

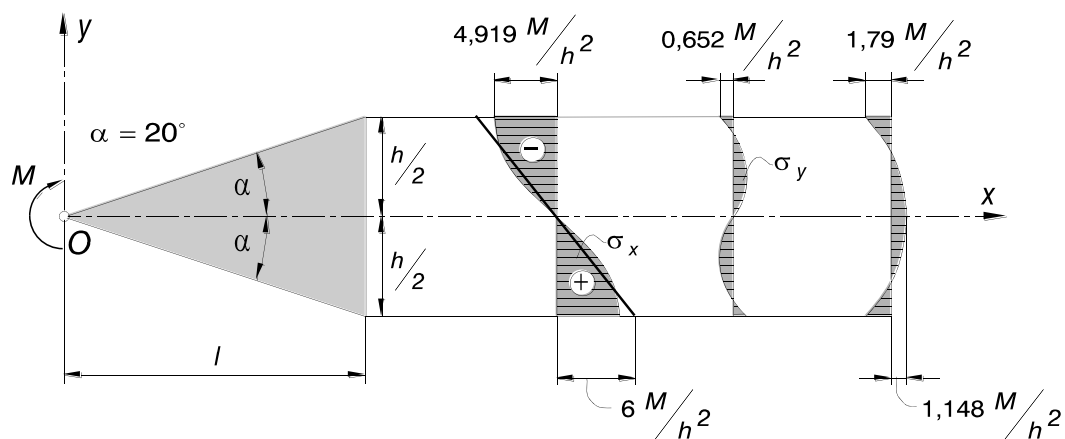
$$\tau_{r\varphi} = + \frac{M}{\sin 2\alpha - 2\alpha \cos 2\alpha} \frac{\cos 2\varphi - \cos 2\alpha}{r^2}. \quad (5.138)$$

Radi preglednosti napisat ćemo (5.138) još jednom u obliku

$$\sigma_r = -\frac{4D}{r^2} \cos \varphi \sin \varphi,$$

$$\tau_{r\varphi} = \frac{D}{r^2} (\cos 2\alpha - \cos^2 \varphi + \sin^2 \varphi), \quad (5.139)$$

$$D = \frac{M}{\sin 2\alpha - 2\alpha \cos 2\alpha}.$$



Slika 5.35 Raspodjela naprezanja u presjeku klina

Izrazi za transformaciju prema slici 5.28 glase

$$\sigma_x = \sigma_r \cos^2 \varphi - 2\tau_{r\varphi} \cos \varphi \sin \varphi,$$

$$\sigma_y = \sigma_r \sin^2 \varphi + 2\tau_{r\varphi} \cos \varphi \sin \varphi,$$

$$\tau_{xy} = \sigma_r \cos \varphi \sin \varphi + \tau_{r\varphi} (\cos^2 \varphi - \sin^2 \varphi).$$

Ako je (5.139) uvrstimo u izraze za transformaciju i pri tome uzmemo u obzir (5.119) i (5.120), dobit ćemo

$$\sigma_x = -\frac{D}{(x^2 + y^2)^3} \left\{ 4x^3y - 2 \left[xy(x^2 + y^2) \cos 2\alpha - x^3y + xy^3 \right] \right\},$$

$$\sigma_y = -\frac{D}{(x^2 + y^2)^3} \left\{ 4xy^3 + 2 \left[xy(x^2 + y^2) \cos 2\alpha - x^3y + xy^3 \right] \right\}, \quad (5.140)$$