

**Table 5.2. Values of  $R_n$  and  $R$  for various commonly used cross-section in curved beams.**

Section	Values of $R_n$ and $R$
	$R_n = \frac{h}{\log_e \left( \frac{R_o}{R_i} \right)}$ $R = R_i + \frac{h}{2}$

Section	Values of $R_n$ and $R$
	$R_n = \frac{[\sqrt{R_o} + \sqrt{R_i}]^2}{4}$ $R = R_i + \frac{d}{2}$
	$R_n = \frac{\left( \frac{b_i + b_o}{2} \right) h}{\left( \frac{b_i R_o - b_o R_i}{h} \right) \log_e \left( \frac{R_o}{R_i} \right) - (b_i - b_o)}$ $R = R_i + \frac{h (b_i + 2b_o)}{3 (b_i + b_o)}$

	$R_n = \frac{\frac{1}{2} b_i \times h}{\frac{b_i R_o}{h} \log_e \left( \frac{R_o}{R_i} \right) - b_i}$ $R = R_i + \frac{h}{3}$
	$R_n = \frac{(b-t)(t_i+t_o) + t.h}{b \left[ \log_e \left( \frac{R_i+t_i}{R_i} \right) + \log_e \left( \frac{R_o}{R_o-t_o} \right) \right] + t \cdot \log_e \left( \frac{R_o-t_o}{R_i+t_i} \right)}$ $R = R_i + \frac{\frac{1}{2} h^2 \cdot t + \frac{1}{2} t_i^2 (b-t) + (b-t) t_o (h - \frac{1}{2} t_o)}{h.t + (b-t)(t_i+t_o)}$

Section	Values of $R_n$ and $R$
	$R_n = \frac{t_i (b_i - t) + t.h}{(b_i - t) \log_e \left( \frac{R_i + t_i}{R_i} \right) + t \cdot \log_e \left( \frac{R_o}{R_i} \right)}$ $R = R_i + \frac{\frac{1}{2} h^2 t + \frac{1}{2} t_i^2 (b_i - t)}{h.t + t_i (b_i - t)}$
	$R_n = \frac{t_i (b_i - t) + t_o (b_o - t) + t.h}{b_i \log_e \left( \frac{R_i + t_i}{R_i} \right) + t \log_e \left( \frac{R_o - t_o}{R_i + t_i} \right) + b_o \log_e \left( \frac{R_o}{R_o - t_o} \right)}$ $R = R_i + \frac{\frac{1}{2} h^2 t + \frac{1}{2} t_i^2 (b_i - t) + (b_o - t) t_o (h - \frac{1}{2} t_o)}{t_i (b_i - t) + t_o (b_o - t) + t.h}$

