

$$a_{ext} := 13.32\text{mm}$$

$$b_{int} := 10.43\text{mm}$$

$$m_p := \frac{1}{.4}$$

$$E_p := 2.6\text{GPa} \quad E_p = 2.6 \times 10^9 \text{Pa}$$

$$Q_p := 41.5\text{N}$$

$$t_p := 0.2\text{mm}$$

$$f_p := \frac{3 \cdot Q_p \cdot (m_p^2 - 1)}{(4 \cdot m_p^2 \cdot \pi \cdot E_p \cdot t_p^3)} \cdot \frac{\left[a_{ext}^4 \cdot (3 \cdot m_p + 1) - b_{int}^4 \cdot (m_p - 1) - 2 \cdot a_{ext}^2 \cdot b_{int}^2 \cdot (m_p + 1) - 8 \cdot m_p \cdot a_{ext}^2 \cdot b_{int}^2 \cdot \ln\left(\frac{a_{ext}}{b_{int}}\right) - 4 \cdot a_{ext}^2 \cdot b_{int}^2 \cdot (m_p + 1) \cdot \left(\ln\left(\frac{a_{ext}}{b_{int}}\right)\right)^2 \right]}{a_{ext}^2 \cdot (m_p + 1) + b_{int}^2 \cdot (m_p - 1)}$$

$$f_p = 2.11\text{-mm}$$