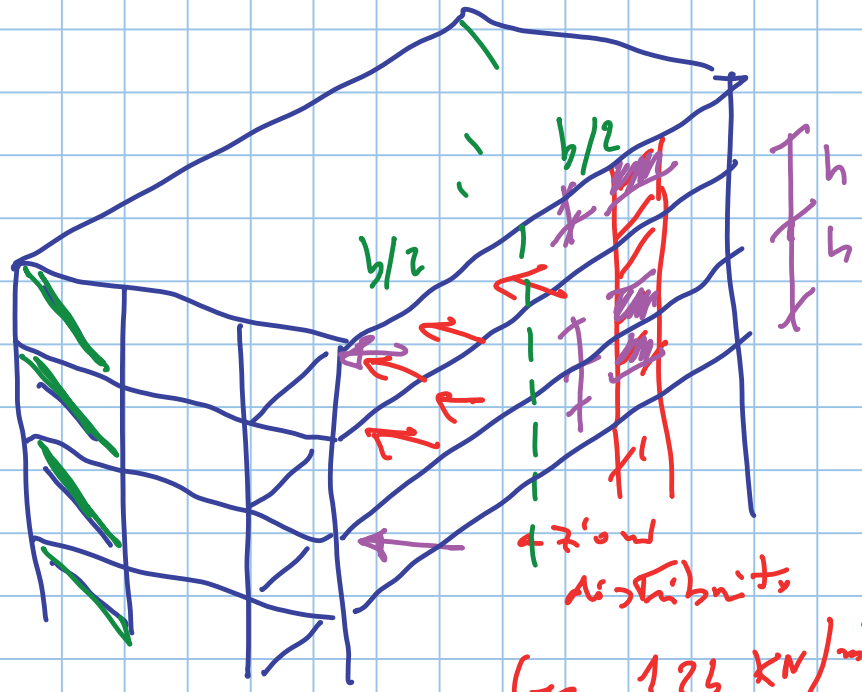
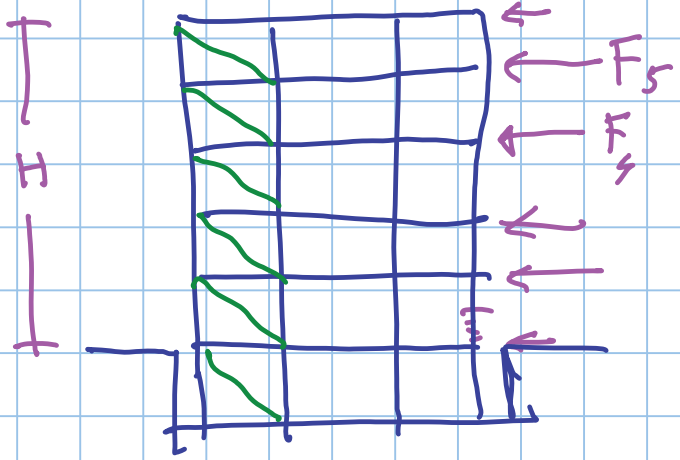
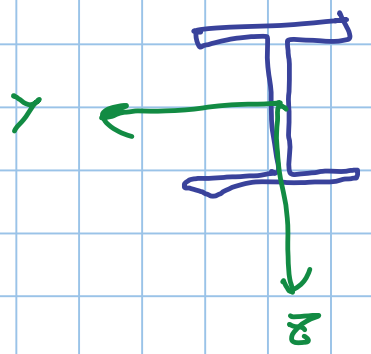
Titolo nota 23/10/2019

$$F_h = q_b \, c_e(H) \, c_{p,net} \cdot \frac{b}{2} \, h$$

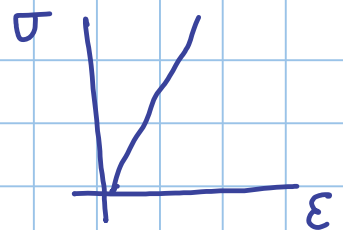




TRAZIONE

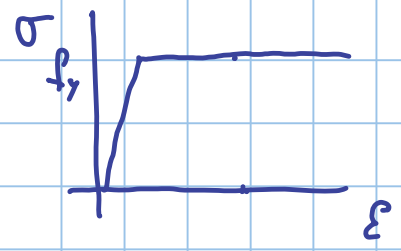


SLC



$\sigma = E\varepsilon$

TLC (SLU)



$\sigma = E\varepsilon$ per $\varepsilon \leq \varepsilon_y = \frac{f_y}{E}$

$\sigma = f_y$ per $\varepsilon > \varepsilon_y$

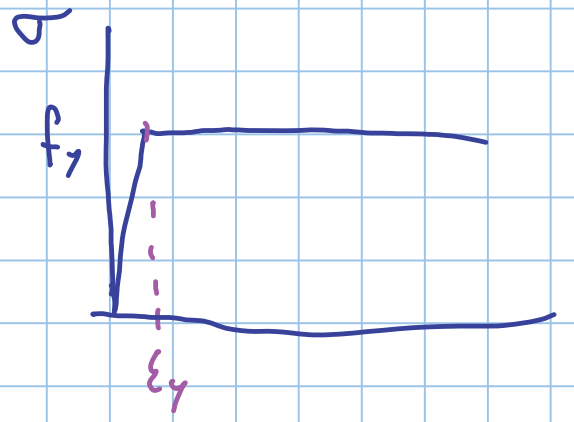
- sezione omogenea e isotropa
- mantenimento delle sezione piane = diagr. deformazioni lineare (o piane)

deformazione → tensione → caratteristiche di sollecitazione

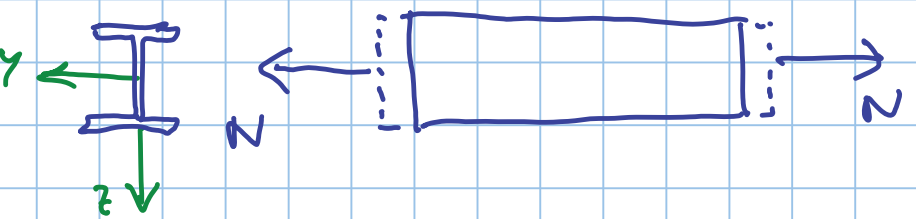
$\varepsilon \rightarrow \sigma \rightarrow$

$N = \int \sigma \, dA$

$M_y = \int \sigma z \, dA$

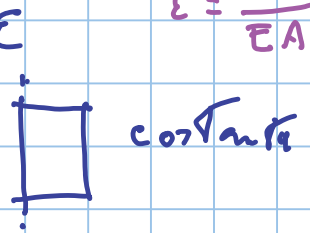


Trazione



A.S. N

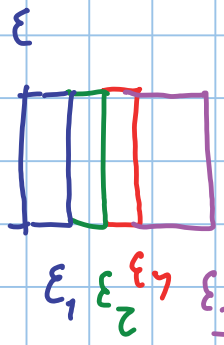
$$\varepsilon = \frac{N}{EA}$$

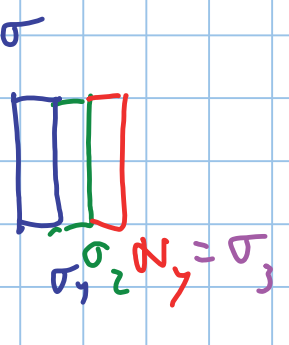


Navier $\quad \sigma = \frac{N}{A} + \frac{M_y}{I_y} z$

$$\varepsilon = \frac{N}{EA} + \frac{M_y}{EI_y} z$$

$\varepsilon = \varepsilon_y \qquad \sigma = f_y$





$$\varepsilon_1 = \frac{N_1}{EA} \qquad \sigma_1 = \frac{N_1}{A}$$

$$\varepsilon_2 = \frac{N_2}{EA} \qquad \sigma_2 = \frac{N_2}{A}$$

$$\varepsilon_y = \frac{N_y}{EA} \qquad \sigma_y = f_y = \frac{N_y}{A}$$

$$N_y = A f_y$$

SLU

tensione massima $\dfrac{f_y}{\gamma_{M0}}$ $\qquad \gamma_{M0} = 1.05$

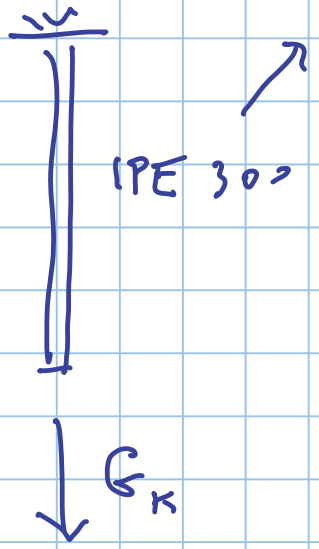
$$N_{Rd} = A \frac{f_y}{\gamma_{M0}} \qquad N_{t,Rd} \qquad t = \text{trazione}$$

N_{Rd}: resistenza; design di calcolo

VERIFICA

$$N_{Ed} = f(g_d, q_d) \leq N_{Rd}$$

N_{Ed}: effetto; design



$A = 53.8 \times 10^2 \ mm^2$

$N = cost = G_d$

S 355

$f_y = 355 \ \frac{N}{mm^2}$

$G_d = G_k \ \gamma_c$ (1.3 ↑)

$G_k = 500 \ KN$

$G_d = 500 \times 1.3 = 650 \ KN$

$N_{Ed} = 650 \ KN$

$$N_{Rd} = A \ \frac{f_y}{\gamma_{M0}} = 53.8 \times 10^2 \times \frac{355}{1.05} \times 10^{-3} = 1819 \ KN$$

$N_{Ed} < N_{Rd}$ sezione verificata