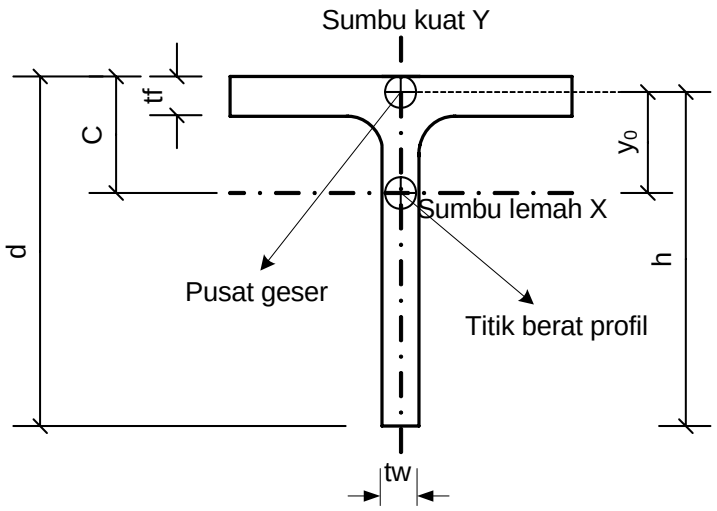
BESARAN PENAMPANG PROFIL T



Data Penampang: Profil ST 400x400x45x70 **Satuan metrik**

Momen Inersia	$Ix := 13200cm^4$	$Iy := 47100cm^4$	lihat tabel hal.29
Luas Penampang	$A := 385cm^2$		
Tinggi total profil	$d := 249mm$		
Tebal sayap	$tf := 70mm$		
Tebal badan	$tw := 45mm$		
Lebar sayap	$bf := 432mm$		
Jari2 sudut flens-badan	$r := 16mm$		

Koordinat pusat berat dari tepi atas flens $C := 6.13cm$ $yo := C - 0.5 \cdot tf$ $yo = 26.30\,mm$

Besaran Penampang

$$Sx := \frac{Ix}{d - C} \qquad Sx = 703.25\,cm^3$$

$$Sy := \frac{Iy}{0.5 \cdot bf} \qquad Sy = 2180.56\,cm^3$$

$$rx := \sqrt{\frac{Ix}{A}} \qquad rx = 5.86\,cm$$

$$ry := \sqrt{\frac{Iy}{A}} \qquad ry = 11.06\,cm$$

$$h := d - 0.5 \cdot tf \qquad h = 214.00\,mm$$

$$Cw := \frac{1}{36}\left(\frac{bf^3 \cdot tf^3}{4} + h^3 \cdot tw^3\right)$$

$$Cw = 216843.22\,cm^6$$

$$J := \frac{1}{3}\left(bf \cdot tf^3 + h \cdot tw^3\right)$$

$$J = 5589.23\,cm^4$$