

$$AI := \frac{1}{4} \cdot \frac{\pi \cdot d_c^2}{4} = (2.827 \cdot 10^3) \text{ mm}^2$$

$$AII := \frac{d_l}{2} \cdot h = 30 \text{ mm}^2$$

$$AIII := \frac{1}{2} \cdot \frac{d_l}{2} \cdot \frac{d_l}{2} \cdot \tan(30 \text{ deg}) = 7.217 \text{ mm}^2$$

$$A_1 := AI - AII - AIII = 2790.217 \text{ mm}^2$$

$$y_{GI} := \frac{2}{3} \cdot \frac{d_c}{\pi} = 25.465 \text{ mm}$$

$$y_{GII} := \frac{h}{2} = 3 \text{ mm}$$

$$y_{GIII} := h + \frac{d_l}{2} \cdot \tan(30 \text{ deg}) \cdot \frac{1}{3} = 6.962 \text{ mm}$$

$$y_{G1} := \frac{y_{GI} \cdot AI - y_{GII} \cdot AII - y_{GIII} \cdot AIII}{A_1} = 25.754 \text{ mm}$$