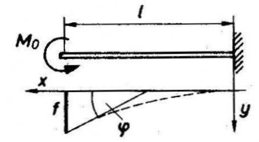
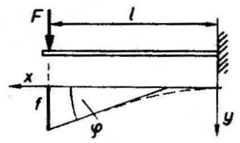
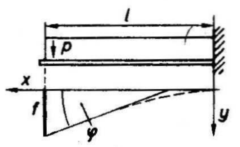
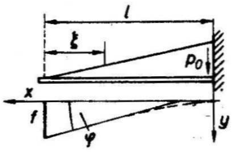
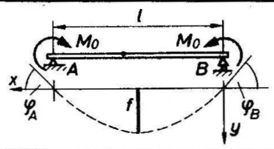
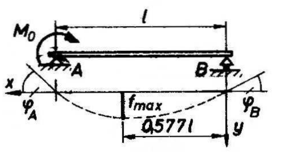
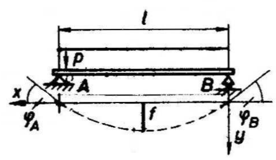
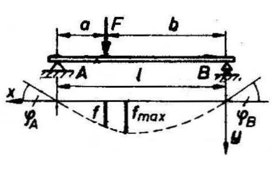
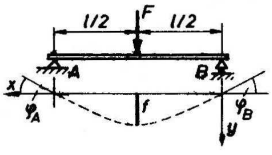
Járulékképletek[1]

5.2. táblázat. **A hajlított rúd alakváltozása**

A tartó megfogása és terhelése, a rugalmas szál közelítő meggörbült alakja	A rugalmas szál egyenlete és első deriváltja	Elmozdulások és szögelfordulások
	$y = \frac{M_0}{2IE}x^2$ $y' = \frac{M_0}{IE}x$	$f = \frac{M_0 l^2}{2IE}$ $\varphi = \frac{M_0 l}{IE}$
	$y = \frac{F}{6IE}(3lx^2 - x^3)$ $y' = \frac{F}{2IE}(2lx - x^2)$	$f = \frac{Fl^3}{3IE}$ $\varphi = \frac{Fl^2}{2IE}$
	$y = \frac{p}{24IE}(6l^2x^2 - 4lx^3 + x^4)$ $y' = \frac{p}{6IE}(3l^2x - 3lx^2 + x^3)$	$f = \frac{pl^4}{8IE}$ $\varphi = \frac{pl^3}{6IE}$
	$y = \frac{p_0}{120IEl}(\xi^5 - 5l^4\xi + 4l^5)$ $y' = \frac{p_0}{24IEl}(\xi^4 - l^4); \quad \xi = l - x$	$f = \frac{p_0 l^4}{30IE}$ $\varphi = \frac{p_0 l^3}{24IE}$
	$y = \frac{M_0}{2IE}(lx - x^2)$ $y' = \frac{M_0}{2IE}(l - 2x)$	középen $f = \frac{M_0 l^2}{8IE}$ $\varphi_A = \varphi_B = \frac{M_0 l}{2IE}$
	$y = \frac{M_0}{6IEl}(l^2x - x^3)$ $y' = \frac{M_0}{6IEl}(l^2 - 3x^2)$	$x_0 = 0{,}577l$ helyen $f_{max} = 0{,}0641\frac{M_0 l^2}{IE}$ $\varphi_B = \frac{M_0 l}{6IE}$ $\varphi_A = 2\varphi_B$
	$y = \frac{p}{24IE}(l^3x - 2lx^3 + x^4)$ $y' = \frac{p}{24IE}(l^3 - 6lx^2 + 4x^3)$	középen $f = \frac{5pl^4}{384IE}$ $\varphi_A = \varphi_B = \frac{pl^3}{24IE}$
	$0 \le x \le b$: $y = \frac{Fax}{6IEl}(l^2 - a^2 - x^2)$ $y' = \frac{Fa}{6IEl}(l^2 - a^2 - 3x^2)$ $b \le x \le l$: $y = \frac{Fb(l-x)}{6IEl}[l^2 - b^2 - (l-x)^2]$ $y' = \frac{Fb}{6IEl}[3(l-x)^2 - l^2 + b^2]$	$x = b$ helyen $f = \frac{Fa^2b^2}{3IEl}$ f_{max} helye, ha $b > a$ $x_0 = \sqrt{\frac{2ab + b^2}{3}}$
	$0 \le x \le l/2$: $y = \frac{F}{48IE}(3l^2x - 4x^3)$ $y' = \frac{F}{16IE}(l^2 - 4x^2)$	középen $f = \frac{Fl^3}{48IE}$ $\varphi_A = \varphi_B = \frac{Fl^2}{16IE}$

[1]Forrás:Muttnyánszky: Szilárdságtan 206 – 207. öld. Műszaki Könyvkiadó, Budapest, 1981