

STEEL BOILERS, 3 OFF,

WORKING PRESSURE 180 lbs. TEST PRESSURE 360 lbs.

All Material (except Screwed Stays & Tubes which are of Iron) to be of Siemens-Martin Steel
All Holes in Shell to be Drilled in place after Bending All seams in Front & Back to be double riveted $\frac{1}{8}$ " holes $3\frac{1}{2}$ " pitch 4" lap Combustion Chambers ETC. Single Riveted $\frac{1}{8}$ " holes 2" pitch 2" lap
Tensile Strength of Shell Bolt Straps & Girder Stays 28 to 32 tons all other plates 26 to 30 tons per sq. inch.

| Heating Surface | |
|------------------|------------------|
| Tubes | 2001.55 sq. feet |
| Furnaces | 166.08 " |
| Com. Chambers | 216.64 " |
| Tube Plates | 78.20 " |
| Total one boiler | 2462.47 " |
| Three boilers | 7387.41 " |

Steel Shell Plates $\frac{1}{8}$ " thick
Rivet Holes $\frac{1}{8}$ " Diameter

29/1/15 Inside Bolt Straps $\frac{1}{8}$ " thick
Outside " $\frac{1}{8}$ "

| | |
|-------------------------|--------|
| Strength of Solid plate | 100% |
| Plate between Holes | 86.09% |
| Rivets | 86.22% |

Man Hole 16x12
Doubling Plate $7\frac{1}{2}$ " x $1\frac{1}{2}$ "
Double Riveted $\frac{1}{8}$ " holes 4" pitch

Washers to be made out of Furnace front plates

Double Riveted $\frac{1}{8}$ " holes $3\frac{1}{2}$ " pitch 4" lap

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Iron Screwed Stays $\frac{1}{2}$ " dia. With Nuts at each end
8 threads Effective Area 231

Double Riveted $\frac{1}{8}$ " holes $3\frac{1}{2}$ " pitch 4" lap

2 Steel Stay 8 threads
Effective Area 266

2 Steel Stays
Effective Area 266

Man Hole 15x12 plate flanged in
Round Edge and faced to take Door

15'-6" outside Diameter

Man Hole 16x16
Doubling Plate $7\frac{1}{2}$ " x $1\frac{1}{2}$ "
Double Riveted $\frac{1}{8}$ " holes 4" pitch

Main Stays of Steel $3\frac{1}{2}$ " Diameter 8 threads Effective Area 724

18x Plain Tube $3\frac{1}{2}$ " Outside Diameter 8 threads
98 Stay Tubes $3\frac{1}{2}$ " Outside Diameter 8 threads
Into Both Plates $3\frac{1}{2}$ " at Front End $3\frac{1}{2}$ " at back end
Screwed 9 threads per inch No Nuts. Marked
Total No. of Tubes in each Boiler 282

7'-9" Between Tube Plates

Furnaces Brighton Section 1/3 thick
Furnace Bars - 6 long

Single Riveted

ENGINE NO 2127
SS NO 452

JOHN READING & SONS
Engineers
SOUTH SHIELDS

John Readhead & Sons
Eng No 2127 Main Boilers
180 lbs.

S.S. Warkworth.



RETAIN

J. S. WARKWORTH
NEWCASTLE ON TYNE.

Report No. 69640.

JOHN READHEAD & SONS
Iron & Steel Ship Builders,
Engineers & Boiler Makers,
SOUTH SHIELDS

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