

REPORT ON BOILERS.

No. 67470.

Received at London Office

19 AUG 1943

6 OCT 1943

Date of writing Report 14.8.43 When handed in at Local Office 14.8.43 Port of Glasgow

No. in Survey held at Dumbarton Date, First Survey 28.7.42 Last Survey 28.7.43

Reg. Book. on the Steamer "EMPIRE HARLEQUIN" (Number of Visits 30) Gross 232.28 Tons Net —

Built at Aberdeen By whom built Alexander Hall & Co. Ltd. Yard No. 693 When built 1943

Engines made at Aberdeen By whom made H. Hall & Co. Ltd. Engine No. 399 When made 1943

Boilers made at Dumbarton By whom made W. Denny & Bros. Ltd. Boiler No. 4099 When made 1943

Nominal Horse Power Owners The Admiralty Port belonging to

MULTITUBULAR BOILERS MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel Steel Co of Scotland (Letter for Record S)

Total Heating Surface of Boilers 2940 sq ft Is forced draught fitted No Coal or Oil fired Oil

No. and Description of Boilers 1 Multitubular Working Pressure 200

Tested by hydraulic pressure to 350 Date of test 28.7.43 No. of Certificate 21477 Can each boiler be worked separately

Area of Firegrate in each Boiler 1 No. and Description of safety valves to each boiler 2-2 1/2" S.S. 1 H.L.

Area of each set of valves per boiler {per Rule 8.54 as fitted 9.82 Pressure to which they are adjusted Are they fitted with easing gear

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 Is oil fuel carried in the double bottom under boilers

Smallest distance between shell of boiler and tank top plating Is the bottom of the boiler insulated

Largest internal dia. of boilers 16' 0" Length 11' 7 1/2" Shell plates: Material S Tensile strength 29.33

Thickness 1 1/2" Are the shell plates welded or flanged No Description of riveting: circ. seams {end DR. inter. Ni

long. seams TRDBS Diameter of rivet holes in {circ. seams 17/16 17/16 Pitch of rivets {4" 3.375" 9 1/16"

Percentage of strength of circ. end seams {plate 64, 61.1 rivets 45.8, 45.4 Percentage of strength of circ. intermediate seam {plate Ni rivets Ni

Percentage of strength of longitudinal joint {plate 85.16 rivets 88.3 combined 88

Thickness of butt straps {outer 1 1/16" inner 1 3/16" No. and Description of Furnaces in each Boiler 3. Dugblon

Material S Tensile strength 26.30 Smallest outside diameter 3' 11 7/16"

Length of plain part {top Thickness of plates {crown 2 1/32" bottom Description of longitudinal joint welded

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

End plates in steam space: Material S Tensile strength 26.30 Thickness 1 1/32" Pitch of stays 19 1/2"

How are stays secured D.N.

Tube plates: Material {front S Tensile strength {26.30 Thickness {29/32" back S 26.30 29/32"

Mean pitch of stay tubes in nests 11.1" Pitch across wide water spaces 14 1/4"

Girders to combustion chamber tops: Material S Tensile strength 28.32 Depth and thickness of girder

at centre 8 7/8" x 1 3/4" Length as per Rule 2' 10 1/2" Distance apart 8 3/4" No. and pitch of stays

in each 3 - 8 1/4" Combustion chamber plates: Material S

Tensile strength 26.30 Thickness: Sides 2 1/32" Back 2 1/32" Top 2 1/32" Bottom 2 1/32"

Pitch of stays to ditto: Sides 8 1/4" x 9" Back 8 1/16" x 8 1/2" Top 8 1/4" x 8 3/4" Are stays fitted with nuts or riveted over Nuts

Front plate at bottom: Material S Tensile strength 26.30

Thickness 29/32" Lower back plate: Material S Tensile strength 26.30 Thickness 1 3/16"

Pitch of stays at wide water space 13 1/2" x 8 1/2" Are stays fitted with nuts or riveted over Nuts

Main stays: Material S Tensile strength 28.32

Diameter {At body of stay, 3 1/4" 3" No. of threads per inch 9

Screw stays: Material S Tensile strength 26.30

Diameter {At turned off part, 1 1/8" No. of threads per inch 9

Are the stays drilled at the outer ends No Margin stays: Diameter { At turned off part, 1 7/8" or Over threads

No. of threads per inch 9

Tubes: Material S External diameter { Plain 3 1/4" Stay 3 1/4" Thickness { 8.6.4 5/16 3/8" No. of threads per inch 9

Pitch of tubes 4 1/2" x 4 3/8" Manhole compensation: Size of opening

shell plate 16" x 12" Section of compensating ring 3'1" x 2'9" x 1 1/2" No. of rivets and diameter of rivet holes 34 1 1/2"

Outer row rivet pitch at ends 10 1/16" Depth of flange if manhole flanged / Steam Dome: Material Ni

Tensile strength Thickness of shell Description of longitudinal joint

Diameter of rivet holes opd Pitch of rivets Percentage of strength of joint { Plate Rivets

Internal diameter Thickness of crown No. and diameter of stays

How connected to shell Inner radius of crown

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 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 off and 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 pressure

tubes forgings and castings and after assembly in place Are drain cocks 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

The foregoing is a correct description,
For **WILLIAM DENNY & BROTHERS, LTD.** Manufacture
Engineering Dept.

Dates of Survey { During progress of work in shops - - - 1942 July 28 Sep 1.8.29 Oct 2.14.21.27 Nov 5.17.30
while building { During erection on board vessel - - - Dec 3.8 1943 Jan 5.11.26 Feb 9.16 Mar 23 Apr 6.2 May 7.11.20 Jun 1.9.22.29 Jul 12.28

Are the approved plans of boiler and superheater for manufacture herewith (If not state date of approval) 2.7.42

Total No. of visits 30

Is this Boiler a duplicate of a previous case No If so, state Vessel's name and Report No. See Report No 67469

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.) This boiler has been built under special survey in accordance with the approved plans and the Society's Rules and requirements, the materials and workmanship are good.

Survey Fee ... £ 19 : 12 : - When applied for, 4 : 10 : 19 43.
Sub. of Spec. ~ 25% 4 : 18 : - When received, 19
Travelling Expenses (if any) £

Jas. Cairns.
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute GLASGOW 17 AUG 1943

Assigned Deferred for completion

FRI. 12 NOV 1943
See minute and Mr J.E. Rpt 21207
© 2020 Lloyd's Register Foundation