M18. Crack will propagate at highest ~~stress~~ tensile stress

This is in case (2) $\sigma_I = \frac{812.3 \times 10^3}{2.45 \times 10^{-3}} = 331.6 \text{ MPa}$.

$\sigma_{fs}$ = Critical crack size $= \frac{1}{11}\left(\frac{K_{1c}}{\sigma}\right)^2 = 1.7 \times 10^{-3}$

$\therefore$ total crack size = ~~1.7~~ 3.4 mm ⟸.

Need to reduce stress to point where critical crack half length = 2.5 mm ⟸.

$\therefore \quad \sigma = 24 \times 10^6 \sqrt{\pi \times 2.5 \times 10^{-3}} = 270.8 \text{ MPa}$

$\therefore \quad \frac{812.3 \times 10^3}{t} = 270.8 \text{ MPa} \Rightarrow \quad t = \frac{812.3 \times 10^3}{270.8 \times 10^6} = 3 \text{ mm} \Leftarrow$