Sezione all'incastro

$$T = \frac{pl}{2}, M = -\frac{pl^2}{12}$$

Tensioni normali
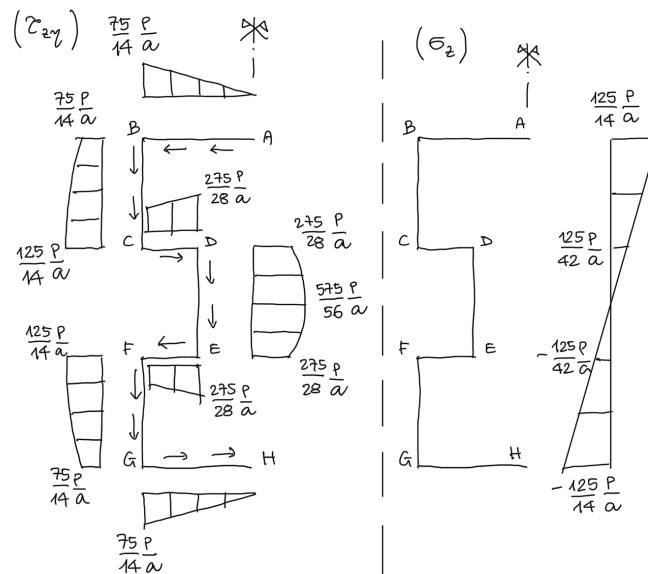
$$\sigma_z = -\frac{pl^2 y}{168ta^3} = -\frac{125py}{21a^2}$$

Tensioni tangenziali

$$AB)\ \tau_{z\eta} = \frac{3T}{28ta^2}\eta = \frac{75p}{14a^2}\eta, \qquad BC)\ \tau_{z\eta} = \frac{T(3a^2 + 3a\eta - \eta^2)}{28ta^3} = \frac{25p(3a^2 + 3a\eta - \eta^2)}{14a^3}$$

$$CD)\ \tau_{z\eta} = \frac{T(5a + \eta)}{28ta^2} = \frac{25p(5a + \eta)}{14a^2},$$

$$DE)\ \tau_{z\eta} = \frac{T(11a^2 + 2a\eta - 2\eta^2)}{56ta^3} = \frac{25p(11a^2 + 2a\eta - 2\eta^2)}{28a^3}$$

Tensione ideale

$$B)\ \sigma_{id} = \sqrt{\sigma_z^2 + 3\tau_{z\eta}^2} = \frac{25\sqrt{13}}{7}\frac{p}{a} = 12,9\frac{p}{a}, \qquad D)\ \sigma_{id} = \frac{25p}{84a}\sqrt{3367} = 17,3\frac{p}{a}$$

$$punto\ medio\ DE)\ \sigma_{id} = \frac{575\sqrt{3}}{56}\frac{p}{a} = 17,8\frac{p}{a}$$

Massimo carico

$$p_{max} = \frac{56\sqrt{3}}{1725}a\sigma_{adm} = 0,056a\sigma_{adm}$$

Carico eccentrico
Tensioni tangenziali momento torcente e massima tensione ideale

$$\tau_{z\eta} = \frac{M_t}{2\Omega t} = \frac{5p}{a}, \qquad \sigma_{id}^{max} = \frac{855\sqrt{3}}{56}\frac{p}{a} = 26,4\frac{p}{a} \quad \rightarrow \quad \frac{p_{max}}{2}\ \text{è ammissibile}$$