
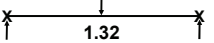
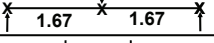

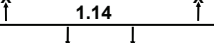
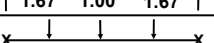
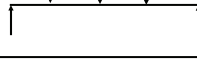
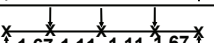


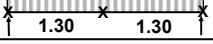



AISC Table 3-1. Values of C_b

For simply supported beams

Load	Lateral Bracing Along Span	C_b	L_b
	None		L
	At Load Points		$L/2$
	None		L
	At Load Points		$L/3$
	None		L
	At Load Points		$L/4$
	None		L
	At Centerline		$L/2$

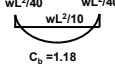
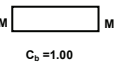
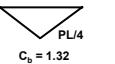
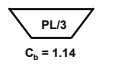
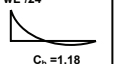
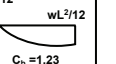

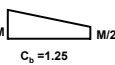
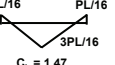
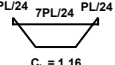
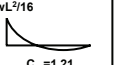
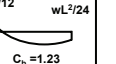
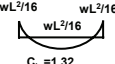
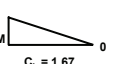


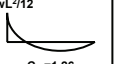
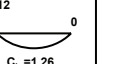

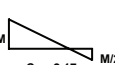
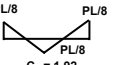
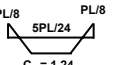
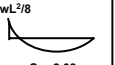
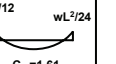
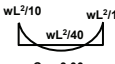
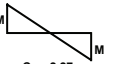
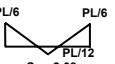
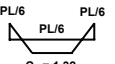




X = Brace Point.
Note That Beam Must Be Braced at Supports.

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C_b Values for Different Load Cases

AISC Equation F1-1

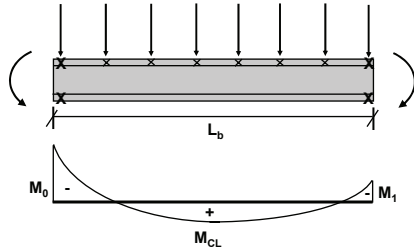
 $C_b = 1.18$	 $C_b = 1.00$	 $C_b = 1.32$	 $C_b = 1.14$	 $C_b = 1.18$	 $C_b = 1.23$
 $C_b = 1.22$	 $C_b = 1.25$	 $C_b = 1.47$	 $C_b = 1.16$	 $C_b = 1.21$	 $C_b = 1.23$
 $C_b = 1.32$	 $C_b = 1.67$	 $C_b = 1.56$	 $C_b = 1.17$	 $C_b = 1.26$	 $C_b = 1.26$
 $C_b = 2.38$	 $C_b = 2.17$	 $C_b = 1.92$	 $C_b = 1.24$	 $C_b = 2.08$	 $C_b = 1.61$
 $C_b = 3.00$	 $C_b = 2.27$	 $C_b = 2.08$	 $C_b = 1.32$	 $C_b = 3.00$	 $C_b = 2.38$



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Yura's C_b Equation

(Compression flange continuously braced)



M_0 = End moment that gives the largest compression stress on the bottom flange

M_1 = Other end moment

M_{CL} = Moment at mid-span

$$C_b = 3.0 - \frac{2}{3} \left(\frac{M_1}{M_0} \right) - \frac{8}{3} \frac{M_{CL}}{(M_0 + M_1)^*}$$

M_{max} = Max. of M_0 , M_1 , and M_{CL}

* Take $M_1 = 0$ in this term if M_1 is positive

1. If neither moment causes compression on the bottom flange there is no buckling
2. When one or both end moments cause compression on the bottom flanges use C_b with L_b
3. Use C_b with M_0 to check buckling ($C_b \phi_b M_n > M_0$)
4. Use M_{max} to check yielding ($\phi_b M_p > M_{max}$)
5. X = Effective brace point



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C_b Value for Different Load Cases

Yura's C_b Equation (compression flange continuously braced)



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