

18811 Iron

Port

Glasgow July 5th 1877
Ranger 766 tons

Details of Main Boilers of the Steam Ship

Diameter 12 ft. Length 9' 3"

Thickness of shell plates 1 1/16"

Description of riveting of longitudinal joints Double riveted of circumferential joints Double

Pitch of rivets ditto 4 3/8" ditto 4 1/4"

Diameter of rivets ditto 1 1/8" ditto 1 1/8"

Lap of plating ditto 1 1/2" ditto 5"

Size of manholes in circular shell 12" x 16"

How compensated for By angle iron ring

Number of furnaces in boiler Three

Diameter of furnaces 3' 2" Length of furnaces 5' 10"

Thickness of furnace plates 9/16"

Description of joint of furnaces Double butt straps fitted

Whether strengthened with rings Greatest length between rings

Thickness of combustion chamber plating 7/16"

Diameter of screw stays to ditto 1" pitch of stays 4 x 4"

End plates, thickness 9/16"

Diameter of longitudinal stays to end plates 2" pitch of ditto 18" x 14"

How stays are secured They are fitted diagonally & attached to double angles 3 1/2 x 4 1/8

Diameter of tubes 3" pitch of tubes 4"

Thickness of tube plates 9/16"

Stayed by Tubes pitch of stays 12" x 12"

Description of steam receiver Superheater Round Vertical with Single Line

Diameter of ditto 6 ft. Line 3' 6" height of ditto 5 ft. 6"

Thickness of plating of ditto 9/16" ends 9/16"

Ends, how stayed Attached to angles round shell & floor

Port Glasgow No. 34485 Report (if any) on Hull of Vessel.

Formulae for Shell $\frac{51620 \times 1.75 \times 73\%}{142'' \times 6.3} = 41 \text{ lbs}$

Formula for flat plates $\frac{49 \times 100}{49} = 100 \text{ lbs}$

Formula for Stays $\frac{89600 \times .25}{5.83' \times 38''} = 101$

Longitudinal Stays 2" dia 13" x 14" pitch $= 3500 \frac{\text{lbs}}{\text{sq ft}} \times 65 \text{ lbs}$

Wm



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