

TIONS.

strength of any
ch plate:

ch for single
bs. for double

iameter $\frac{1}{4}$ of

and 142.8
boiler.

MANUAL OF ENGINEERS' CALCULATIONS.

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BRITISH BOARD OF TRADE RULE.

To find the pressure that may be carried on a circular boiler of 12 feet diameter, $\frac{1}{4}$ of an inch thickness of plate and 51520 lbs. tensile strength:

$$\begin{array}{r}
 51520 \\
 \underline{7} \\
 8)360640 \\
 \underline{45080} \\
 2 \\
 144)90160(626 \\
 \underline{864} \\
 376 \\
 \underline{288} \\
 880 \\
 \underline{864} \\
 16
 \end{array}
 \qquad
 \begin{array}{r}
 626 \\
 \underline{.70} \\
 100)43820 \\
 \underline{4382} \\
 6)438.2 \\
 73 \text{ lbs. working pressure per} \\
 \text{square inch.}
 \end{array}$$

Taking tensile strength at 60000 lbs. per square inch, and a $\frac{1}{4}$ of an inch plate, 42 inches diameter boiler; find pressure that may be carried according to the above method.

$$\begin{array}{r}
 4)60000 \\
 \underline{15000} \\
 2 \\
 42)30000(714 \\
 \underline{294} \\
 ..60 \\
 \underline{42} \\
 180 \\
 \underline{168} \\
 12
 \end{array}
 \qquad
 \begin{array}{r}
 714 \\
 \underline{.70} \\
 6)499.50 \\
 83.3 \text{ lbs. working pres-} \\
 \text{sure per square} \\
 \text{inch.}
 \end{array}$$