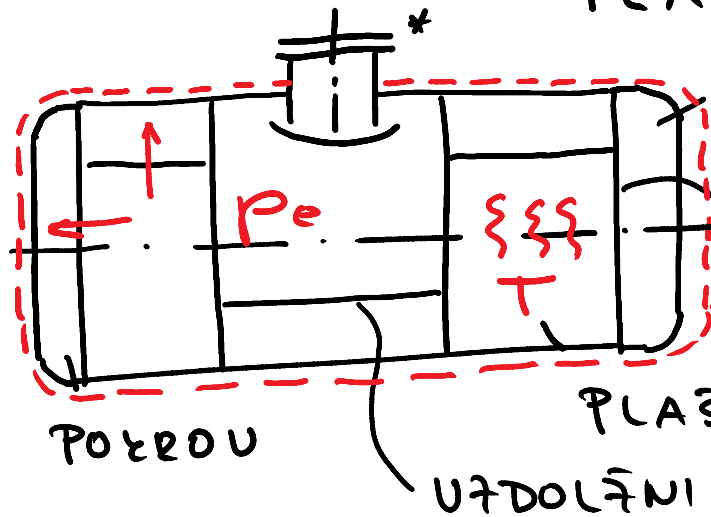


TLAČNE POSODE



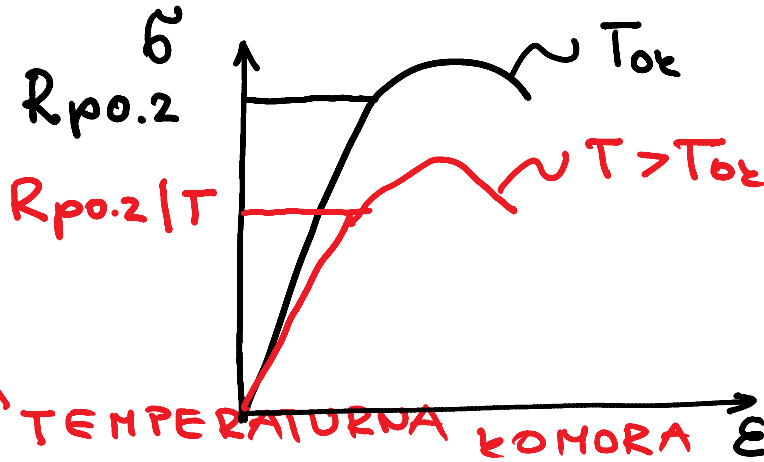
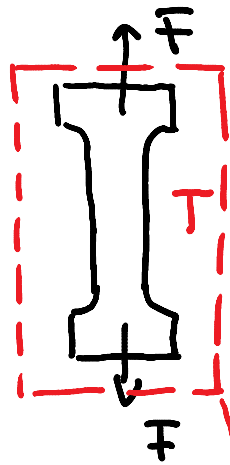
* USTOPNO IZSTOPNE ODPRTINE

$$P_e > P_{oz}$$

$$T \geq T_{0z}$$

MATERIALNE LASTNOSTI LEŽENJA

TOPLOTNA MEJA PLASTIČNOSTI $R_{p0.2|T}$

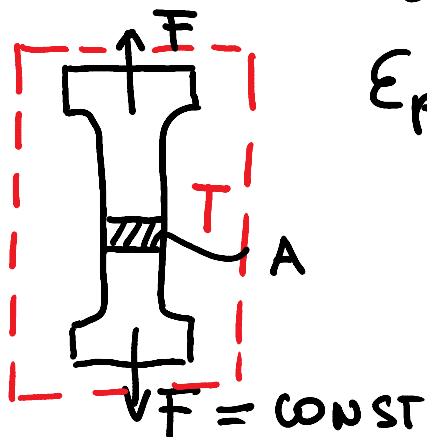


$$E_{0z} > E$$

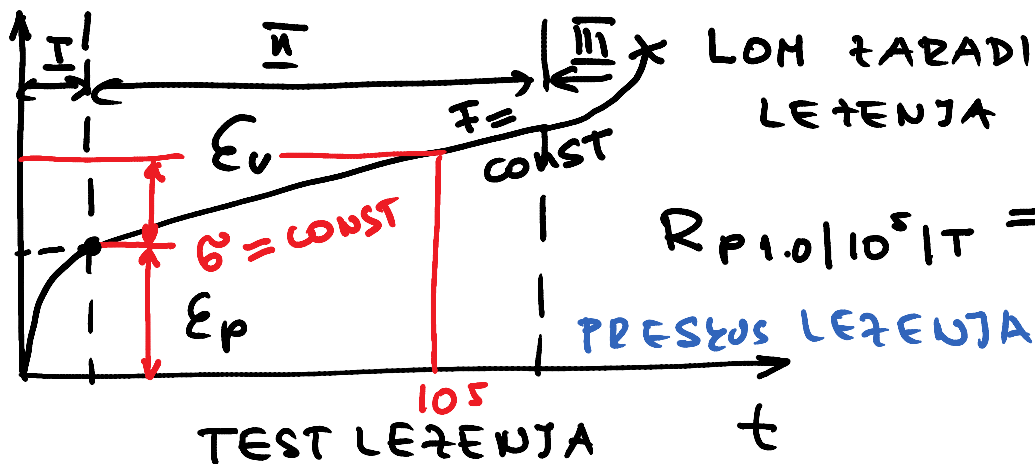
$$R_{p0.2|T_{0z}} > R_{p0.2|T}$$

$$R_m|T_{0z} > R_m|T$$

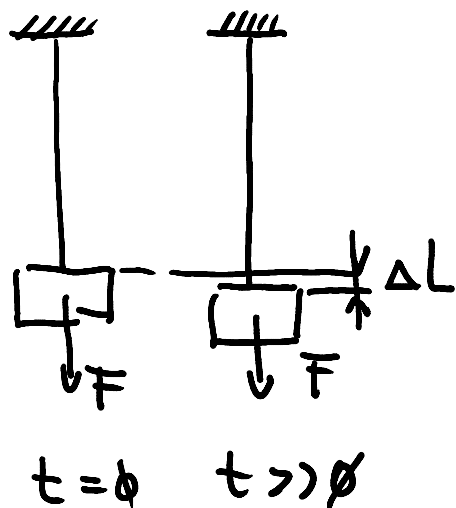
ČASOVNA MEJA PLASTIČNOSTI $R_{p1.0/10^5/T}$



$\epsilon_p + \epsilon_v$
1%



$$R_{p1.0/10^5/T} = \frac{F}{A} = \text{CONST}$$



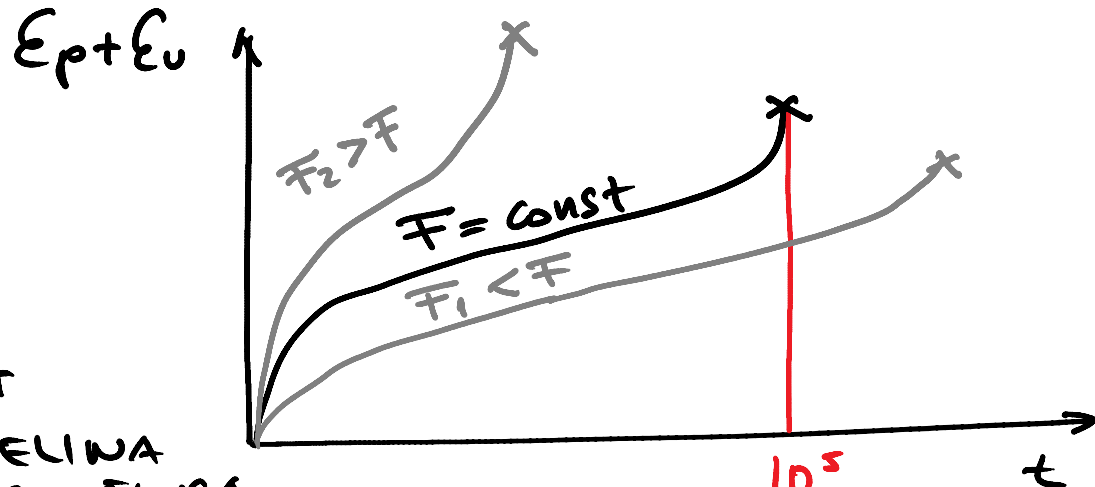
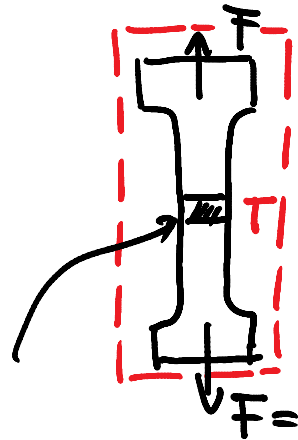
POSLEDICA
LEŽENJA

ϵ_p PLASTIČNA SPECIFIČNA DEFORMACIJA

ϵ_v VISKOPLASTIČNA SPECIFIČNA DEFORMACIJA

- I - PRIMARNO LEŽENJE
- II - SEKUNDARNO LEŽENJE
- III - TERCIARNO LEŽENJE

ČASOVNA NATEŽNA TRDNOST $R_m/10^5/T$



$A = b \cdot t$ - DEBELINA
 | PRESUŠANCA
 ŠIRINA
 PRESUŠANCA

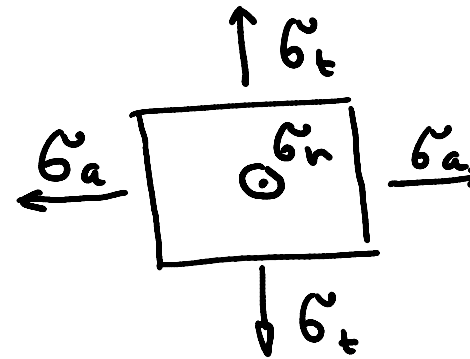
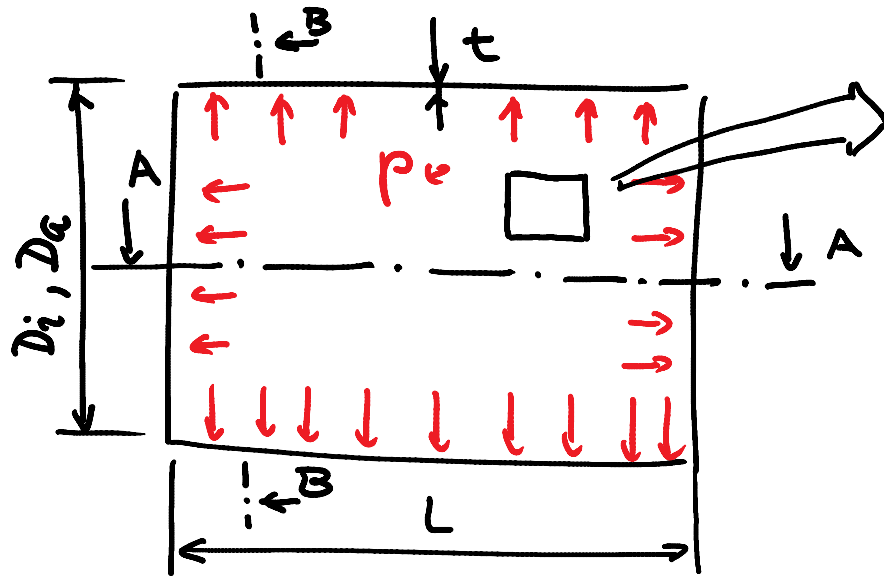
$$R_m/10^5/T = \frac{F}{A} = \text{CONST}$$

DOPUSTNA NAPETOST

$$\sigma_{dop} = \frac{1}{\beta} \min \{ R_{p0.2}/T, R_{p1.0}/10^5/T, R_m/10^5/T \}$$

VARNOSTNI FAKTOR

UREDNITENJE PLAŠČA TLAČNE POSODE



σ_t TANGENCIALNA
NAPETOST

σ_a AKSIJALNA NAPETOST

σ_r RADIALNA NAPETOST

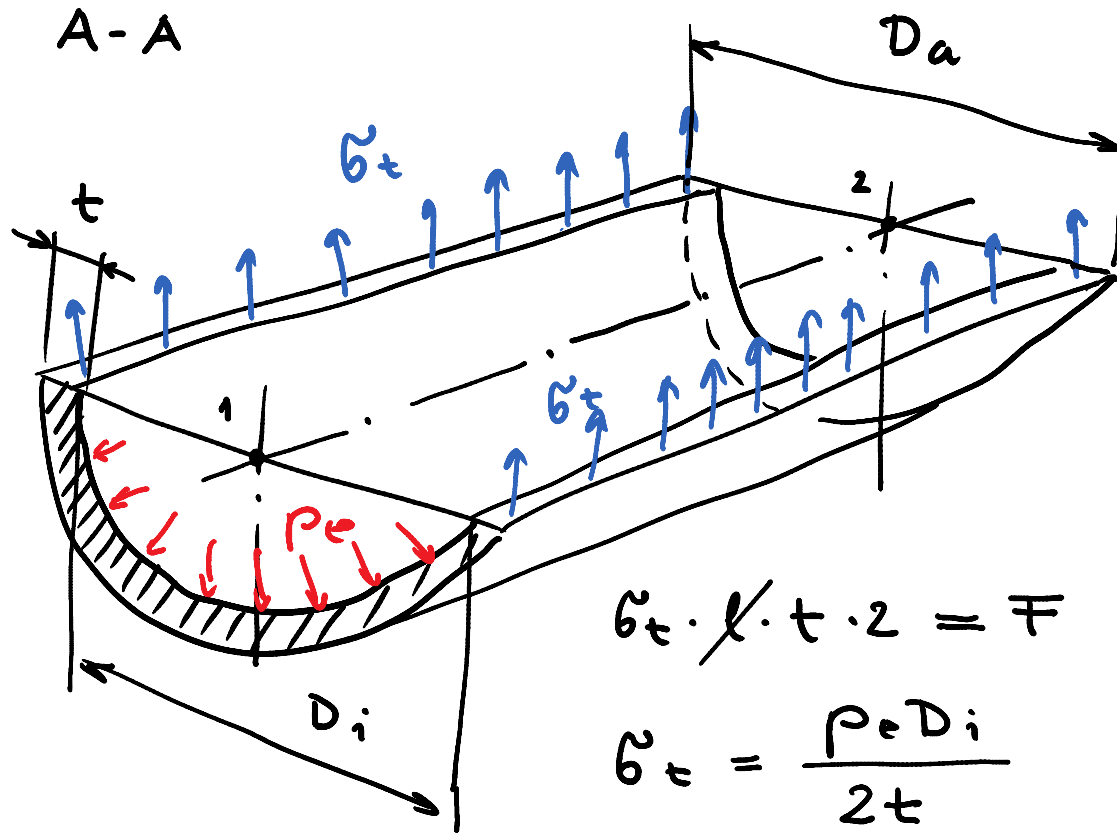
$\sigma_t, \sigma_a, \sigma_r$ SO GLAVNE NAPETOSTI

$$D_a = D_i + 2t$$

t DEBELINA PLAŠČA

TANGENCIALNA NAPETOST

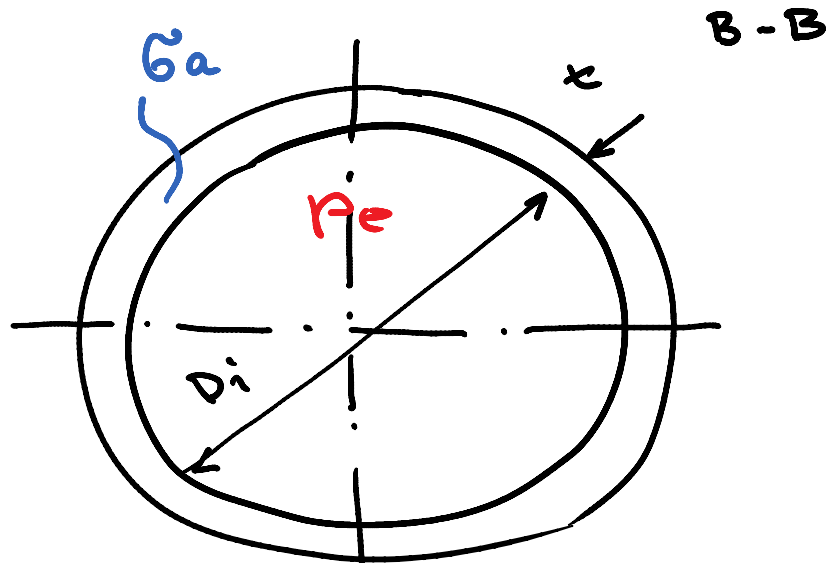
$$\bar{12} = \ell$$



$$\sigma_t \cdot \ell \cdot t \cdot 2 = F = p_e \cdot D_i \ell$$

$$\sigma_t = \frac{p_e D_i}{2t}$$

AKSIJALNA NAPETOST



$$p_e \cdot \frac{\pi D_i^2}{4} = F = \sigma_a \cdot \pi D_i t$$

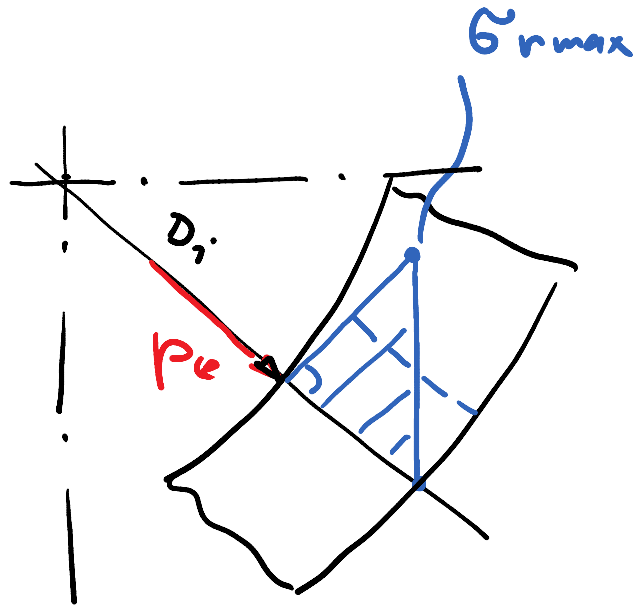
$$D_a = D_i + 2t$$

$$\sigma_a = \frac{p_e D_i}{4t}$$

$$A = \frac{\pi}{4} (D_a^2 - D_i^2) \approx \pi D_i t$$

VELJA ZA TANKOSTENE TLAČNE
POSODE!

RADIALNA NAPETOST



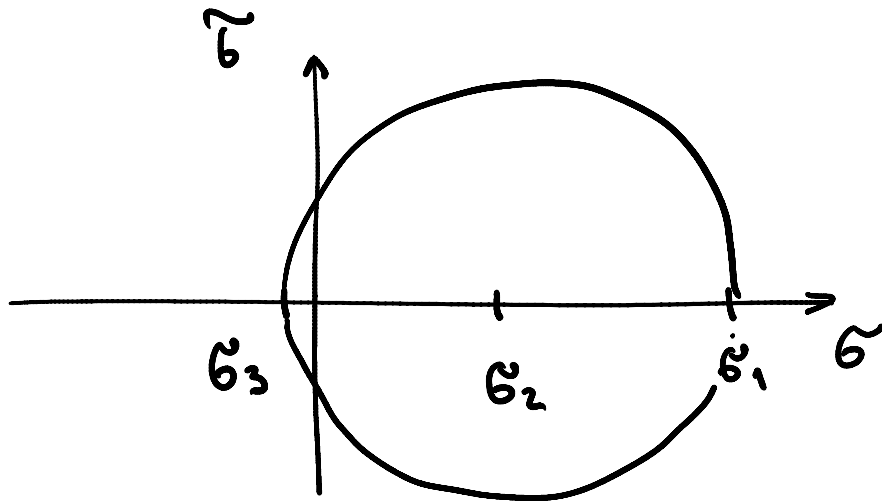
$$\sigma_r = \frac{\sigma_{rmax}}{2} = -\frac{p_e}{2}$$

$$\sigma_{rmax} = -p_e$$

PRIMERJALNA NAPETOST

$$\sigma_r = -\frac{p_e}{2} < \sigma_a = \frac{p_e D_i}{4t} < \sigma_t = \frac{p_e D_i}{2t}$$

$$\sigma_1 = \sigma_t ; \quad \sigma_2 = \sigma_a ; \quad \sigma_3 = \sigma_r$$



MOHRU ƧROG

$$D_i = D_a - 2t$$

$$\sigma_v = \sigma_1 - \sigma_3 = \frac{p_e D_i}{2t} + \frac{p_e}{2} = \frac{p_e D_a}{2t} - p_e + \frac{p_e}{2}$$

$$\sigma_v \leq \sigma_{dop} \qquad \sigma_v = \frac{p_e D_a}{2t} - \frac{p_e}{2}$$

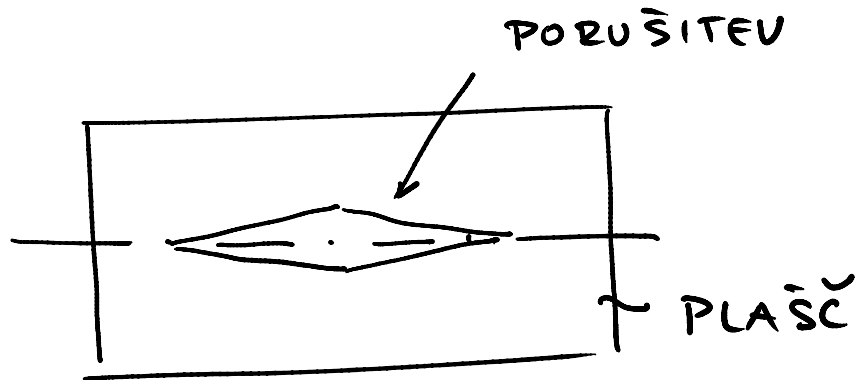
$$\sigma_v = \sigma_{dop} = \frac{p_e D_a}{2t} - \frac{p_e}{2} \quad | \cdot 2$$

$$2\sigma_{dop} + p_e = \frac{p_e D_a}{t}$$

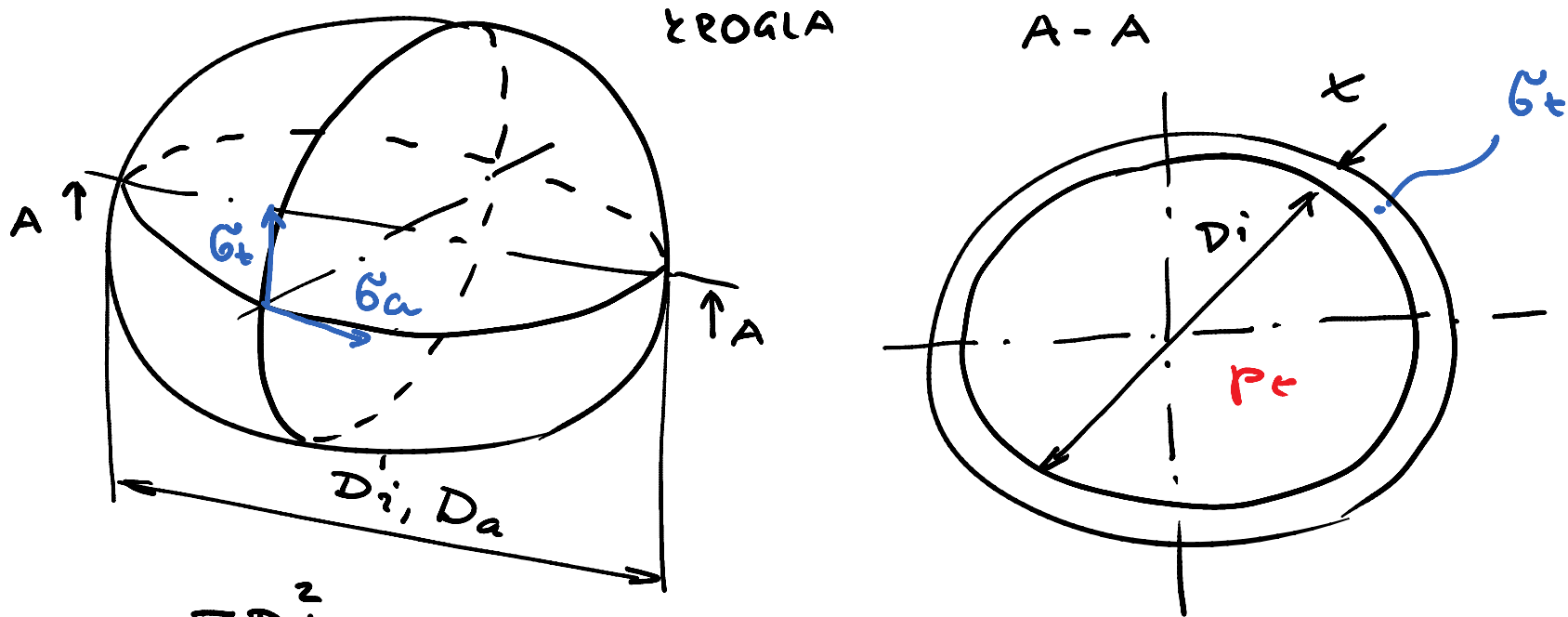
$$t \geq \frac{p_e D_a}{2 \sigma_{dop} + p_e} + C_1 + C_2 - \frac{t}{t}$$

DODATEK ZA BADI
TOLERANCE DEBELINE
DODATEK ZA KOROZIJU

YOTLOUSKA ENACBA



POKROU TLAČNE POSODE



$$p_e \frac{\pi D_i^2}{4} = F = \sigma_t \cdot \pi D_i \cdot t$$

$$\sigma_t = \frac{p_e D_i}{4 t} = \sigma_a$$

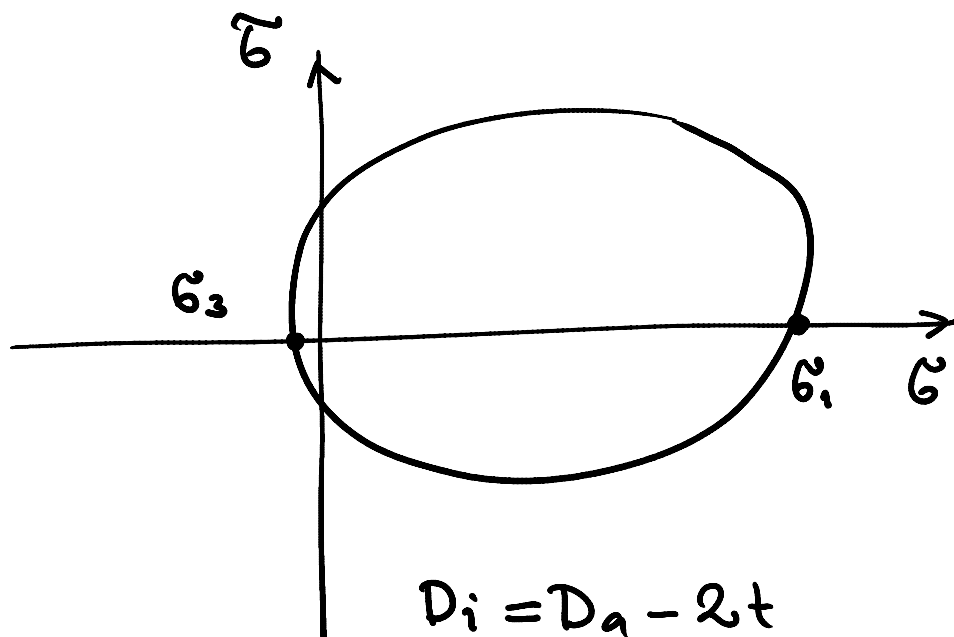
$$\sigma_r = -\frac{p_e}{2}$$

PRIMERJALNA NAPETOST

$$\sigma_r = -\frac{p_e}{2} < \sigma_a = \sigma_t = \frac{p_e D_i}{4t}$$

$$\sigma_1 = \sigma_2 = \sigma_a = \sigma_t$$

$$\sigma_3 = \sigma_r$$



$$\sigma_v = \sigma_1 - \sigma_3$$

$$= \frac{p_e D_i}{4t} + \frac{p_e}{2}$$

$$= \frac{p_e D_a}{4t} - \frac{p_e}{2} + \frac{p_e}{2}$$

$$\sigma_v = \frac{p_e D_a}{4t} \leq \sigma_{dop}$$

$$t \geq \frac{p_e D_a}{4 \sigma_{dop}} \cdot \beta + C_1 + C_2$$

DODATEK ZA RADI
TOLERANCE DEBELINE

DODATEK ZA
KORUŽITO

FAKTOR, KI VPOŠTEVA OBLIKO
DNA TLAČNE POSODE

$$\sigma_t = \frac{p_e D_i}{4t}$$

$$\sigma_a = \frac{p_e D_i}{4t}$$

$$\sigma_a = \frac{p_e D_i}{4t}$$

$$\sigma_t = \frac{p_e D_i}{2t}$$

NEVARNOST σ_t
KONCENTRACIJA NAPETOSTI!

