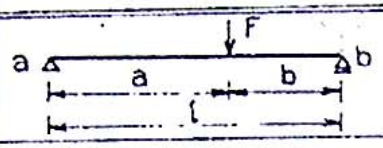
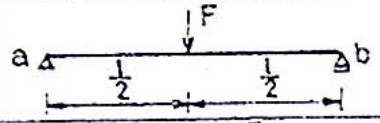
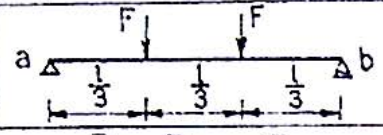
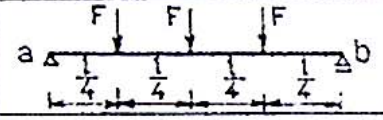
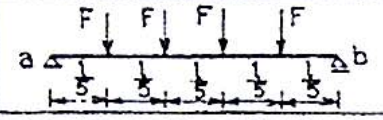
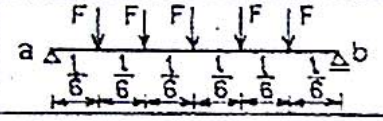
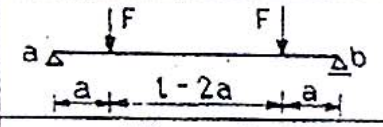
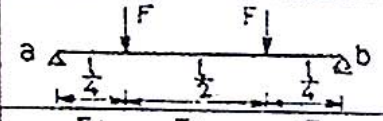
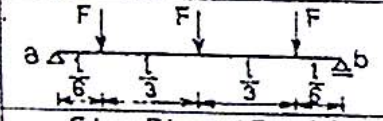
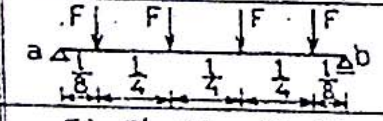
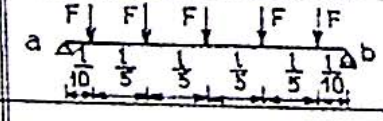
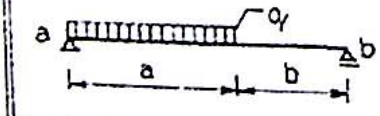
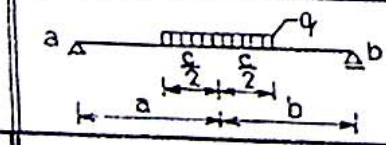
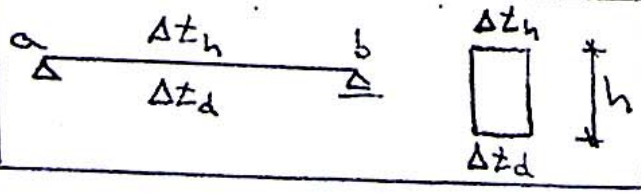
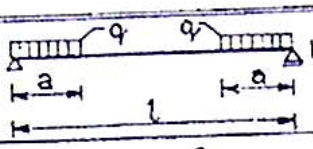
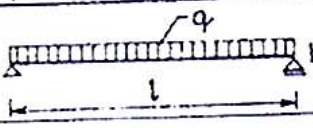
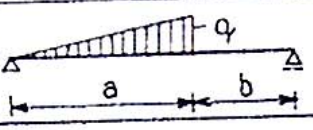
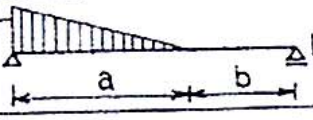
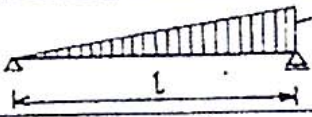
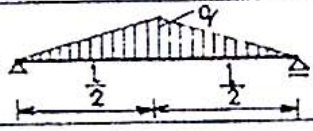
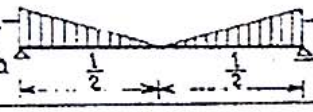
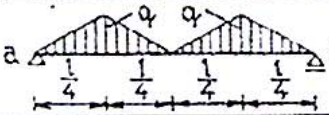
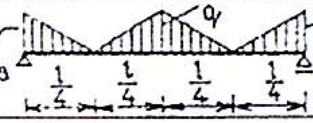
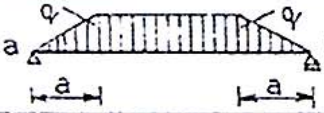
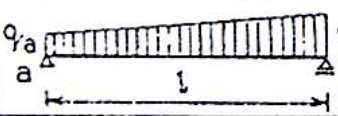
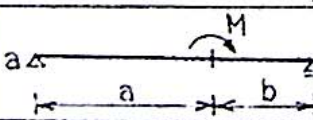
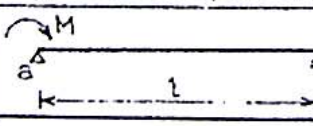
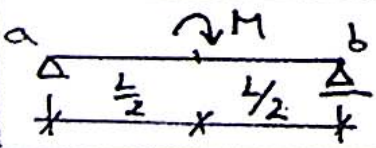
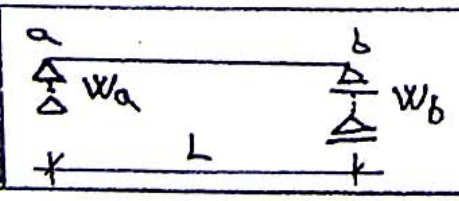
TABULKA 2

DEFORMACE PROSTÉHO NOSNÍKU KONSTANTNÍHO PRŮŘEZU

Zatěž. případ	Schéma zatížení	Průhyb y $y_{max} = f$	Pootočení podporových průřezů
1		$f = \frac{Fab}{27EJl}\sqrt{3a(l+b)^3}$ $v\,x = \sqrt{\frac{1}{3}a(l+b)}$	$\varphi_a = \frac{Fb}{6EJl}(l^2-b^2)$ $\varphi_b = \frac{Fa}{6EJl}(l^2-a^2)$
2		$f = \frac{Fl^3}{48EJ}$ $v\,x = 0{,}5l$	$\varphi_a = \varphi_b = \frac{Fl^2}{16EJ}$
3		$f = \frac{Fl^3}{28{,}17EJ}$ $v\,x = 0{,}5l$	$\varphi_a = \varphi_b = \frac{Fl^2}{9EJ}$
4		$f = \frac{Fl^3}{20{,}22EJ}$ $v\,x = 0{,}5l$	$\varphi_a = \varphi_b = \frac{5}{32}\cdot\frac{Fl^2}{EJ}$
5		$f = \frac{Fl^3}{15{,}73EJ}$ $v\,x = 0{,}5l$	$\varphi_a = \varphi_b = \frac{1}{5}\cdot\frac{Fl^2}{EJ}$
6		$f = \frac{Fl^3}{13{,}05EJ}$ $v\,x = 0{,}5l$	$\varphi_a = \varphi_b = \frac{35}{144}\cdot\frac{Fl^2}{EJ}$
7		$f = \frac{Fl^3}{24EJ}\left(3\frac{a}{l} - 4\frac{a^3}{l^3}\right)$ $v\,x = 0{,}5l$	$\varphi_a = \varphi_b = \frac{Fa}{2EJ}(l-a)$
8		$f = \frac{11}{384}\cdot\frac{Fl^3}{EJ}$ $v\,x = 0{,}5l$	$\varphi_a = \varphi_b = \frac{3}{32}\cdot\frac{Fl^2}{EJ}$
9		$f = \frac{Fl^3}{24{,}45EJ}$ $v\,x = 0{,}5l$	$\varphi_a = \varphi_b = \frac{19}{144}\cdot\frac{Fl^2}{EJ}$
10		$f = \frac{Fl^3}{19{,}04EJ}$ $v\,x = 0{,}5l$	$\varphi_a = \varphi_b = \frac{33}{192}\cdot\frac{Fl^2}{EJ}$
11		$f = \frac{Fl^3}{15{,}1EJ}$ $v\,x = 0{,}5l$	$\varphi_a = \varphi_b = \frac{51}{240}\cdot\frac{Fl^2}{EJ}$
12		$y = \frac{qa^3b}{24EJ}\left(4-3\frac{a}{l}\right)$ $v\,x = a$	$\varphi_a = \frac{qa^2l}{6EJ}\left(1-\frac{a}{2l}\right)^2$ $\varphi_b = \frac{qa^2l}{12EJ}\left(1-\frac{a^2}{2l^2}\right)$
13		$y = \frac{qc}{6EJ}\left[\frac{ab}{l}(2al-2a^2-\frac{c}{4}) + \frac{c^3}{64}\right]$ $v\,x = a$	$\varphi_a = \frac{q}{24EJ}\cdot\frac{bc}{l}\left[4a(l+b)-c^2\right]$ $\varphi_b = \frac{q}{24EJ}\cdot\frac{ac}{l}\left[4b(l+a)-c^2\right]$
29			$\Delta t_1 = \Delta t_d - \Delta t_h$ $\varphi_a = \varphi_b = \frac{\alpha_T\cdot\Delta t_1\cdot L}{2\cdot h}$

POKRAČOVÁNÍ TABULKY 2

Zatěžovací případ	Schéma zatížení	Průhyb y $y_{max} = f$	Pootočení podporových průřezů
14		$f = \frac{q l^4}{48EJ} \cdot \frac{a^2}{l^2}\left(3-2\frac{a^2}{l^2}\right)$ v $x = 0{,}5\,l$	$\varphi_a = \varphi_b = \frac{q a^2}{12EJ}(3l-2a)$
15		$f = \frac{5}{384}\cdot\frac{q l^4}{EJ}$ v $x = 0{,}5l$	$\varphi_a = \varphi_b = \frac{1}{24}\cdot\frac{q l^3}{EJ}$
16		$y = \frac{q a^3 l}{45EJ}\left(5-9\frac{a}{l}+4\frac{a^2}{l^2}\right)$ v $x = a$	$\varphi_a = \frac{q a^2 l}{360EJ}\left(40-45\frac{a}{l}+12\frac{a^2}{l^2}\right)$ $\varphi_b = \frac{q a^2 l}{90EJ}\left(5-3\frac{a^2}{l^2}\right)$
17		$y = \frac{q a^2 b l}{360EJ}\left(20\frac{a}{l}-13\frac{a^2}{l^2}\right)$ v $x = a$	$\varphi_a = \frac{q l^2 a}{360EJ}\left(20-15\frac{a}{l}+3\frac{a^2}{l^2}\right)$ $\varphi_b = \frac{q a l^2}{360EJ}\left(10-3\frac{a^2}{l^2}\right)$
18		$f = 0{,}00652\,\frac{q l^4}{EJ}$ v $x = 0{,}519\,l$	$\varphi_a = \frac{7}{360}\cdot\frac{q l^3}{EJ}$ $\varphi_b = \frac{8}{360}\cdot\frac{q l^3}{EJ}$
19		$f = \frac{1}{120}\cdot\frac{q l^4}{EJ}$ v $x = 0{,}5l$	$\varphi_a = \varphi_b = \frac{5}{192}\cdot\frac{q l^3}{EJ}$
20		$f = \frac{3}{640}\cdot\frac{q l^4}{EJ}$ v $x = 0{,}5l$	$\varphi_a = \varphi_b = \frac{1}{64}\cdot\frac{q l^3}{EJ}$
21		$f = \frac{7}{1024}\cdot\frac{q l^4}{EJ}$ v $x = 0{,}5l$	$\varphi_a = \varphi_b = \frac{17}{768}\cdot\frac{q l^3}{EJ}$
22		$f = \frac{19}{3072}\cdot\frac{q l^4}{EJ}$ v $x = 0{,}5l$	$\varphi_a = \varphi_b = \frac{5}{256}\cdot\frac{q l^3}{EJ}$
23		$f = \frac{5}{384}\cdot\frac{q l^4}{EJ}\left(1-\frac{8}{5}\cdot\frac{a^2}{l^2}+\frac{16}{25}\cdot\frac{a^4}{l^4}\right)$ v $x = 0{,}5\,l$	$\varphi_a = \varphi_b = \frac{q l^3}{24EJ}\left(1-2\frac{a^2}{l^2}+\frac{a^3}{l^3}\right)$
24		$f = 0{,}0065\,(q_a+q_b)l^4$ v x od $0{,}5l$ do $0{,}519\,l$	$\varphi_a = \frac{l^3}{360EJ}(8q_a+7q_b)$ $\varphi_b = \frac{l^3}{360EJ}(7q_a+8q_b)$
25		$y = \frac{M_{ab}}{3EJ}\cdot\frac{a-b}{l}$ v $x = a$	$\varphi_a = \frac{-Ml}{6EJ}\left(1-3\frac{b^2}{l^2}\right)$ $\varphi_b = \frac{Ml}{6EJ}\left(1-3\frac{a^2}{l^2}\right)$
26		$f = \frac{Ml^2}{15{,}59EJ} = 0{,}0642\,\frac{Ml^2}{EJ}$ v $x = 0{,}423\,l$	$\varphi_a = \frac{Ml}{3EJ}$; $\varphi_b = \frac{Ml}{6EJ}$
27			$\varphi_a = -\varphi_b = -\frac{M \cdot L}{24EI}$
28			$\varphi_a = -\varphi_b = \frac{w_b - w_a}{L}$