

Table 8.7-1
Camber (deflection) and rotation coefficients for prestress force and loads*

Prestress Pattern	Equivalent Moment or Load	Equivalent Loading	Camber	End Rotation
(1)	$M = Pe$		$\frac{M\ell^2}{16EI} + \frac{M\ell^2}{16EI}$	$\frac{M\ell}{3EI} + \frac{M\ell}{6EI}$
(2)	$M = Pe$		$\frac{M\ell^2}{16EI} + \frac{M\ell^2}{16EI}$	$\frac{M\ell}{3EI} + \frac{M\ell}{6EI}$
(3)	$M = Pe$		$\frac{M\ell^2}{8EI} + \frac{M\ell^2}{8EI}$	$\frac{M\ell}{2EI} + \frac{M\ell}{2EI}$
(4)	$N = \frac{4Pe'}{\ell}$		$\frac{N\ell^3}{48EI} + \frac{N\ell^3}{48EI}$	$\frac{N\ell^2}{16EI} + \frac{N\ell^2}{16EI}$
(5)	$N = \frac{Pe'}{b\ell}$		$\frac{b(3 - 4b^2)N\ell^3}{24EI} + \frac{b(3 - 4b^2)N\ell^3}{24EI}$	$\frac{b(1 - b)N\ell^2}{2EI} + \frac{b(1 - b)N\ell^2}{2EI}$
(6)	$w = \frac{8Pe'}{\ell^2}$		$\frac{5w\ell^4}{384EI} + \frac{5w\ell^4}{384EI}$	$\frac{w\ell^3}{24EI} + \frac{w\ell^3}{24EI}$
(7)	$M = Pe'$		$\frac{M\ell^2}{8EI} (1 - 2b_1^2 - 2b_2^2) + \frac{M\ell^2}{8EI} (1 - 2b_1^2 - 2b_2^2)$	$\frac{M\ell}{2EI} [(1 - 2b_1)^2 - b_2^2] + \frac{M\ell}{2EI} [(1 - 2b_1)^2 - b_2^2]$

* The tabulated values apply to the effects of prestressing. By adjusting the directional rotation, they may also be used for the effects of loads. For patterns 4 to 7, superimpose on 1, 2 or 3 for other C.G. locations