For the steel rod, $T_a \leq 180 \text{ MPa}$...

For $T_a \leq 70 \text{ MPa}$, $P = ?$

**Top View**

```
\begin{align*}
T_a &= \frac{P}{\pi (0.04)(0.008)} = 70 \times 10^6, \quad \therefore P = \boxed{N} \\
T_a &= \frac{P}{\pi (0.015)(0.01)} = 180 \times 10^6, \quad \therefore P = \boxed{N} \\
\end{align*}
```

Choose the smaller of the 2 P to be the answer.