

Donkey Boiler No 342 by D. Rowan & Co
 W P 100 lb per sq

Shell

$$\frac{19.5 \times 10 \times 74}{129.75} = 111 \text{ lb}$$

Rivets $\frac{3 \times .89 \times 80}{4.093 \times .75} = 73.6 \text{ lb}$

Stays

Plate $\frac{4.093 - 1.0625}{4.093} = 74.04 \text{ lb}$

Main $\frac{2.66 \times 10000}{16 \times 16} = 102.4$

Flat Plates

CC Sides $\frac{.98 \times 8000}{7.5 \times 7.5} = 139$

Top Ends $\frac{175 \times 12^2}{16 \times 16} = 100 \text{ lb}$

" Back $\frac{.98 \times 8000}{8.375 \times 8} = 117$

CC Sides $\frac{120 \times 7.5^2}{7.5^2} = 120$

" Top $\frac{.98 \times 8000}{8 \times 8} = 122$

" Back $\frac{120 \times 8^2}{8.375^2 + 8^2} = 115$

Wide Space $\frac{1.48 \times 8000}{11 \times 8.375} = 128$

" Top $\frac{120 \times 7.5^2}{8 \times 8} = 105$

Stay tubes $\frac{1.5 \times 7500}{(7.625 \times 11.25) - (2.25 \times 7.07)} = 158$

Wide space Back $\frac{135 \times (9 + 4.5)^2}{14^2 + 8.75^2} = 180$

Furnace

Thickness required by Rules = .585"

do front $\frac{140 \times (16.5)^2}{(14)^2} = 194$

Thickness as marked on plan = .599"

Rest of Tubes $\frac{140 \times 10^2}{(8.5)^2} = 193$

Coilers $\frac{9900 \times 5.5^2 \times 1.25}{(24 - 8) \times 8 \times 24} = 121$

Erst Murdoch
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