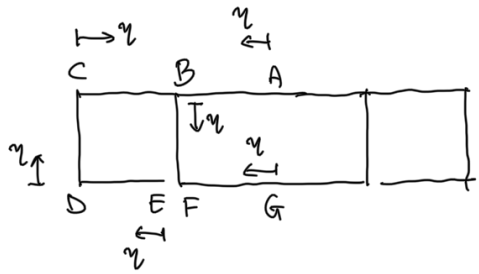


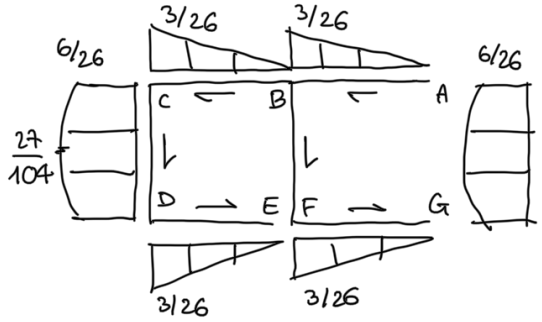

a) $J_x = \frac{13}{3} t h^3$

b) Tensioni tangenziali (Jourawski)

AB) $\tau_{zy} = \frac{3}{26} \frac{T_y}{th^2} \eta$ GF) $\tau_{zy} = -\frac{3}{26} \frac{T_y}{th^2} \eta$

ED) $\tau_{zy} = -\frac{3}{26} \frac{T_y}{th^2} \eta$ DC) $\tau_{zy} = -\frac{3}{26} \frac{T_y}{th^3} (2h^2 + \eta h - \eta^2)$

CB) $\tau_{zy} = -\frac{3}{26} \frac{T_y}{th^2} (h - \eta)$ BF) $\tau_{zy} = \frac{3}{26} \frac{T_y}{th^3} (2h^2 + \eta h - \eta^2)$




$(\times T_y/th)$

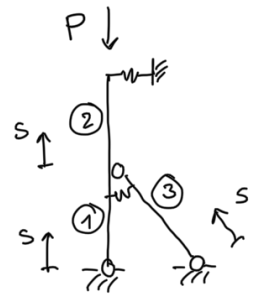
c) Momento torcente

BF) $\tau = \frac{M_T}{4th^2} = \frac{T_y}{4th}$

AB, FG) $\tau = \frac{T_y}{8th}$

d) Mom torcente parti aperte $= \frac{17 M_T}{34 + 12 h^2/t^2} = M_I$

Se $\frac{t}{h} = \frac{1}{10} \rightarrow M_I = \frac{17}{1234} M_T$




$$\begin{cases} EJ v_1^{IV} + P v_1'' = 0 \\ EJ v_2^{IV} + P v_2'' = 0 \\ EJ v_3^{IV} = 0 \end{cases}$$

Condizioni al bordo:

$$v_1(0) = 0 \quad ; \quad v_1''(0) = 0 \quad ; \quad v_3(0) = 0 \; ; \quad v_3''(0) = 0$$

$$v_1(\ell) = v_2(0) \; ; \quad v_1'(\ell) = v_2'(0) \quad ; \quad v_2''(\ell) = 0$$

$$- EJ v_2'''(\ell) - P v_2'(\ell) + k_1 v_2(\ell) = 0$$

$$- EJ v_3''(\ell\sqrt{2}) - k_0 \left( v_3'(\ell\sqrt{2}) - v_1'(\ell) \right) = 0$$

$$- EJ v_1''(\ell) - EJ v_3''(\ell\sqrt{2}) + EJ v_2''(0) = 0$$

$$- EJ v_1'''(\ell) + EJ v_2'''(0) - \frac{EA}{2\ell\sqrt{2}} v_1(\ell) - EJ v_3'''(\ell\sqrt{2}) \frac{\sqrt{2}}{2} = 0$$

$$v_3(\ell\sqrt{2}) = v_1(\ell) \frac{\sqrt{2}}{2}$$