Rotterdam By whom made Messrs P. Smit Boiler No. 518/519 When made 1927

Indicated Horse Power 305 Owners Kon. Ned. Stoom. Ma. Port belonging to Amsterdam

MULTITUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel Messrs Mannesmannröhrenwerke Abt. Schulz Knaut Letter for Record (2) ✓

Total Heating Surface of Boilers 550 m^2 Is forced draught fitted Yes ✓ Coal or Oil fired Oil ✓

Description of Boilers 2 Single ended Multitubular Working Pressure 14.44 kg/cm^2

Tested by hydraulic pressure to 300 kg/cm^2 Date of test 2/4/27 No. of Certificate 063 Can each boiler be worked separately Yes ✓

Area of Firegrate in each Boiler 153 m^2 No. and Description of safety valves to each boiler 2 Spring loaded ✓

Area of each set of valves per boiler 8640 cm^2 Pressure to which they are adjusted 205 kg/cm^2 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 over 2 feet Is oil fuel carried in the double bottom under boilers Yes ✓

Smallest distance between shell of boiler and tank top plating 1 foot Is the bottom of the boiler insulated Yes ✓

Largest internal dia. of boilers 4572 mm Length 3767 mm Shell plates: Material S.M. steel Tensile strength 40 kg/cm^2

Thickness 35 mm Are the shell plates welded or flanged ✓ Description of riveting: circ. seams {end lap 2 x esp. ✓

Seams Double butt 3x riv. Diameter of rivet holes in {circ. seams 38 mm ✓ Pitch of rivets {inter. 114 mm ✓

Percentage of strength of circ. end seams {plate 66.6% ✓ rivets 42.63% ✓ Percentage of strength of circ. intermediate seam {plate ✓ rivets ✓

Percentage of strength of longitudinal joint {plate 84.93% ✓ rivets 85.4% ✓ combined 87% ✓ Working pressure of shell by Rules 15.97 kg/cm^2

Thickness of butt straps {outer 24 mm ✓ inner 30 mm ✓ No. and Description of Furnaces in each Boiler 3 Deighton ✓

Material S.M. steel Tensile strength 43 kg/cm^2 Smallest outside diameter 1143 mm

Length of plain part {top ✓ bottom ✓ Thickness of plates {crown 16 mm ✓ bottom 15 mm ✓ Description of longitudinal joint Welded ✓

Dimensions of stiffening rings on furnace or c.c. bottom ✓ Working pressure of furnace by Rules 14.362 kg/cm^2

End plates in steam space: Material S.M. steel Tensile strength 43.5 kg/cm^2 Thickness 32 mm Pitch of stays 440 x 460 mm

How are stays secured Thread in plate, nuts inside washers and nuts outside Working pressure by Rules 15.5 kg/cm^2

End plates: Material {front S.M. steel Tensile strength 45 kg/cm^2 Thickness 22 mm ✓

Working pressure of stay tubes in nests 210 x 210 mm Pitch across wide water spaces 356 mm Working pressure {front 14.67 kg/cm^2 ✓

End plates to combustion chamber tops: Material S.M. steel Tensile strength 40 kg/cm^2 Depth and thickness of girder

centre 250 x 2 x 10 mm Length as per Rule 840 mm Distance apart 215 mm No. and pitch of stays

each 3 x 195 mm Working pressure by Rules 16 kg/cm^2 Combustion chamber plates: Material S.M. steel ✓

Tensile strength 44 kg/cm^2 Thickness: Sides 17 mm ✓ Back 17 mm ✓ Top 17 mm ✓ Bottom 25.5 mm ✓

Pitch of stays to ditto: Sides 195 x 195 mm Back 212 x 220 mm Top 195 x 215 mm Are stays fitted with nuts or riveted over fitted with nuts ✓

Working pressure by Rules 15.1 kg/cm^2 Front plate at bottom: Material S.M. steel Tensile strength 43 kg/cm^2

Thickness 22 mm Lower back plate: Material S.M. steel Tensile strength 43 kg/cm^2 Thickness 22 mm ✓

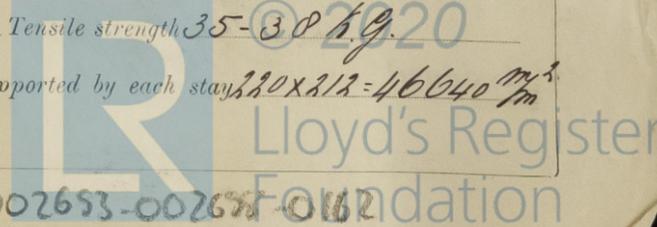
Pitch of stays at wide water space 396 mm Are stays fitted with nuts or riveted over fitted with nuts ✓

Working Pressure 19 kg/cm^2 Main stays: Material S.M. steel Tensile strength 47 kg/cm^2

Diameter {At body of stay, or Over threads 40-42 mm ✓ No. of threads per inch 9 ✓ Area supported by each stay 440 x 510 = 224400 mm^2

Working pressure by Rules 15.5 kg/cm^2 Screw stays: Material iron ✓ Tensile strength 35-38 kg/cm^2

Diameter {At turned off part, or Over threads 41.3 mm ✓ No. of threads per inch 9 ✓ Area supported by each stay 220 x 212 = 46640 mm^2



Working pressure by Rules 14.0 kg Are the stays drilled at the outer ends No ✓ Margin stays: Diameter At turned off part ✓
 No. of threads per inch 9 Area supported by each stay 67760 mm² Over threads 50.0 mm ✓
 Tubes: Material iron ✓ External diameter { Plain 46 mm ✓ Stay 46 mm ✓ Thickness { 4.06 mm ✓ 4.01 mm ✓ Working pressure by Rules 20 kg ✓ No. of threads per inch 9 ✓
 Pitch of tubes 105 mm ✓ Working pressure by Rules 17.5 kg ✓ Manhole compensation: Size of open
 shell plate 420 x 520 mm Section of compensating ring 770 x 070 mm No. of rivets and diameter of rivet holes 34 a 38 ✓
 Outer row rivet pitch at ends 254 mm ✓ Depth of flange if manhole flanged 05 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 { Plate --- Rivets ---
 Internal diameter --- Working pressure by Rules --- Thickness of crown --- No. and diam
 stays --- Inner radius of crown --- Working pressure by Rules ---
 How connected to shell --- Size of doubling plate under dome --- Diameter of rivet holes and
 of rivets in outer row in dome connection to shell ---

Type of Superheater Schmidt Manufacturers of Tubes Schmidt'sche Heissdampf G.M.B.H.
 Number of elements 05 Material of tubes seamless steel Steel castings S
 Material of headers Cast steel Tensile strength 43.5 kg Thickness 35-25 mm Internal diameter and thickness of tubes 16-21 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 diam 55 mm = 2376 mm² Are the safety valves fitted with easing gear Yes Working pressure a
 Rules --- Pressure to which the safety valves are adjusted 14.44 kg Hydraulic test pres
 tubes 40 kg castings 40 kg and after assembly in place 40 kg Are drain cocks or valves
 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 ✓

The foregoing is a correct description,
 MACHINEFABRIEK & SCHEEPSWERF
 J. P. van der Vliet Jr. Manufact
 Are the approved plans of boiler and superheater forwarded herewith No
 (If not state date of approval.) 6/10/26
 Total No. of visits 19

Dates of Survey { During progress of work in shops - - Dec 22 Jan 20 Feb 20
 while building { During erection on board vessel - - March 10-17-18-19-22-25-28-30
April 5-7-11-15-19-21 June 22 Aug 5

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.) These boilers have been made under Special Survey in accordance with the approved plans. Society's rules and Secretary's letter material tested as required and workmanship good.

Survey Fee ... On machinery When applied for, 192
 Travelling Expenses (if any) £ report When received, 192

M. P. van der Vliet Jr.
 Engineer Surveyor to Lloyd's Register of Shipping

Committee's Minute TUES. 20 SEP 1927
 Assigned See Rpt attached

