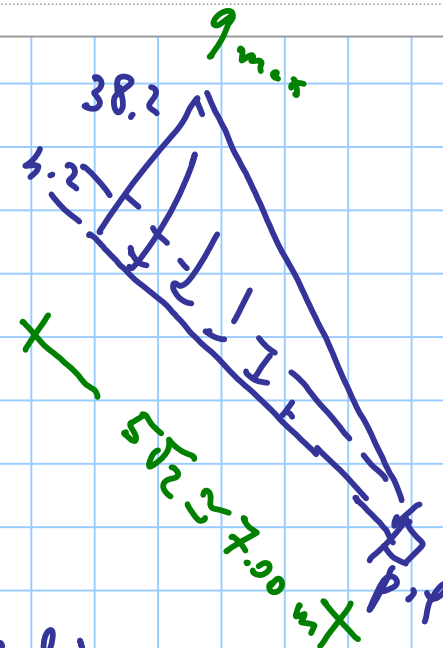
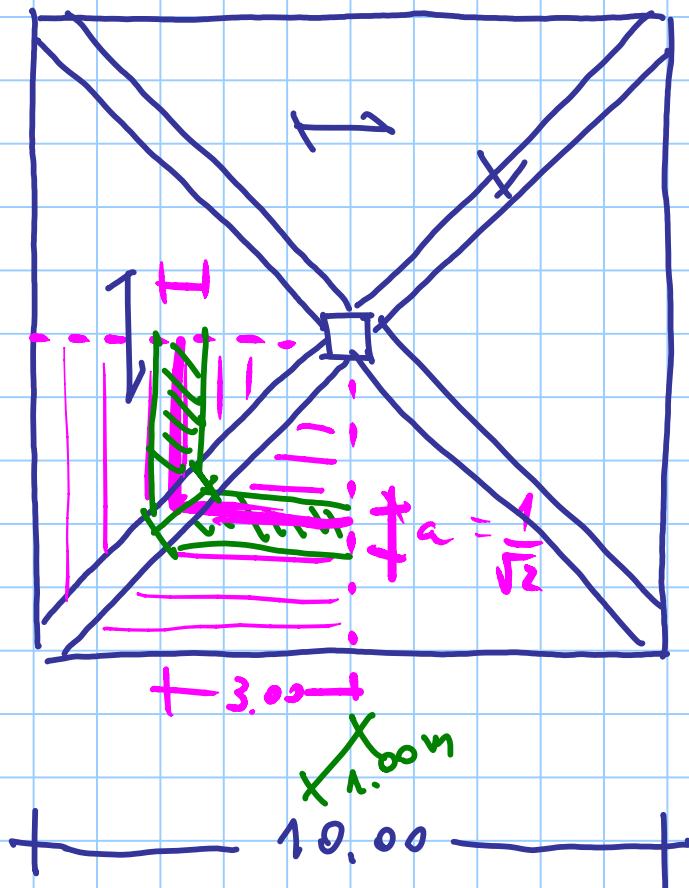


X

Titolo nota

20/05/2015



Soluzioni

$$g_k = 3.0 \text{ kN/m}^2$$

$$g_d = 3.9 \text{ kN/m}^2$$

$$q_k = 1.0 \text{ kN/m}^2$$

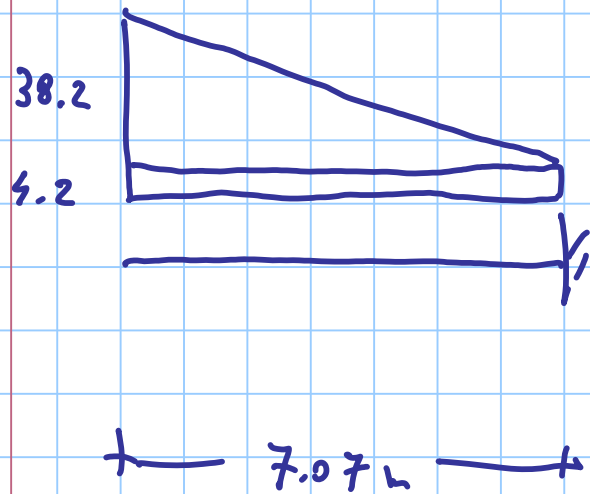
$$q_d = 1.5 \text{ kN/m}^2$$

5.4

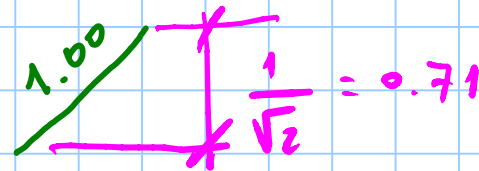
Trovare $g_k = 3.2 \text{ kN/m}^2$ $g_d = 4.2 \text{ kN/m}^2$

$$q_{max} (2.0m) =$$

$$= \frac{5+5}{\sqrt{2}} \times 5.4 = 38.2 \text{ kN/m}$$



$$q = (3.00 + 3.00) \cdot a \times 5.4 \text{ kN/m}^2$$



all'incastro

$$V = \frac{38.2 \times 7.07}{2} + 4.2 \times 7.07 = 164.7 \text{ kN}$$

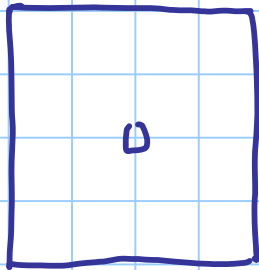
$$M = \frac{38.2 \times 7.07}{2} \times \frac{2}{3} \times 7.07 + 4.2 \times \frac{7.07^2}{2} = 741 \text{ kNm}$$

- carichi unitari
- carichi su trave
- risoluzione schemi
- dimensionamento

$$d = z' \sqrt{\frac{M}{L}} = 0.017 \sqrt{\frac{741}{0.30}} = 0.845 \quad 30 \times 90$$

$$0.017 \sqrt{\frac{741}{0.40}} = 0.73 \quad 40 \times 80$$

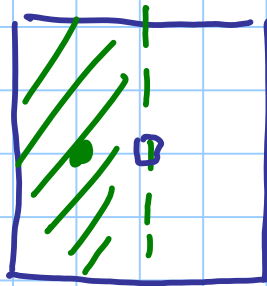
pilar.



1) $q_{vm} = \text{unif.}$

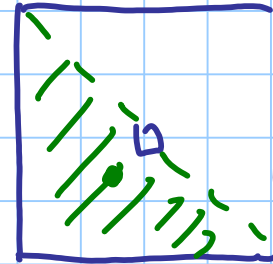
$$N = 164.7 \times 4 = 659 \text{ kN}$$

$$M = 0$$



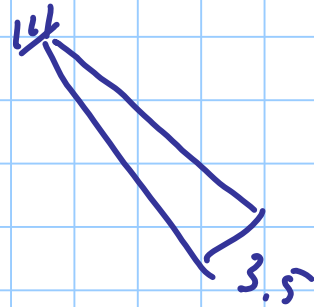
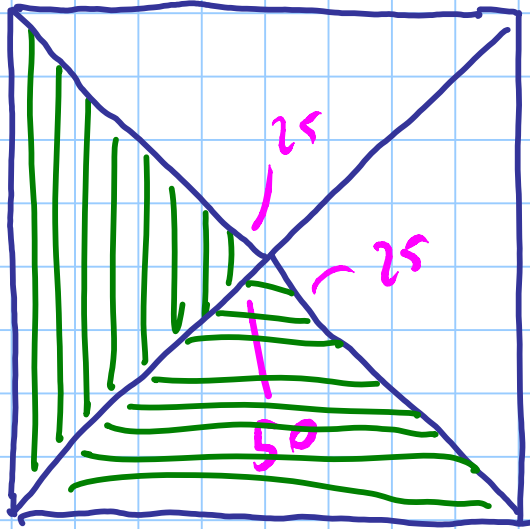
2) $q_{vm} = \text{max.}$

$$N = 659 - 50 = 609 \text{ kN}$$



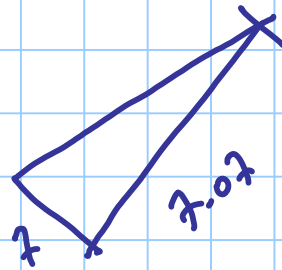
3) $q_{vm} = \text{max.}$

3)

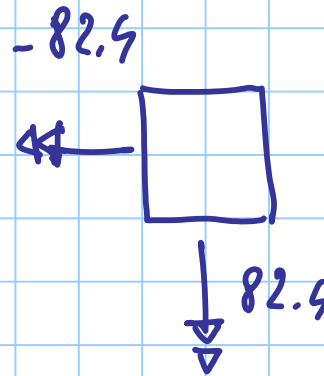
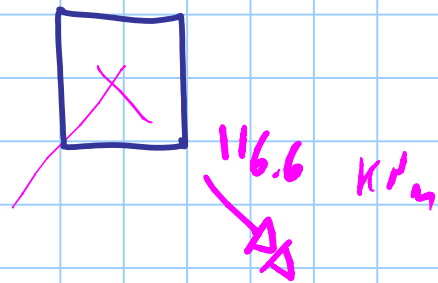


$$M = 583 \text{ kNm}$$

$$10.00 \times \frac{1}{\sqrt{2}} \times 0.7 \times 1.0$$



$$M = \frac{7 \times 7.07}{2} \times \frac{2}{3} \times 7.07 = 116.6$$



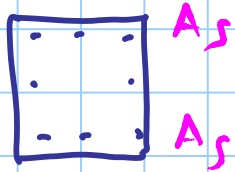
$$N_{E1} = 609 \text{ kN}$$

$$M_{E1,x} = M_{E1,y} = 82.4 \text{ kNm}$$

per sol $N \rightarrow A = \frac{N_{Ed}}{f_{td}} = \frac{609 \times 10^3}{14.2} \times 10^{-2} = 429 \text{ cm}^2$

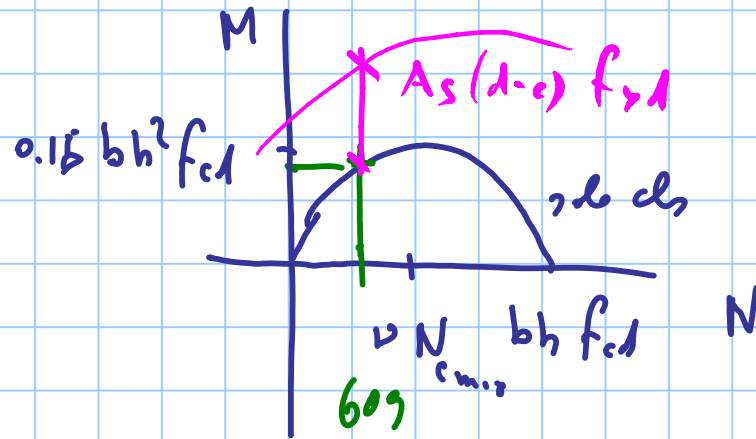
per sol $M \rightarrow d = 2 \sqrt{\frac{M}{b}} = 0.017 \sqrt{\frac{82.4}{0.3}} = 0.28 \text{ m}$

scegliamo 40×40



pilastro quadrato

uso formule semplificate per xi. ult.



uso $\sim 1.6 M_{Ed}$

per chi ha fless. deviate

$\nu \approx 0.5$

progett. A_s

verifica a pres. fl. dev.

$$\left(\frac{M_{Ed,x}}{M_{Rd,x}(\nu)} \right)^{1.5} + \left(\frac{M_{Ed,y}}{M_{Rd,y}(\nu)} \right)^{1.5} \leq 1$$

VERIFICHE S.L.E.

si fanno per le condizioni di carico

— rara $g_k + q_k$

— frequente $g_k + \psi_1 q_k$

— quasi permanente $g_k + \psi_2 q_k$

verifiche

- deformazioni

- fessurazione

- tensioni in esercizio

2° modello