

Boilers No 2571-2-3.14.0 int dia. 11-6 long. 180 lb. Hot Press. $1\frac{5}{32}$ plate. $1\frac{3}{16}$ rivets $8\frac{1}{8}$ pitch

$$\frac{8\frac{1}{8} - 1\frac{3}{16}}{8\frac{1}{8}} = 85.37\% \quad \frac{1.107 \times 5 \times 1.875 \times 23}{8\frac{1}{8} \times 1.15625 \times 28} = 90.6\%$$

$$\text{Tensile } \frac{28 \times 85.37(37-2)}{168 \times 2.75} = 181.0 \text{ lb}$$

Brighton Furnace $1\frac{1}{32}$

$$\frac{480(17-1)}{39\frac{1}{2} + 1\frac{1}{16}} = 189.0 \text{ lb}$$

Tops - $1\frac{1}{8}$

$$\frac{96 \times (36-1)^2}{16^2 + 19\frac{3}{4}^2} = 182.5 \text{ lb}$$

Firebox Top $5\frac{1}{8}$

$$\frac{75 \times (20-1)^2}{9\frac{1}{4}^2 + 8^2} = 181.0 \text{ lb}$$

Firebox bottom $13\frac{1}{16}$

$$\frac{50}{45\frac{1}{8}} (10 \times \{26-1\} - 31) = 242.5 \text{ lb}$$

Firebox sides $13\frac{1}{16}$

$$\frac{50 \times (26-1)^2}{9\frac{1}{4}^2 + 8^2} = 209.0 \text{ lb}$$

Back tube plate $3\frac{1}{4}$

$$\frac{52(24-1)^2}{\{(12+7\frac{1}{2}) \div 2\}^2} = 289.0 \text{ lb}$$

Front tube plate $13\frac{1}{16}$

$$\frac{72 \times (26-1)^2}{13\frac{1}{2}^2 + 7\frac{1}{2}^2} = 187.5 \text{ lb}$$

Screw stay $15\frac{1}{8}$

$$\frac{1.625 - 267)^2 \times 8250}{9\frac{1}{4} \times 8} = 205.5 \text{ lb}$$

Main stay $2\frac{7}{8}$

$$\frac{2.875 - 34)^2 \times 9500}{16 \times 19\frac{3}{4}} = 193.0 \text{ lb}$$

Screw stay $13\frac{1}{4}$

$$\frac{1.75 - 267)^2 \times 8250}{10\frac{1}{4} \times 9} = 196.5 \text{ lb}$$

Circ end seam $3\frac{1}{2}$ pitch

$$\frac{3\frac{1}{2} - 13\frac{1}{16}}{3\frac{1}{2}} = 66.05\%$$

Bath straps $\frac{7}{8}$ outer inner

$$\frac{.625 \times 85.37 \times 1.156}{4\frac{1}{16} - 13\frac{1}{16} \div 4\frac{1}{16}} = .871 - \frac{7}{8} \text{ outer.}$$

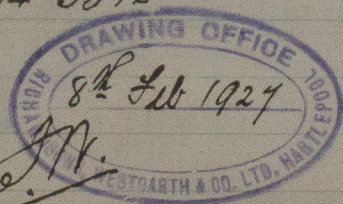
$$\frac{1.107 \times 2}{3\frac{1}{2} \times 1.156} = 54.75 \times \frac{23}{28} = 45.0\%$$

Shell back $7\frac{1}{8}$

$$\frac{86(28-1)^2}{13\frac{1}{2}^2 + 9^2} = 238.0 \text{ lb}$$

Girders $13\frac{1}{16}$

$$\frac{371.25 \times 9\frac{1}{4}^2 \times 56}{33\frac{1}{2} - 8) 9\frac{1}{4} \times 33\frac{1}{2}} = 225.0 \text{ lb}$$



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