

THICK-WALLED PIPE

$$r_i := 75 \text{ mm}$$

$$r_a := 125 \text{ mm}$$

$$p_i := 10 \text{ MPa}$$

$$\sigma_t := p_i \cdot \frac{\left(\frac{r_a}{r_i}\right)^2 + 1}{\left(\frac{r_a}{r_i}\right)^2 - 1} = 21.25 \text{ MPa}$$

FEM:

$$\sigma_{t_FEM} := 21.3 \text{ MPa}$$

