

Principal stresses :

$$\sigma_1 = \frac{E}{1-\nu^2} (\epsilon_1 + \nu \epsilon_2)$$
$$= \frac{207 \times 10^9}{1-0.28^2} (567 + 0.28 (-407)) \times 10^{-6}$$

$$\underline{\sigma_1 = 102 \text{ MPa}}$$

$$\sigma_2 = \frac{E}{1-\nu^2} (\epsilon_2 + \nu \epsilon_1)$$

$$= \frac{207 \times 10^9}{1-0.28^2} (-407 + 0.28 \times 567) \times 10^{-6}$$

$$\underline{\sigma_2 = -56 \text{ MPa}}$$

