

$$r_2 = 128.97 \div 2 = 64.485$$

$$r_1 = 49$$

$$I = \frac{\pi (64.485^4 - 49^4)}{4}$$

$$I = 9053115.384 \text{ mm}^4$$

$$M = 32,280 \text{ kN.m}$$

$$y = r_2$$

$$\sigma_{\text{Bend}} = \frac{32,280,000 \times 64.485}{9053115.384}$$

$$\frac{\text{kN.m} \times \text{mm}}{\text{mm}^4}$$

$$\sigma_{\text{Bend}} = 229.9 \text{ MPa.}$$

$$= \text{kN/mm}^2$$