Titolo nota 24/11/2016

II mod. comp.

Verifica (SLE tensioni)

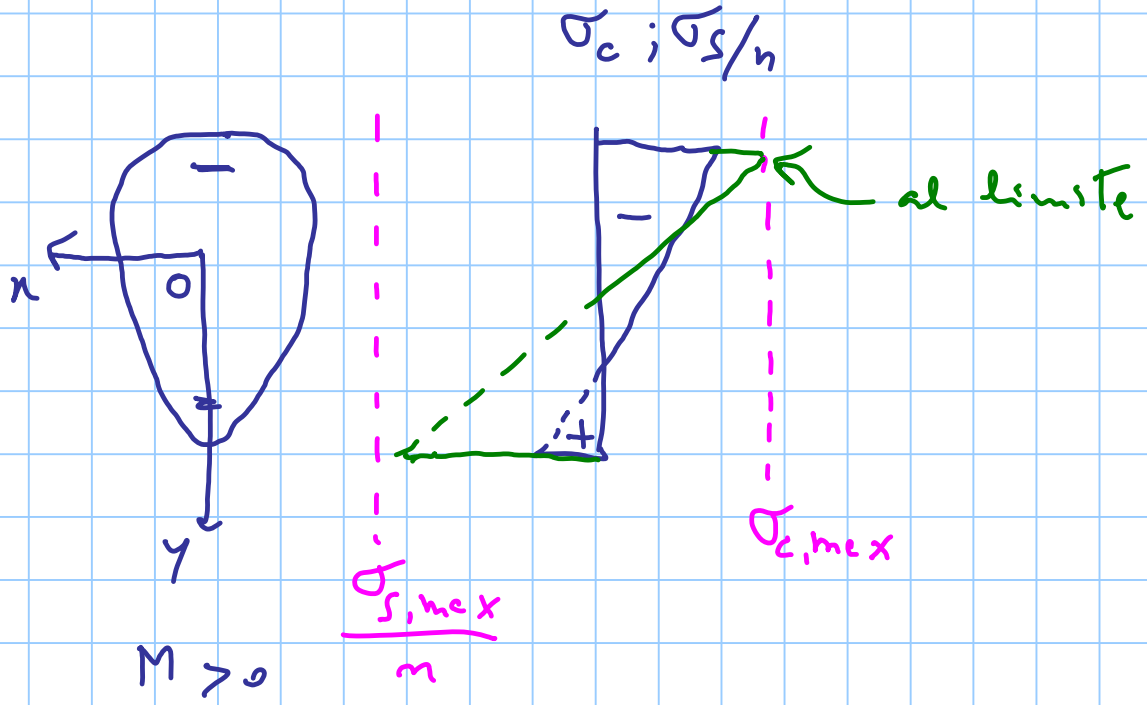
det. M, N calcolo σ

$$\sigma_c \leq \sigma_{c,max}$$

$$\sigma_s \leq \sigma_{s,max}$$

domini M - N

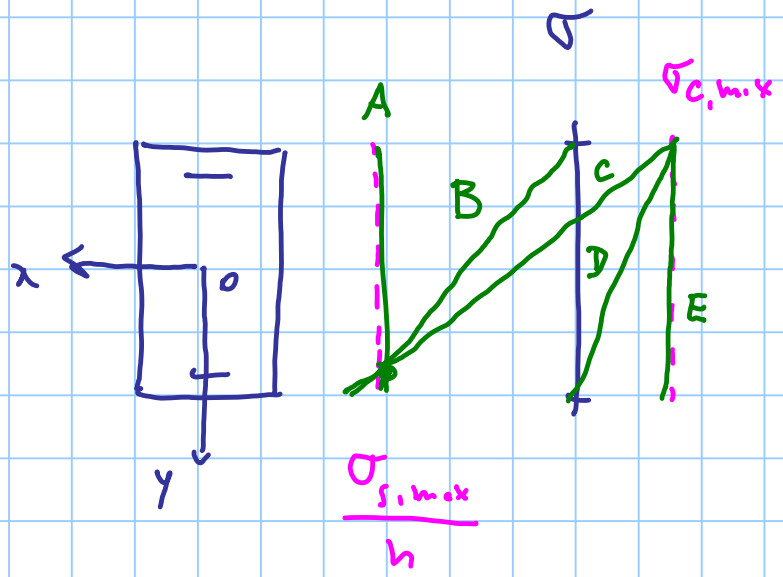
(curve di interazione)

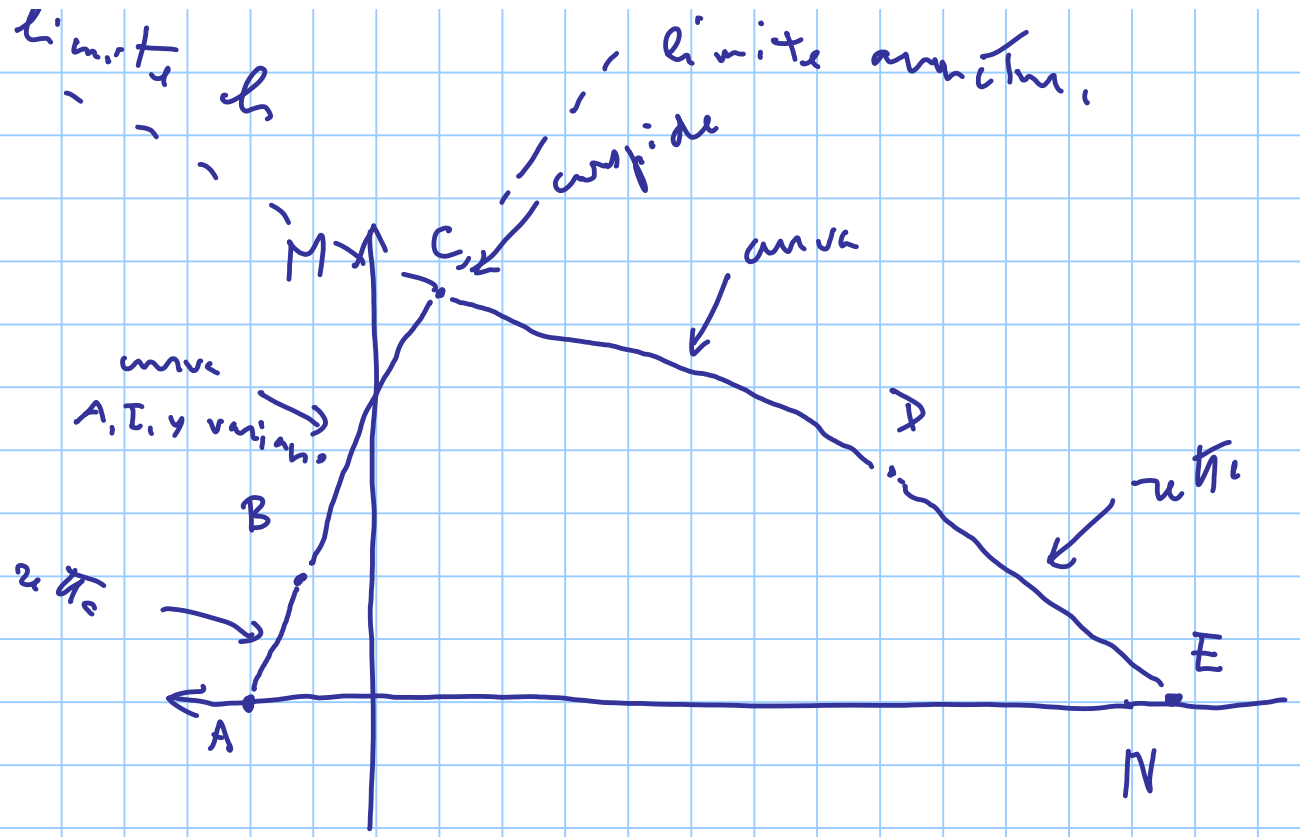


dato un diagramma N σ

$$N = \int \sigma \, dA$$

$$M = \int \sigma \, y \, dA$$





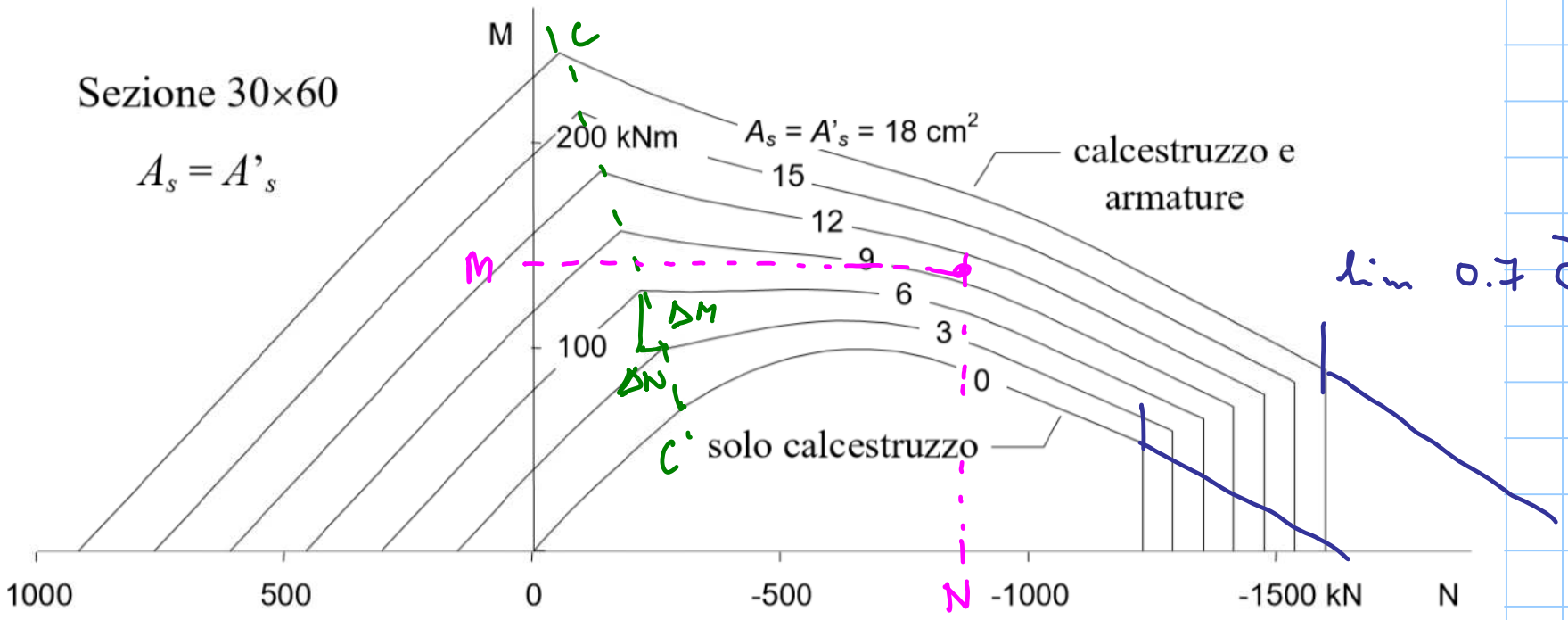
$M > 0$

$A_s = A'_s$

$$\frac{N}{A} + \frac{M}{I} y = \sigma_{max}$$

$2n\pi_c$ in M, N

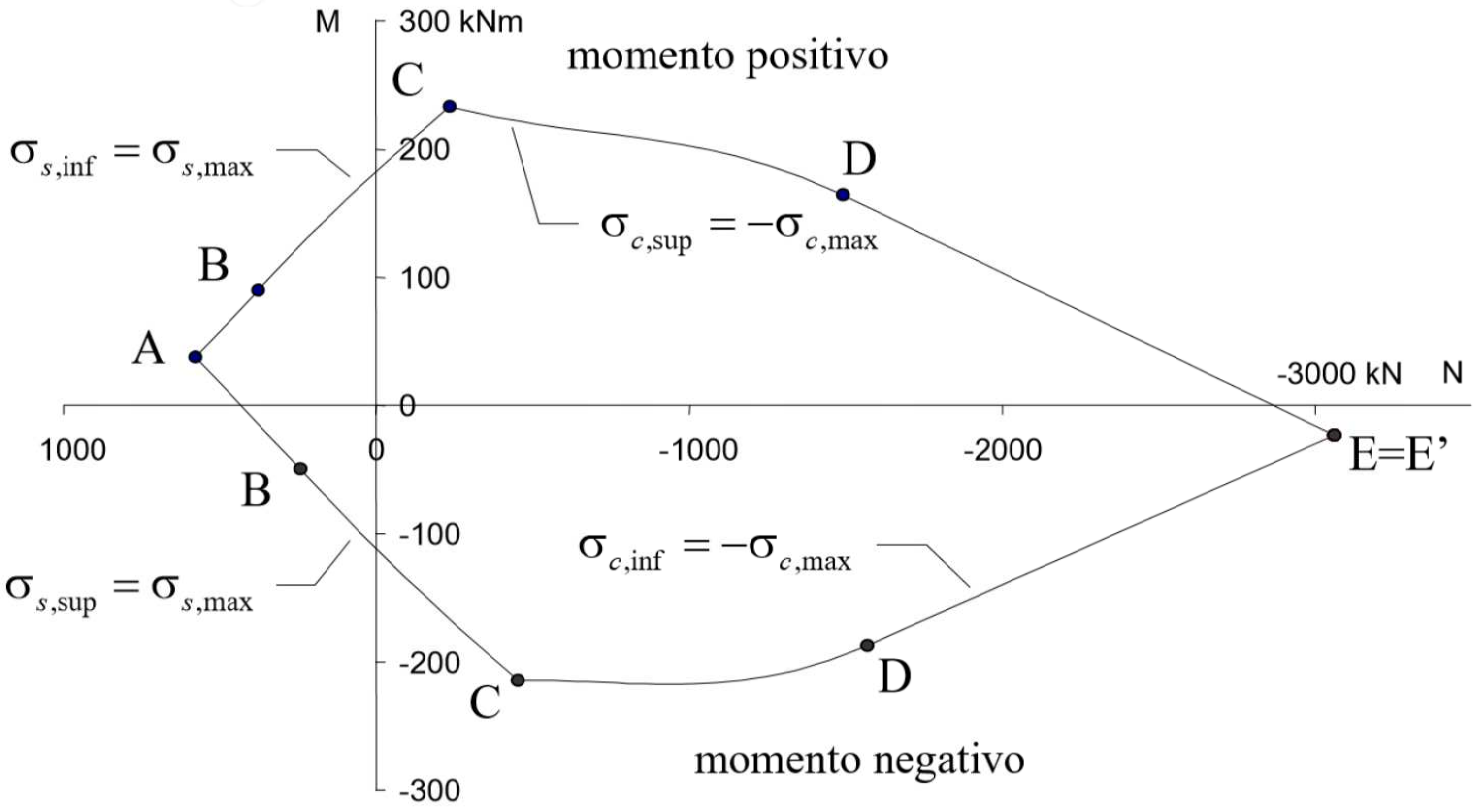
se A, I, y non variano



lim 0.7 $\bar{\sigma}_c$

T.A.

occorrono 10 cm²



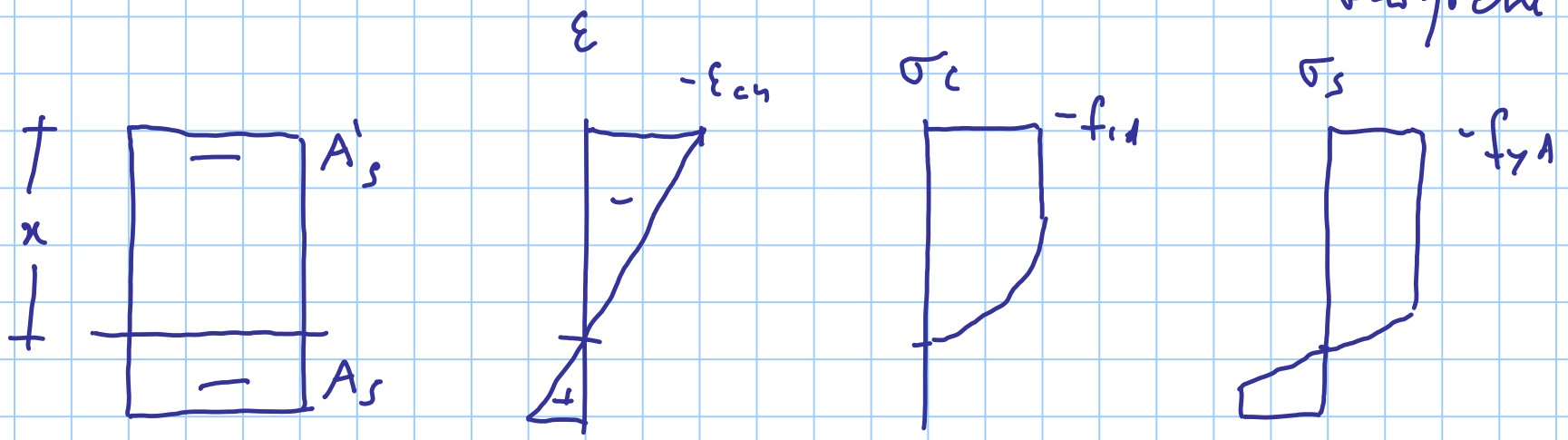
$A_s \neq A'_s$

SLE tensioni

FLESSIONE COMPOSTA

III mod. comp.

verifiche SLU



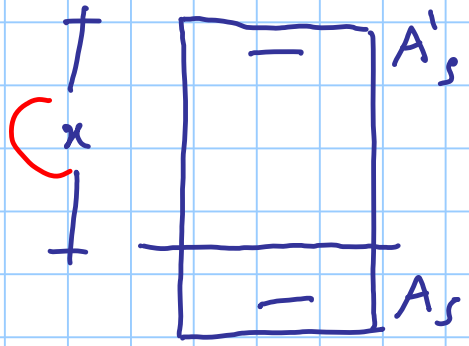
$$N = \int \sigma \, dA$$

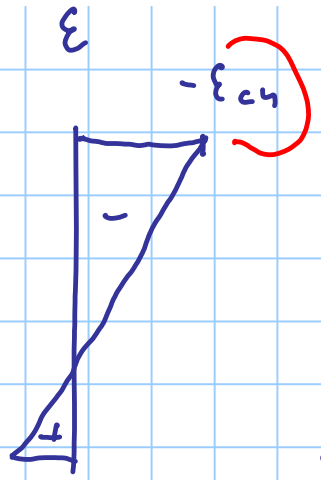
$$M_{Rd} = \int \sigma y \, dA$$

M_{Ed} ; $N = 0$

- flessione semplice $\Rightarrow N = 0 \Rightarrow x$
- flessione composta $\Rightarrow N = N_{Ed} \Rightarrow x$

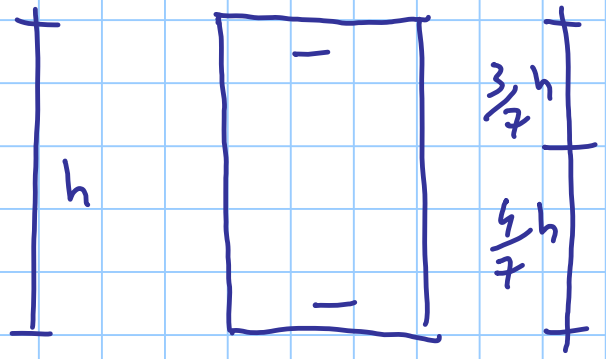
M_{Ed}, N_{Ed}

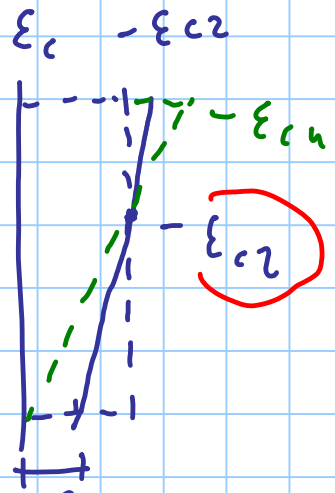




SEZIONE PARZIALIZZATA

$0 \leq x \leq h$





SEZIONE TUTTA COMPRESSA

$\varepsilon_{c2} = 0.0020$ ↓

$\varepsilon_{cu} = 0.0035$ ↓

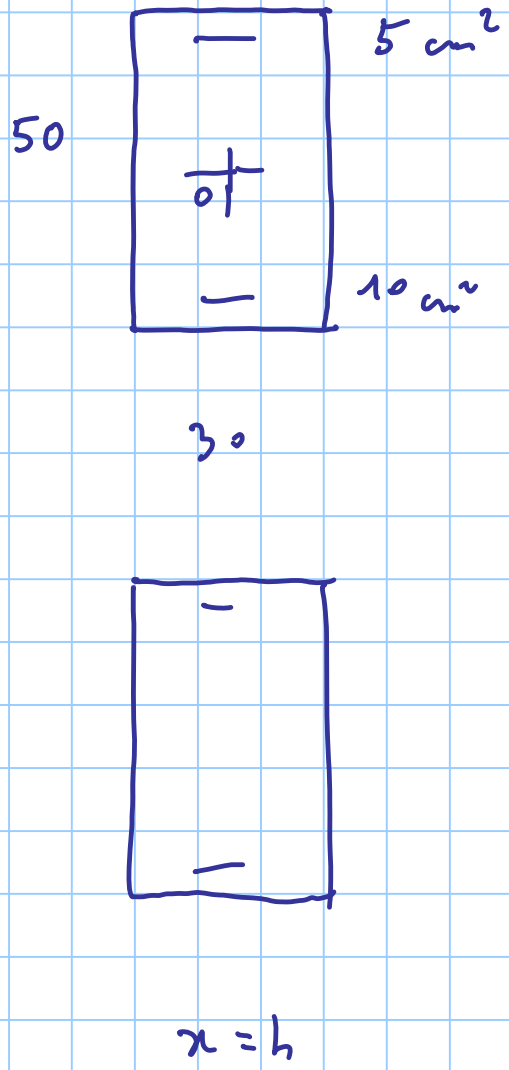
$$\eta_{min} = -\frac{\varepsilon_{c,min}}{\varepsilon_{c2}}$$

η_{min}

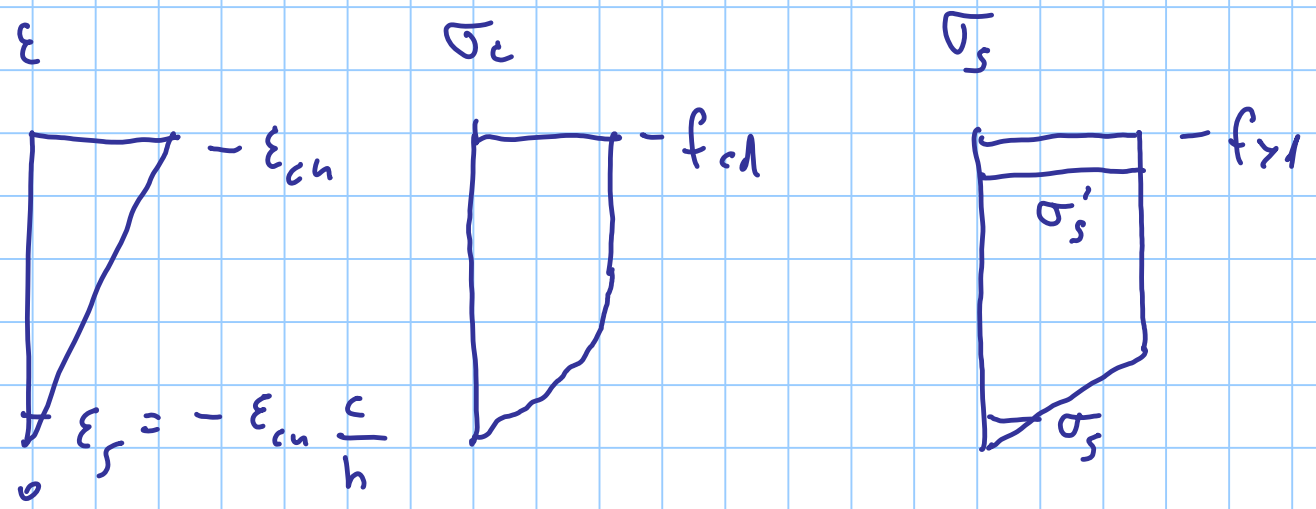
$0 \leq \eta_{min} \leq 1$

$N_{Ed} = -300\ kN$

$M_{Ed} = 150\ kN\,m$



sezione con $N = N_{Ed} = -300\ kN$



$$N_c = -\beta\, b\, x\, f_{cd} = -0.81\, b\, h\, f_{cd} = -1721.7$$

$$N_s = A_s\, \sigma_s = A_s \left(-\varepsilon_{cu} \frac{c}{h} E_s\right) = \text{piccolo}$$

$$N'_s = A'_s\, \sigma'_s = -A'_s\, f_{yd} = -195.6$$

$$N = N_c + N_s + N'_s \simeq -1920\ kN$$

$$N_{Ed} = -300\ kN$$ minimo penalizzante