Remarks: See §4.4, pages 168 till 170

Answer:

Stress diagram b

Explanation:

Because there is only bending, the normal stress is zero at the location of the normal centre. The NC must therefore lie on the neutral axis.

The distance from the NC to the bottom of the cross-section:

$$\frac{(60\times 20\times 10\ \text{mm}^3)+(60\times 20\times 50\ \text{mm}^3)}{2\times(60\times 20\ \text{mm}^2)}=30\ \text{mm}$$

This means that the neutral axis must be located 30mm above the bottom of the cross-section. Only stress diagram b can be correct in this case.