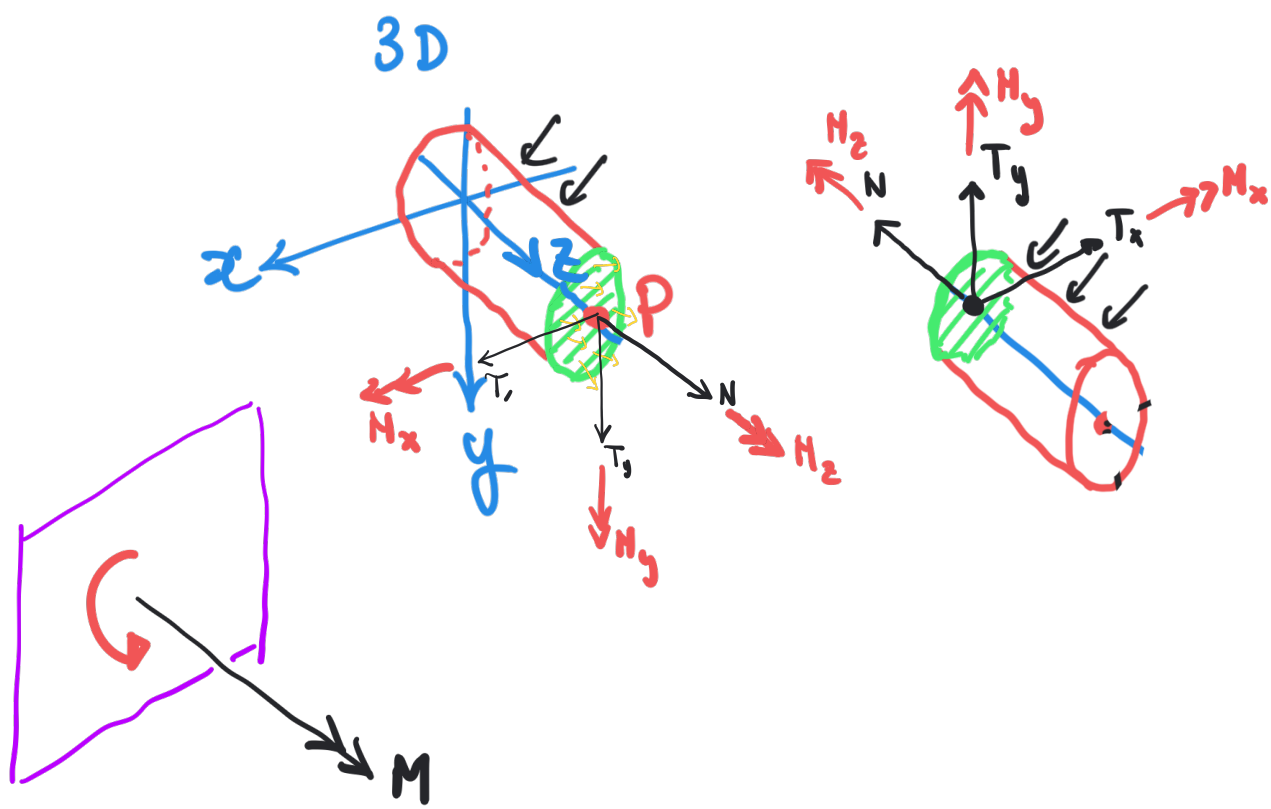


## SOLLECITAZIONI INTERNE

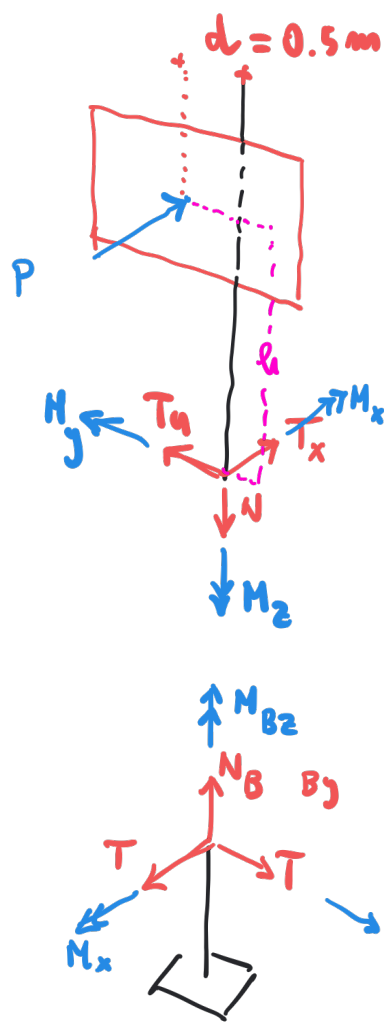
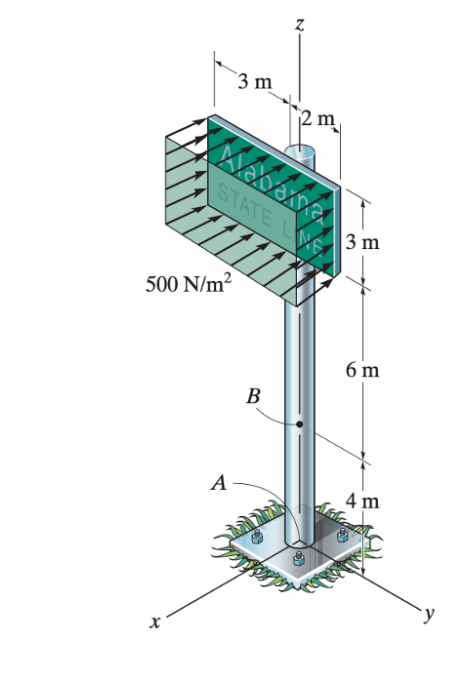


Corpi aventi una dimensione predominante  
esibiscono un comportamento "più prevedibile"  
a fronte di flessione





## AZIONI INTERNE



$$P = 500 \frac{\text{N}}{\text{m}^2} \cdot 15 \text{ m}^2 = 7.5 \text{ kN}$$

$$\sum F_x = 0 \quad T_{Bx} + P = 0$$

$$T_{Bx} = -7.5 \text{ kN}$$

$$\sum F_y = 0 \quad T_{By} = 0$$

$$\sum F_z = 0 \quad N_B = 0$$

$$\sum M_x = 0 \quad M_{Bx} = 0$$

$$\sum M_y = 0 \quad -M_{By} + Ph = 0$$

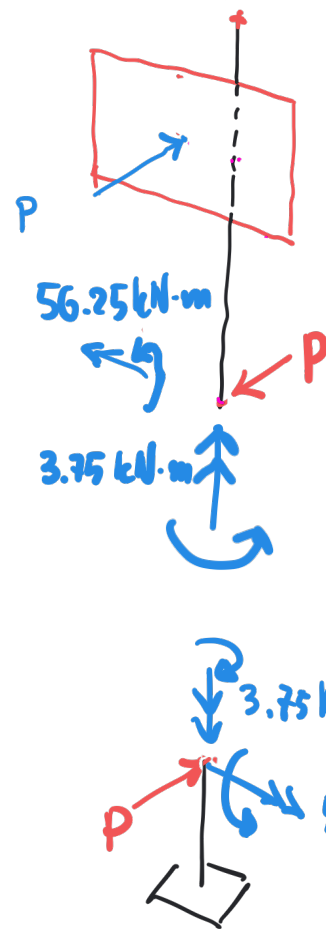
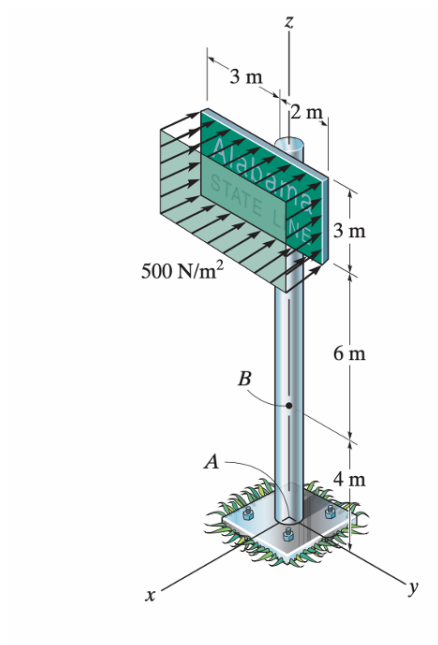
$$M_{By} = Ph = 56.25 \text{ kN} \cdot \text{m}$$

$$\sum M_z = 0 \quad -M_{Bz} - Pd = 0$$

$$M_{Bz} = -Pd$$

$$= -3.75 \text{ kN} \cdot \text{m}$$

## AZIONI INTERNE



$$P = 500 \frac{\text{N}}{\text{m}^2} \cdot 15 \text{ m}^2 = 7.5 \text{ kN}$$

$$\sum F_x = 0 \quad T_{Bx} + P = 0$$

$$T_{Bx} = -7.5 \text{ kN}$$

$$\sum F_y = 0 \quad T_{By} = 0$$

$$\sum F_z = 0 \quad N_B = 0$$

$$\sum M_x = 0 \quad M_{Bx} = 0$$

$$\sum M_y = 0 \quad -M_{By} + Ph = 0$$

$$M_{By} = Ph = 56.25 \text{ kN} \cdot \text{m}$$

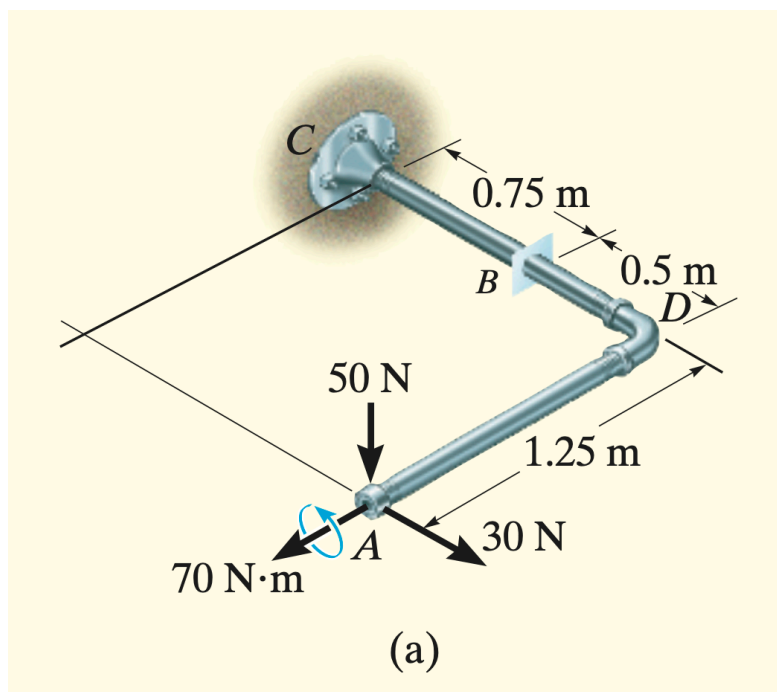
$$\sum M_z = 0 \quad -M_{Bz} - Pd = 0$$

$$M_{Bz} = -Pd$$

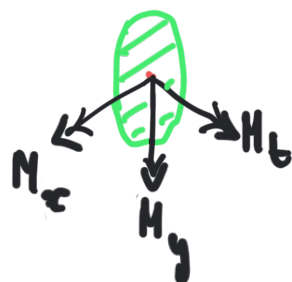
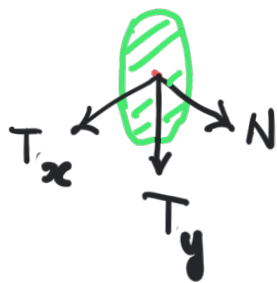
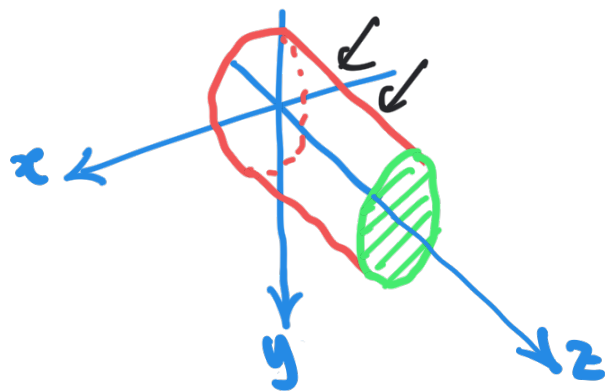
$$= -3.75 \text{ kN} \cdot \text{m}$$

ESEMPIO

CALCOLARE LE  
CARATTERISTICHE  
DELLA SOLLECITAZIONE  
NELLA SEZIONE B



# TRAVI PIANE



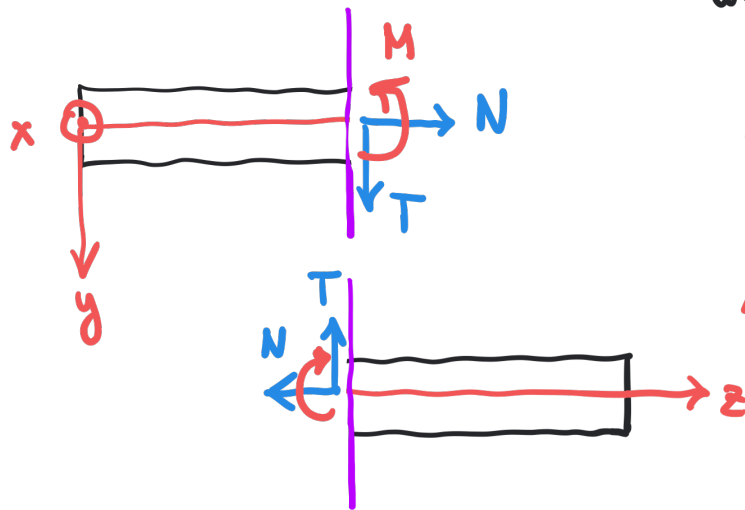
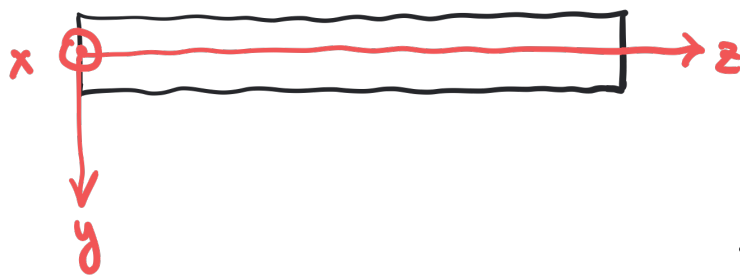
## CONVENZIONE DEI SEGNI

Convenzioni per i  
segni delle CdS  
per travi piane:

$N > 0$  trazione

$T > 0$  se il taglio induce  
una rotazione in verso **ORARIO**  
sul tratto che **PRECEDE**

$M > 0$  se il momento  
induce una rotazione  
**ANTI ORARIA** sul tratto  
che **PRECEDE**



# Esempio

La trave  $DF$  della gru e la colonna  $DE$  hanno un peso uniforme di  $750 \text{ N/m}$ . Il carico pesa  $1500 \text{ N}$ .

Determinare le sollecitazioni interne risultanti nella gru nelle sezioni trasversali passanti per i punti  $A$ ,  $B$  e  $C$ .

