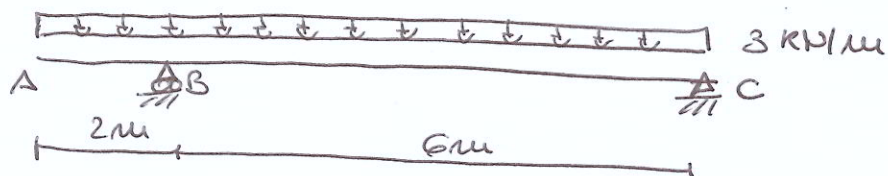
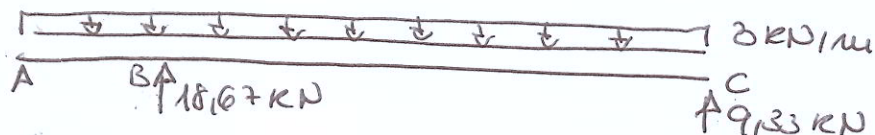


VERIFICA DEL TRAVEGGIO DI UN SOLAIO IN C.A.

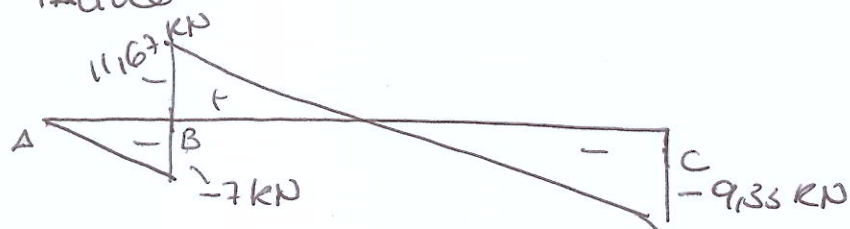


REAZIONI VINCOLARI

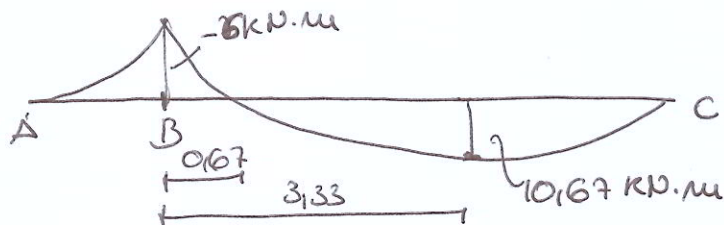


DIAGRAMMI DELLE SOLLECITAZIONI

TAGLIO



MOMENTO FLETTENTE



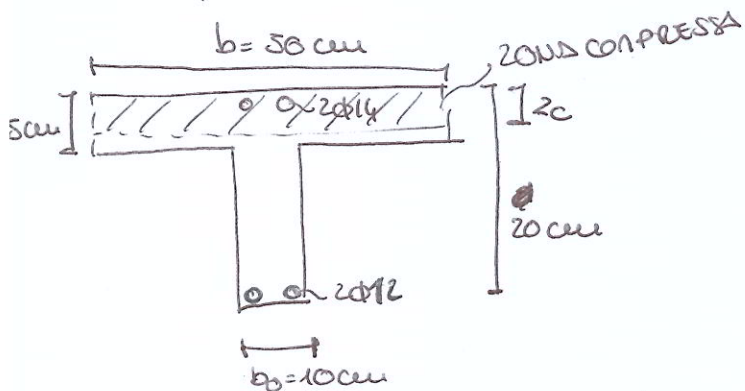
VERIFICA DELLA SEZIONE DI MOMENTO MASSIMO POSITIVO

$M = 10.67 \text{ kN}\cdot\text{m}$

$n = 15$

$\sigma_{CO} = 9 \text{ MPa}$

$\sigma_{SO} = 250 \text{ MPa}$



$A_s = 2.26 \text{ cm}^2$

$A^* = A_s + A_s' = 5.134 \text{ cm}^2$

$A_s' = 3.078 \text{ cm}^2$

$d^* = \frac{d \cdot A_s + d' \cdot A_s'}{A_s + A_s'} = \frac{20 \cdot 2.26 + 2 \cdot 3.078}{5.134} = 9.62 \text{ cm}$

$d = 20 \text{ cm}$

$d' = 2 \text{ cm} \quad z_c = \frac{n \cdot A_s^*}{b} \left[ \sqrt{1 + \frac{2bd^*}{nA_s^*}} - 1 \right] = \frac{15 \cdot 5.134}{50} \left[ \sqrt{1 + \frac{2 \cdot 50 \cdot 9.62}{15 \cdot 5.134}} - 1 \right] = 4.17 \text{ cm}$

$$J^* = \frac{b \cdot z_c^3}{3} + \mu A_s (\bar{y} - d)^2 + \mu A'_s (\bar{y} - d')^2 =$$

$$= \frac{50 \cdot 4,17^3}{3} + 15 \cdot 2,26 (4,17 - 2)^2 + 15 \cdot 3,078 (4,17 - 2)^2 = 9928,257 \text{ cm}^4$$

$$\sigma_c = \left( \frac{10,67 \cdot 100}{9928,257} \cdot 4,177 \right) \cdot 10 = 4,48 \text{ MPa} < \sigma_{co} \text{ SEZIONE VERIFICATA}$$

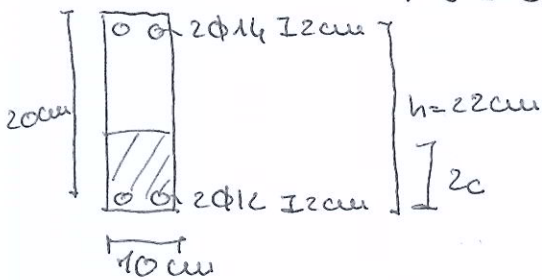
VERIFICA DELLA SEZIONE ALL'APPoggio B

$$M = -6 \text{ KP} \cdot \text{m}$$

$$A_s = 2\phi 14 = 3,078 \text{ cm}^2$$

$$A'_s = 2\phi 12 = 2,26 \text{ cm}^2$$

$$A_s^* = 5,34 \text{ cm}^2$$



$$d^* = \frac{20 \cdot 3,078 + 2 \cdot 2,26}{5,34} = 12,37$$

$$= (h - d^*_{\text{SEZIONE IN CAPOTA B-C}})$$

$$z_c = \frac{15 \cdot 5,34}{10} \left[ \sqrt{1 + \frac{2 \cdot 10 \cdot 12,37}{15 \cdot 5,34}} - 1 \right] = 9,73 \text{ cm}$$

$$J^* = \frac{10 \cdot 9,73^3}{3} + 15 \cdot 3,078 (20 - 9,73)^2 + 15 \cdot 2,26 (9,73 - 2)^2 = 9972,166 \text{ cm}^4$$

$$\sigma_c = \frac{M}{J^*} \cdot z_c = \left( \frac{6 \cdot 100}{9972,166} \cdot 9,73 \right) \cdot 10 = 6,83 \text{ MPa} < \sigma_{co} \text{ SEZIONE VERIFICATA}$$