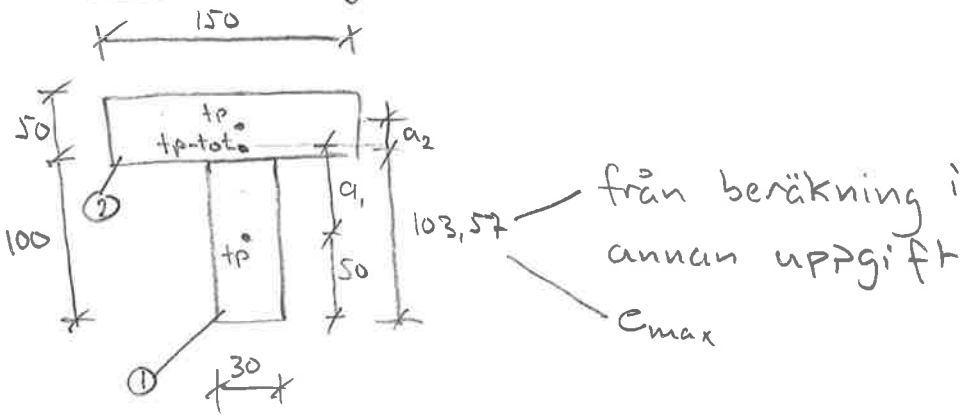
Sammanlagt tröghetsmoment vid olika tyngdpunktsaxlar



Formler

$$I_{tot} = I_1 + A_1 a_1^2 + I_2 + A_2 a_2^2 \qquad (1)$$

$$I_1 = \frac{b \cdot h^3}{12} = \frac{30 \cdot 100^3}{12} = 2\,500\,000$$

$$I_2 = \frac{b \cdot h^3}{12} = \frac{150 \cdot 50^3}{12} = 1\,562\,500$$

$$a_1 = 103{,}57 - 50 = 53{,}57$$

$$a_2 = 125 - 103{,}57 = 21{,}43$$

$$A_1 = 30 \cdot 100 = 3000$$

$$A_2 = 50 \cdot 150 = 7500$$

$$A_1 \cdot a_1^2 = 3000 \cdot 53.57^2 \approx 8\,609\,234{,}7$$

$$A_2 \cdot a_2^2 = 7500 \cdot 21{,}43^2 \approx 3\,444\,336{,}75$$

Insättning i (1) $\Rightarrow$

$$I_{tot} = 2\,500\,000 + 8\,609\,234{,}7 + 1\,562\,500 + 3\,444\,336{,}75$$

$$\approx \underline{16\,116\,071} \quad mm^4$$

$$W = \frac{I_{tot}}{c_{max}} = \frac{16\,116\,071}{103{,}57} \approx \underline{155\,606 \ mm^3}$$

Ungefär samma värde som för HEA 140