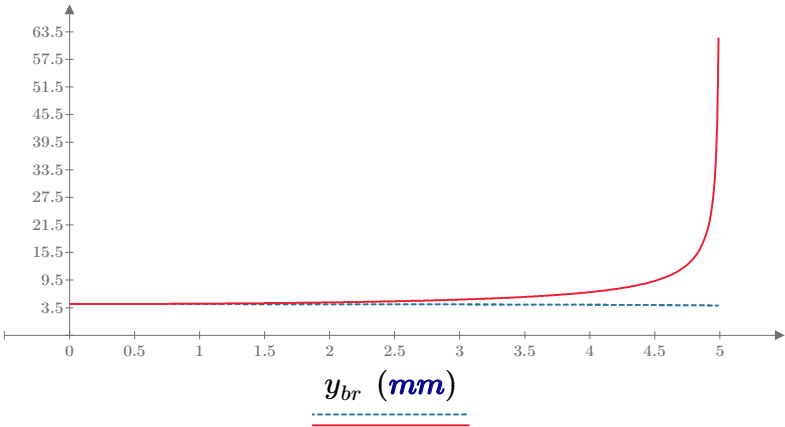


$$\alpha \left< y_{br} \right> := \text{atan} \left(\frac{y_{br}}{\sqrt{R^2 - y_{br}^2}} \right)$$

$$\alpha_p \left< y_{br} \right> := \text{asin} \left(\frac{y_{br}}{r} \right)$$

$$\tau_z \left< y_{br} \right> := \frac{\frac{T_{BB}}{2}}{\frac{J_{Bn}}{2}} \cdot \frac{S_{nr1} \left< y_{br} \right>}{b_{r1} \left< y_{br} \right> \cdot \cos \left< \alpha \left< y_{br} \right> \right>}$$

$$\tau_{zp} \left< y_{br} \right> := \frac{\frac{T_{BB}}{2}}{\frac{J_{Bn}}{2}} \cdot \frac{S_{nr1} \left< y_{br} \right>}{b_{r1} \left< y_{br} \right> \cdot \cos \left< \alpha_p \left< y_{br} \right> \right>}$$



$\tau_z \left< y_{br} \right> \left(\frac{\textcolor{blue}{kgf}}{\textcolor{blue}{mm}^2} \right)$

 $\tau_{zp} \left< y_{br} \right> \left(\frac{\textcolor{blue}{kgf}}{\textcolor{blue}{mm}^2} \right)$

$$\tau_z (0 \text{ mm}) = 4.297 \frac{\textcolor{blue}{kgf}}{\textcolor{blue}{mm}^2}$$

$$\tau_{zp} (0 \text{ mm}) = 4.297 \frac{\textcolor{blue}{kgf}}{\textcolor{blue}{mm}^2}$$

$$\tau_z (r) = 3.927 \frac{\textcolor{blue}{kgf}}{\textcolor{blue}{mm}^2}$$