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REPORT ON BOILERS.

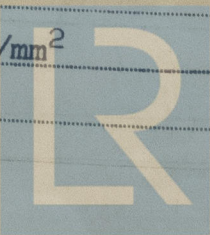
No. 4154 B

Received at London Office 17 MAR 1955

Insulated
of writing Report 22.2.1955 When handed in at Local Office 19...
Port of Helsingfors
in Survey held at Helsingfors Date, First Survey 5.10.53 Last Survey 12.1.1955
Book. on the Diesel Electric Icebreaker "KAPITAN BELOUSOV" (Number of Visits 8) Gross 3710
Helsingfors Tons Net 1050
at Helsingfors By whom built Wärtsilä-koncernen A/B Sandvikens Skeppsdocka Yard No. 353 When built 1954
By whom made Engine No. When made
rs made at Helsingfors By whom made Wärtsilä-koncernen A/B Maskin och Bro Boiler No. 2500 When made 1954
s per Rule Owners Sudoimport, USSR. 2501
Port belonging to Murmansk

TUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel Rheinische Röhrenwerke A.G., Mülheim and Eschweiler Bergwerksverein, Eschweiler
Heating Surface of Boilers 2 boilers, each 45 m² Of Superheaters -
for Register Book Is forced draught fitted No Coal or Oil fired Oil fired
and Description of Boilers 2 Scotch type marine boilers Working Pressure 10 kg/cm²
d by hydraulic pressure to 18.5 kg/cm² Date of test 2.1.54 8.1.54 No. of Certificate 353/2500 353/2501 Can each boiler be worked separately Yes
of Firegrate in each Boiler No. and Description of safety valves to each boiler One 50 mm double spring loaded
of each set of valves per boiler per Rule 39.2 cm² Pressure to which they are adjusted 10 kg/cm² Are they fitted with easing gear Yes
se of donkey boilers, state whether steam from main boilers can enter the donkey boiler No Main Boiler
test distance between boilers or uptakes and settling tank 300 mm Is oil fuel carried in the double bottom under boilers No
test distance between shell of boiler and tank top plating Boilers situated on deck Is the bottom of the boiler insulated Yes
st internal dia. of boilers 2416 mm Length 2440 mm Shell plates: Material S.M. Boilerplate Tensile strength 41-42 kg/mm²
ion welded, state name of welding Firm Wärtsilä-koncernen A/B Maskin och Bro Have all the requirements of the Rules for Class 1 vessels
omplied with Yes Thickness 17 mm Are the shell plates welded or flanged WELDED Description of riveting: circ. seams {
seams Diameter of rivet holes in { circ. seams {
ntage of strength of circ. end seams { plate { rivets { Percentage of strength of circ. intermediate seam { plate { rivets {
ntage of strength of longitudinal joint { plate { rivets { combined {
ad eness of butt straps { outer { inner {
ance ial S.M. Boilerplate
itih of plain part { top { bottom {
ions of stiffening rings on furnace or c.c. bottom
lates in steam space: Material S.M. Boilerplate Tensile strength 41-47 kg/mm² Thickness 22 mm Pitch of stays 412 mm
re stays secured Provided with washers and welded.
plates: Material { front S.M. Boilerplate Tensile strength 41-47 kg/mm² Thickness { 22 mm
{ back S.M. Boilerplate 41-47 kg/mm² 22 mm
pitch of stay tubes in nests 206/216 mm Pitch across wide water spaces 330 mm
rs to combustion chamber tops: Material S.M. Boilerplate Tensile strength 41-47 kg/mm² Depth and thickness of girder
tre 200/25 mm Length as per Rule 563 mm Distance apart 200 mm 175 cm plan No. and pitch of stays
h Welded to c.c. top Combustion chamber plates: Material S.M. Boilerplate
strength 41-47 kg/mm² Thickness: Sides 15 mm Back 15 mm Top 15 mm Bottom 15 mm
f stays to ditto: Sides 166/178 mm Back 170/177 mm Top Are stays fitted with nuts or riveted over Welded
plate at bottom: Material Tensile strength
ess Lower back plate: Material Tensile strength Thickness
Shift stays at wide water space Are stays fitted with nuts or riveted over
tays: Material S.M. Steel Tensile strength 44-50 kg/mm²
At body of stay 65 mm No. of threads per inch Welded
Over threads
stays: Material S.M. Steel Tensile strength 41-47 kg/mm²
XXXXXX or XXXXXX 30 mm No. of threads per inch Welded



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Are the stays drilled at the outer ends Yes Margin stays: Diameter ^{At turned off part,} ~~XXXXXX~~ or 30 mm

No. of threads per inch.....

Tubes: Material S.M. Steel External diameter ^{Plain} 76 mm ^{Stay} 76 mm Thickness 3.25 mm 6.5 mm No. of threads per inch Welded

Pitch of tubes 103/108 mm Manhole compensation: Size of opening Welded

shell plate 300/400 mm Section of compensating ring 20/150 mm No. of rivets and diameter of rivet holes.....

Outer row rivet pitch at ends..... Depth of flange if manhole flanged..... 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..... Thickness of crown..... No. and diam stays..... Inner radius of crown.....

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..... 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 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.....

Pressure to which the safety valves are adjusted..... Hydraulic test tubes..... forgings and castings..... and after assembly in place..... Are drain 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 Yes

The foregoing is a correct description,
Wärtsilä-koncernen A/B Maskin och Bått

Dates of Survey while building ^{During progress of work in shops - -} 5.10.53 - 2.1.54 ^{During erection on board vessel - - -} 2.2.54 - 12.1.55 Are the approved plans of boiler and superheater forwarded herewith yes (If not state date of approval.)

Total No. of visits 8

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

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.) These two Boilers have been surveyed during their building. The welded seams have been X-rayed. Material and workmanship have been found good. The Boilers have been heat-treated in electrical furnace and hydraulically tested 18,5 kg/sq.cm. Their safety valves have been adjusted under steam.

I am of the opinion that these 2 Boilers are eligible to be entered as classed in the Book.

I herewith attach the Certificates No. 353/2500/Boiler and No. 353/2501/Boiler, both issued at Helsingfors, 26.8.54.

Fee included in the Survey Fee ... ~~amount stated on the Report No.~~ When applied for.....19.....

Travelling Expenses (if any) £ 41.54 When received.....19.....

PLEASE SEE MY LETTER L.181/55 of 12.3.55.

P. Widen
Engineer Surveyor to Lloyd's Register of S

Committee's Minute FRIDAY 29 APR 1955

Assigned See Rpt. 46



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