

REPORT ON BOILERS.

No. 119224

24 OCT 1947

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Received at London Office

10 NOV 1949

held at LONDON

Port of LONDON

Date, First Survey 20-5-47

Last Survey 19-8-49

Triple screw icebreaker "L. KAGONOVITCH"

(Number of Visits 127)

Gross Tons 562
Net Tons 1734

Built at NICOLAIEFF

By whom built ANDRE MARTI S.B. YB
(U.S.S.R. Plant No. 198)

Yard No.

When built

By whom made - do -

Engine No.

When made

By whom made - do -

Boiler No.

When made

Power M.N. 2474

Owners

U.S.S.R.

Port belonging to VLADIVOSTOCK.

TUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY.

Material of Steel KRUMATORSK

Surface of Boilers $9 \times 357 \text{ metres}^2 + 100 \text{ metres}^2 (64)$

(Letter for Record)

Description of Boilers 9 - cylindrical multitubular

YES

Coal or Oil fired COAL

hydraulic pressure to 250

Date of test

No. of Certificate

Working Pressure 15.5 Kg/cm²

Firegrate in each Boiler 6.045 m²

No. and Description of safety valves to each boiler 2-83 m/m dia. High lift type

Can each boiler be worked separately YES

Each set of valves per boiler { per Rule as fitted 16.8 in.²

Pressure to which they are adjusted 15.5 Kg/cm² (220 lb/sq. in.)

Are they fitted with easing gear YES

Donkey boilers, state whether steam from main boilers can enter the donkey boiler

distance between boilers or uptakes and bunkers or woodwork Well clear

Is oil fuel carried in the double bottom under boilers NO

distance between shell of boiler and tank top plating 450 m/m

Is the bottom of the boiler insulated YES

internal dia. of boilers 4724 m/m Length 3473 m/m

Shell plates: Material M.S.

Tensile strength 47.25/53.5 Kg/m/m²

Are the shell plates welded or flanged Flanged

Description of riveting: circ. seams end Double riveted

ams Heble, double butt strap Diameter of rivet holes in { circ. seams 38.5 m/m

long. seams 38.5 m/m

Pitch of rivets { 108 m/m

131.5 m/m

Percentage of strength of circ. end seams { plate 62.6

rivets 137

Percentage of strength of circ. intermediate seam { plate

rivets

Percentage of strength of longitudinal joint { plate 85.3

rivets 87.5

combined 103.3

Working pressure of shell by Rules 16.3 Kg/cm² 16.2

Thickness of butt straps { outer 29 m/m

inner 32 m/m

No. and Description of Furnaces in each Boiler Three - Deighton, corrugated.

Smallest outside diameter 1186 m/m

Thickness of plates { crown 19 m/m

bottom 19 m/m

Description of longitudinal joint autogenous weld

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

Working pressure of furnace by Rules 16.6 Kg/cm²

plates in steam space: Material Steel

Tensile strength

Thickness 33 m/m

Pitch of stays 385 x 496 m/m

are stays secured nuts and washers outside; nuts inside

Working pressure by Rules 21 Kg/cm²

be plates: Material { front

back

Tensile strength

Thickness { 25 m/m

22 m/m

lean pitch of stay tubes in nests 280 m/m

Pitch across wide water spaces 358 m/m

Working pressure { front 17.8 Kg/cm²

back 15.7 Kg/cm²

orders to combustion chamber tops: Material Forged steel

Tensile strength

Depth and thickness of girder

centre 245 x 20 m/m (double)

Length as per Rule

Distance apart 204 m/m

in each 3 - 203 m/m

Working pressure by Rules 18.7 Kg/cm²

Combustion chamber plates: Material Steel

Steel

Tensile strength

Thickness: Sides 22 m/m

Back 18 m/m

Top 22 m/m

Bottom 22 m/m

Pitch of stays to ditto: Sides 216 x 219 m/m

Back 225 x 190 m/m

Are stays fitted with nuts or riveted over nuts.

Working pressure by Rules 18.4 Kg/cm²

Front plate at bottom: Material Steel

Tensile strength

Thickness 25 m/m

Lower back plate: Material Steel

Tensile strength

Thickness 23 m/m

Pitch of stays at wide water space 465 m/m

Are stays fitted with nuts or riveted over nuts.

Working Pressure 15.8 Kg/cm²

Main stays: Material Steel

Tensile strength

Diameter { At body of stay, 75 m/m

Over threads 84 m/m

No. of threads per inch

Area supported by each stay 385 x 496 m/m

Working pressure by Rules 19.75 x 5/28

Screw stays: Material Steel

Tensile strength

Diameter { At turned off part, 46 m/m

Over threads 46 m/m

No. of threads per inch

Area supported by each stay 216 x 219 m/m

Checked against Calculation Sheet.

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Working pressure by Rules
No. of threads per inch *hmi*
Tubes: Material
Pitch of tubes *112 x 112 m/m*
shell plate *16 ms x 12 ms*
Outer row rivet pitch at ends
Tensile strength
Diameter of rivet holes
Internal diameter
stays
How connected to shell
of rivets in outer row in dome connection to shell
Are the stays drilled at the outer ends *ho*
Area supported by each stay
External diameter { Plain *83 m/m*
Stay *83 m/m*
Working pressure by Rules
Section of compensating ring *736 x 33 m/m*
Depth of flange if manhole flanged
Thickness of shell
Pitch of rivets
Working pressure by Rules
Inner radius of crown
Size of doubling plate under dome
Margin stays: Diameter { At turned off part, or Over threads
Working pressure by Rules
Thickness { *4 m/m*
86.95 m/m
No. of threads per inch
Manhole compensation: *25 m/m*
Steam Dome: Material
Description of longitudinal joint
Percentage of strength of joint { Plate
Rivets
Thickness of crown
Working pressure by Rules
No. of rivets and diameter of rivet holes
Diameter of rivet holes
Type of Superheater *Schmidt*
Number of elements *306 per boiler*
Material of headers *Forged steel*
the boiler be worked separately *yes*
Area of each safety valve *75 m dia.*
Rules
Tubes
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
Material of tubes
Tensile strength
Is a safety valve fitted to every part of the superheater which can be shut off from the boiler
Pressure to which the safety valves are adjusted
forgings and castings
and after assembly in place
Manufacturers of { Tubes
Steel forgings
Steel castings
Internal diameter and thickness of tubes
Thickness
Can the superheater be
Working pressure by Rules
Hydraulic test
Are draft machines and
ion of Generator
e ventilation in u
age from water, s
ADJACENT T
they in accessible
am and oil
aterial is it an App
r Rule
r each generator and
25 KW GEN HA
nd the switch and fu
Are compartments cont
ammeters *3*
protection devices con
BY VOLTMET
Switches, Circuit Brea
make of fuses
overload do they opera
Joint Boxes, Section B
Cables, are they insulat
state maximum fall of
area of 0.01 square inc
cables sealed at the en
high temperatures or ri
adequately protected
or of the "HR" type
Are all lead sheaths, ar
bulkheads provided with
effectively bushed
Alternative Lighting, ar

GENERAL REMARKS

Numbering of boilers:- ho. 1 - 19012. ho. 2 - 19007. ho. 3 - 19010. ho. 4 - 19004. ho. 5 - 19008
ho. 6 - 19005. ho. 7 - 19006. ho. 8 - 19011. ho. 9 - 19008
Longitudinal seam:- *outer pitch 2 x inner*
The boilers of this vessel as now seen are in good order, the workmanship is good and they are eligible in our opinion to be included in the L.M.C.

Survey Fee ... £
Travelling Expenses (if any) £
When applied for, 19
When received, 19

Committee's Minute
Assigned
See fe. rpt.
Robinson for self and G.C. CHAMPNESS
Engineer Surveyor to Lloyd's Register of Shipping.