

REPORT ON WATER TUBE BOILERS.

No. 100885

Received at London Office

Date of writing Report

19

When handed in at Local Office

28/11/1942

Port of Newcastle-upon-Tyne

1- DEC 1942

No. in
Reg. Bk.

Survey held at Newcastle-upon-Tyne

Date, First Survey

19 Feb/1942

Last Survey 19 Nov 1942

on the M.V. "EMPIRE CAVALIER"

(Number of Visits 20)

Tons
Gross
Net

Built at Sunderland

By whom built Sir Jas Langer & Sons Ltd. When built 1942.

Engines made at Newcastle

By whom made R.W. Hawthorn Leslie & Co Ltd. When made 1942.

Boilers made at Newcastle

By whom made R.W. Hawthorn Leslie & Co Ltd. When made 1942.

Nominal Horse Power

Owners Ministry of War Transport

Port belonging to Sunderland

WATER TUBE BOILERS MAIN, AUXILIARY, OR DONKEY.—Manufacturers of Steel Bolwilles Ltd

Date of Approval of plan

9/10/41.

Number and Description or Type

of Boilers One - Three Drum Type

Working Pressure 180 lb/sq in Tested by Hydraulic Pressure to 320 lb/sq in Date of Test 5/6/42

No. of Certificate 978.

Can each boiler be worked separately

Total Heating Surface of Boilers 3,300 sq ft.

Is forced draught fitted yes.

Area of fire grate (coal) in each Boiler

No. and type of burners (oil) in each boiler Three Blyde Type

No. and description of safety valves on

each boiler Two 3 1/2" Spring loaded H.L. Type Area of each set of valve 22.08 sq in

Pressure to which they are adjusted 185 lbs.

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

Height of boiler 11'-1"

Width and Length 14'-0" x 11'-8"

Steam Drums:—Number in each boiler One

Inside diameter 44"

Thickness of plates Tube plates 1 1/2", Wrapper 5/8"

Range of Tensile Strength 28/32 tons/sq in

Are drum shell plates welded or flanged no.

Description of riveting:—

Cir. seams D.R.

long. seams D.R. D.B.S.

Diameter of rivet holes in long. seams 29/32"

Pitch of rivets 3.55"

Lap of plate or width of butt straps 9 1/8", 9 1/8"

Thickness of straps 1/2"

Percentage strength of long. joint:—Plate 74.5 Rivet 88.8

Diameter of tube holes in drum 1 1/2", 1 1/2" (+ 10/1000")

Pitch of tube holes 2 1/4", 1 1/2"

Percentage strength of shell in way of tubes 33.3

Working pressure by rules 310 lb/sq in

Steam Drum Heads or Ends:—Range of tensile strength 26/30 tons/sq in

Thickness of plates 1"

Radius or how stayed 44"

Size of manhole or handhole 16" x 12"

Working pressure by rules 239 lb/sq in

in each boiler Two

Inside Diameter 27"

Thickness of plates 1 1/2", 9/16"

Range of tensile strength 28/32 tons/sq in

welded or flanged no.

Description of riveting:—Cir. seams S.R. lap.

long. seam D.R. D.B.S.

Diameter of rivet holes in

long. seams 27/32"

Pitch of rivets 3 5/16"

Lap of plates or width of butt straps 9 1/4", 8 5/8"

Thickness of straps 1/2"

Percentage strength of long. joint:—Plate 74.5 Rivet 92.6

Diameter of tube holes in drum 1 1/2", 1 1/2" (+ 10/1000")

Pitch of tube holes 2 1/4", 1 1/2"

Percentage strength of drum shell in way of tubes 33.3

Working pressure by rules 450 lb/sq in

Water Drum Heads or Ends:—Range of

Tensile strength 26/30 tons/sq in

Thickness of plates 7/8", 13/16"

Radius or how stayed 27"

Size of manhole or handhole 16" x 12"

Working pressure by rules 332.

Headers or Sections:—Number

Material

Thickness

Tested by Hydraulic Pressure to

Tubes:—Diameter 1 1/2", 1 1/8"

Thickness 1/28", 1/16"

Number 178, 1498.

Steam Dome or Collector:—Description of Joint to Shell

Inside diameter

Thickness of shell plates

Range of tensile strength

Description of longitudinal joint

Diameter of rivet holes

Pitch of rivets

Lap of plate or width of

butt straps

Thickness of straps

Percentage strength of long. joint

Plate

Rivet

Working Pressure of shell by rules

Crown or End Plates:—Range of tensile strength

Thickness

Radius or how stayed

Working pressure by rules

SUPERHEATER. Drums or Headers:—Number in each boiler

Inside Diameter

Thickness

Material

Range of tensile strength

Are drum shell plates welded

or flanged

Description of riveting:—Cir. seams

long. seams

Diameter of rivet holes in

long. seams

Pitch of rivets

Lap of plates or width of butt straps

Thickness of straps

Percentage strength of long. joint:—Plate

Rivet

Diameter of tube holes in drum

Pitch of tube holes

Percentage strength of drum shell in way of tubes

Working pressure by rules

Drum Heads or Ends:—

Thickness

Range of tensile strength

Radius or how stayed

Size of manhole or handhole

Working pressure by rules

Number, diameter, and thickness of tubes

Tested by Hydraulic Pressure to

Date of Test

Is a safety valve fitted to each section of the superheater which can be shut off from the boiler

No. and description of Safety Valves

Area of each set of valves

Pressure to which they are adjusted

Is easing gear fitted

Spare Gear. Has the spare gear required by the rules been supplied yes.

The foregoing is a correct description,

R. & W. HAWTHORN LESLIE & CO. LIMITED

For 13/12/42

Manufacturer.

Dates of Survey During progress of 1942

work in shops - - - 18. 21. 27. June 2. 5. 15. July 23. 27.

During erection on board vessel - - - Aug. 18. Nov. 19.

Is the approved plan of boiler forwarded herewith yes

Total No. of visits 20.

Is this boiler a duplicate of a previous case yes. If so, state vessel's name and report No. M.V. "Empire Woodsworth" Rux. Rpt 100775

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

This boiler has been built under special survey in accordance with approved plans, the workmanship & materials are good & the boiler was found tight & sound under hydraulic pressure. Boiler installed & found satisfactory under working conditions

Survey Fee 27 : 10 : 0 When applied for (See Mch. Rpt. 4b.)

Travelling Expenses (if any) £ : : When received, 19

Committee's Minute

Assigned

TUE 8 DEC 1942

See Mch. Rpt. 33544

Lloyd's Register

Foundation

002490-002491-0087