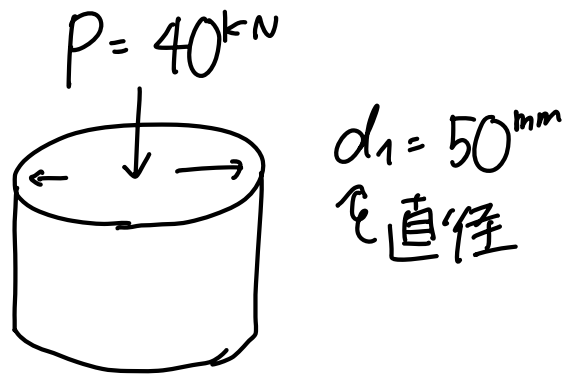


第2回 鋼構造 例題と解答

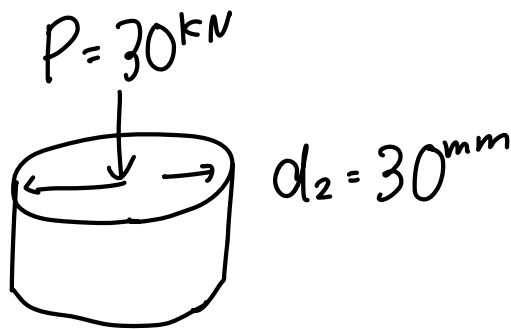
問2: 主応力を求めなさい

①



$$\sigma = \frac{P}{A} = \frac{40 \text{ kN} \cdot 1000^{\sim}}{25^{\sim} \cdot 25^{\sim} \pi} = \underline{20.4 \text{ MPa}}$$

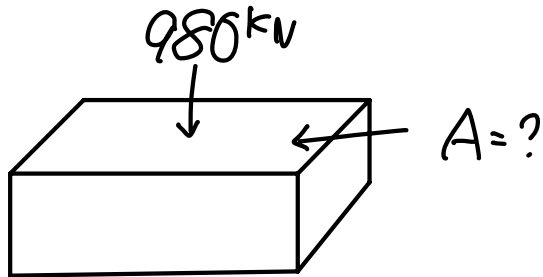
②



$$\sigma = \frac{P}{A} = \frac{30 \text{ kN} \cdot 1000^{\sim}}{15^{\sim} \cdot 15^{\sim} \pi} = \underline{42.4 \text{ MPa}}$$

問3: 断面積を求めなさい

①

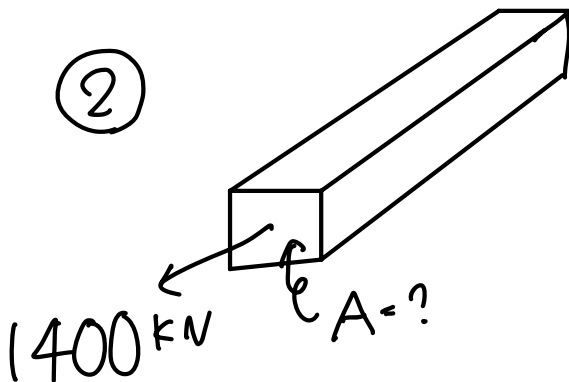


$$\sigma = 98 \text{ MPa} \\ = 98 \text{ N/mm}^2$$

$$\sigma = \frac{P}{A} \text{ より } A = \frac{P}{\sigma} = \frac{980 \text{ kN} \cdot 1000 \text{ N}}{98 \text{ N/mm}^2}$$

$$= 10000 \text{ mm}^2 \\ = \underline{1.0 \times 10^4 \text{ mm}^2}$$

②



$$\sigma = 140 \text{ MPa} = 140 \text{ N/mm}^2$$

$$\sigma = \frac{P}{A} \text{ より}$$

$$A = \frac{P}{\sigma} = \frac{1400 \text{ kN} \cdot 1000 \text{ N}}{140 \text{ N/mm}^2}$$

$$= 10000 \text{ mm}^2 \\ = \underline{1.0 \times 10^4 \text{ mm}^2}$$