

Steel Centre main boiler for Furness, Witter & Coys. 248.  
Furness, Witter & Coys. Boiler No. 166 C.

Working press = 180 lbs.

Plate	$\frac{9.5 - 1.375}{9.5} \times 100 = 85.5\%$	
Rivets	$\frac{5 \times 1.48 \times 1.75 \times 85}{9.5 \times 1.312}$	= 88.3 %
Shell.	$\frac{21 \times 85.5 \times (21.2)}{168}$	= 203.0 lbs.
Furnace.	$\frac{1259 \times (9-2)}{44.5}$	= 198.0 lbs
Ends Top	$\frac{185 \times 14^2}{15^2}$	= 234.6 lbs
" " Stays.	$\frac{10000 \times 5.06}{15^2}$	= 224.4 lbs.
Tube plate.	$\frac{150 \times (13.5 + \frac{10}{2})^2}{13.5^2}$	= 281.6 lbs.
13. " "	$\frac{140 \times 13.5^2}{4.5^2}$	= 453.6 lbs.
Stay tubes.	$\frac{4500 \times 1.85}{135 \times 9.5^2}$	= 203.0 lbs.
b.b. backs.	$\frac{8000 \times 1.48}{7.75^2}$	= 194.3 lbs
" " " Stays	$\frac{135 \times 9.5^2}{7.875^2}$	= 196.5 lbs
" " Top.	$\frac{9000 \times 2.09}{7.875^2}$	= 303.3 lbs.
" " " Stays.	$\frac{9900 \times 8.5^2 \times 1.5}{29 - 7.87 \times 7.87 \times 29}$	= 223.8 lbs.
Girders.	$\frac{135 \times 13^2}{13^2 + 7.75^2}$	= 199.2 lbs.
Boiler back	$\frac{9000 \times 2.42}{10.37 \times 7.75}$	= 241.2 lbs.
thru b.b.		
" " Stays		

J.H.  
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