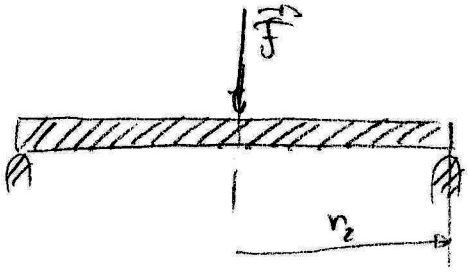
Př:



viz předchozí příklad: $\pi q r_1^2 = F$ pro $r_1 \to 0$

$r_1 \to 0$: $b_1 = 0$

$$b_2 = -\frac{F}{4\pi B} r_2^2 (1+\nu) \ln r_2 + \frac{F}{8\pi B} r_2^2 (1-\nu)$$

$$b_3 = 0$$

$$\lim_{r\to 0} r^2 \ln r = \lim_{r\to 0} \frac{\ln r}{\frac{1}{r^2}} \sim \lim_{r\to 0} \frac{\frac{1}{r}}{-\frac{2}{r^3}} \sim \lim_{r\to 0} -\frac{1}{2} \cdot \frac{r^{3^2}}{2} \sim 0$$

$$C_2^2 = 0 \;,\; C_1^1 = \frac{1}{r_2^2(1-\nu)} b_2 \;,\; C_1^2 = \frac{1}{r_2^2(1-\nu)} b_2$$

zajímá nás jen C_1^2:

$$C_1^2 = \frac{1}{r_2^2(1-\nu)} \cdot \left(-\frac{F}{4\pi B} r_2^2 (1+\nu) \ln r_2 + \frac{F}{8\pi B} r_2^2 (1-\nu) \right) = \frac{F}{4\pi B} \left(\frac{1+\nu}{1-\nu} \ln r_2 + \frac{1}{2} \right)$$

$$\vartheta_2 = \frac{F}{4\pi B} \left(\frac{1+\nu}{1-\nu} \ln r_2 + \frac{1}{2} \right) \cdot r + \frac{F}{4\pi B} r \left(\ln r - \frac{1}{2} \right) = \frac{F}{4\pi B} \left(\frac{1+\nu}{1-\nu} \ln r_2 - \ln r \right) \cdot r$$

$$\frac{d\vartheta_2}{dr} = \frac{F}{4\pi B} \left(-\frac{1}{r} \right) \cdot r + \frac{F}{4\pi B} \left(\frac{1+\nu}{1-\nu} \ln r_2 - \ln r \right) = \frac{F}{4\pi B} \left(\frac{1+\nu}{1-\nu} \ln r_2 - \ln r - 1 \right)$$

$$\frac{\vartheta_2}{r} = \frac{F}{4\pi B} \left(\frac{1+\nu}{1-\nu} \ln r_2 - \ln r \right)$$

$$M_{r_2} = -B \left(\frac{d\vartheta_2}{dr} + \nu \frac{\vartheta_2}{r} \right) \qquad \sigma_{t,ex} = \pm \frac{6 M_{t2}}{h^2}$$

$$M_{t_2} = -B \left(\frac{\vartheta}{r} + \nu \frac{d\vartheta_2}{dr} \right) \qquad \sigma_{r,ex} = \pm \frac{6 M_{r2}}{h^2}$$

$$\sigma_{red} = | \sigma_{ex} - \sigma_{rex} |$$