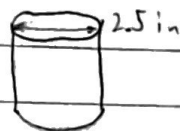


1.49



$$F = 19000 \text{ lb} \rightarrow 80067.89 \text{ N}$$

$$A = \pi r^2 = \pi (31.75)^2 = 3166.92 \text{ mm}^2$$

$$2.5 \text{ in} \rightarrow 63.5 \text{ mm}$$

$$F = P \cdot A$$

$$80067.89 \text{ N} = P \cdot 3166.92 \text{ mm}^2$$

$$P = 80067.89 \text{ N} / 3166.92 \text{ mm}^2 = 25282.57 \text{ Pascals} = \underline{25.283 \text{ kPa}}$$

1.58

$$E = \frac{-\Delta P}{\Delta V/V}$$

$$E = 3.7 \cdot 10^{-11} \text{ N/m}^2$$