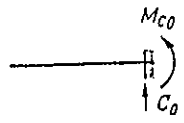
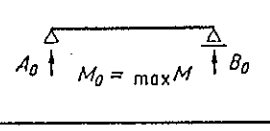
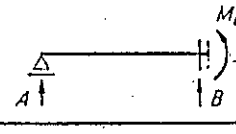
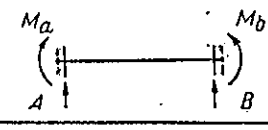
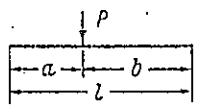
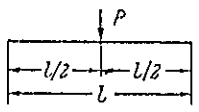
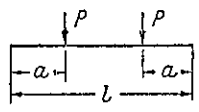
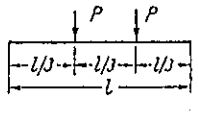
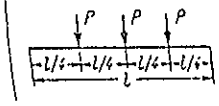
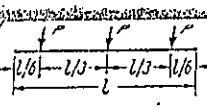
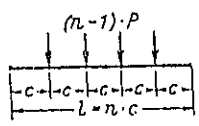
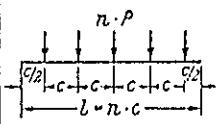
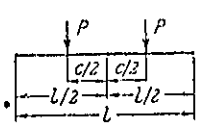
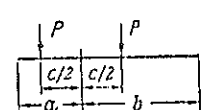
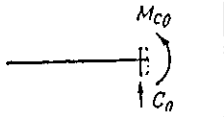
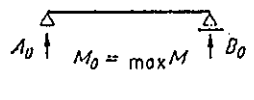
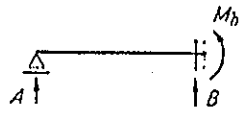
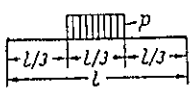
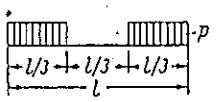
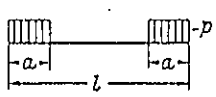
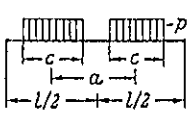
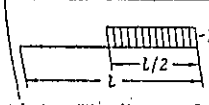
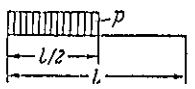
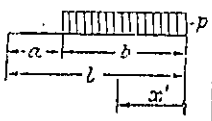
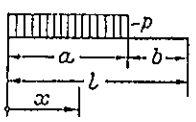
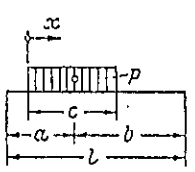
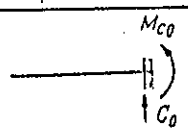
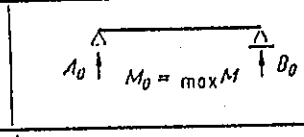
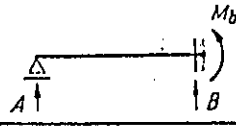
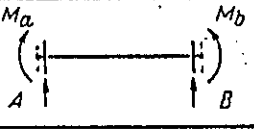
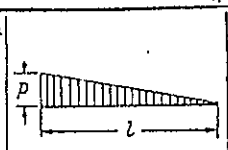
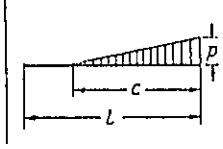
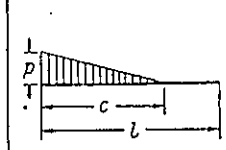
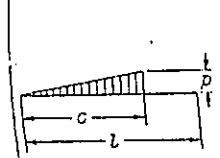
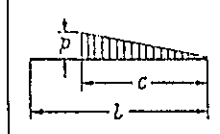
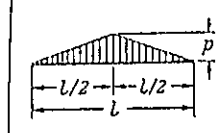
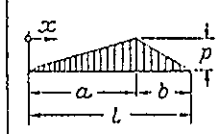
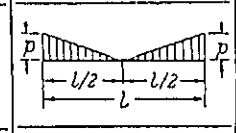
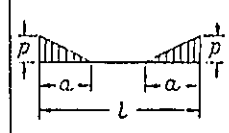
Tafel 4. *Auflagerdrücke und Biegemomente von Krag- und Einfeldträgern*

Belastungsfall \ Trägerart	M_{c0}  C_0	A_0 $M_0 = \max M$ B_0 	M_b  A B	M_a M_b  A B
1 	$C_0 = P$ $M_{c0} = -Pb$	$A_0 = \frac{Pb}{l}$; $B_0 = \frac{Pa}{l}$ $M_0 = \frac{Pab}{l}$	$A = \frac{Pb^2}{2l^3}(2l + a)$ $B = \frac{Pa}{2l^3}(3l^2 - a^2)$ $M_b = -\frac{Pab}{2l^2}(l + a)$	$A = \frac{Pb^2}{l^3}(3l - 2b)$ $B = \frac{Pa^2}{l^3}(3l - 2a)$ $M_a = -\frac{Pab^2}{l^2}$; $M_b = -\frac{Pa^2b}{l^2}$ $\max M = \frac{2Pa^2b^2}{l^3}$
2 	$C_0 = P$ $M_{c0} = -\frac{Pl}{2}$	$A_0 = B_0 = \frac{P}{2}$ $M_0 = M_m = \frac{Pl}{4}$ $\delta_m = \frac{1}{48}\frac{Pl^3}{EI}$	$A = \frac{5}{16}P$; $B = \frac{11}{16}P$ $M_b = -\frac{3}{16}Pl$ $\max \delta = \frac{1}{107{,}3}\frac{Pl^3}{EI}$	$A = B = \frac{P}{2}$ $M_a = M_b = -\frac{Pl}{8}$ $M_m = \frac{Pl}{8}$; $\delta_m = \frac{1}{192}\frac{Pl^3}{EI}$
3 	$C_0 = 2P$ $M_{c0} = -Pl$	$A_0 = B_0 = P$ $M_0 = M_m = Pa$	$A = P\left[1 - \frac{3}{2}\left(\frac{a}{l} - \frac{a^2}{l^2}\right)\right]$ $B = P\left[1 + \frac{3}{2}\left(\frac{a}{l} - \frac{a^2}{l^2}\right)\right]$ $M_b = -\frac{3Pa}{2l}(l - a)$	$A = B = P$ $M_a = M_b = -\frac{Pa}{l}(l - a)$ $M_m = \frac{Pa^2}{l}$
4 	$C_0 = 2P$ $M_{c0} = -Pl$	$A_0 = B_0 = P$ $M_0 = M_m = \frac{Pl}{3}$	$A = \frac{2}{3}P$ $B = \frac{4}{3}P$ $M_b = -\frac{Pl}{3}$	$A = B = P$ $M_a = M_b = -\frac{2}{9}Pl$ $M_m = \frac{1}{9}Pl$
5 	$C_0 = 3P$ $M_{c0} = -\frac{3}{2}Pl$	$A_0 = B_0 = \frac{3}{2}P$ $M_0 = M_m = \frac{Pl}{2}$	$A = \frac{33}{32}P$; $B = \frac{63}{32}P$ $M_b = -\frac{15}{32}Pl$	$A = B = \frac{3}{2}P$ $M_a = M_b = -\frac{5}{16}Pl$; $M_m = \frac{3}{16}Pl$
6 	$C_0 = 3P$ $M_{c0} = -\frac{3}{2}Pl$	$A_0 = B_0 = \frac{3}{2}P$ $M_0 = M_m = \frac{5}{12}Pl$	$A = \frac{53}{48}P$; $B = \frac{91}{48}P$ $M_b = -\frac{19}{48}Pl$	$A = B = \frac{3}{2}P$ $M_a = M_b = -\frac{19}{72}Pl$; $M_m = \frac{11}{72}Pl$
7 	$C_0 = (n-1)P$ $M_{c0} = -\frac{n}{2}(n-1)Pc$	$A_0 = B_0 = \frac{n-1}{2}P$ $M_0 = M_m = \frac{Pl}{8}\left(n - \frac{1}{n}\right)$ n ungerade	$A = \frac{P}{8}\left(3n + \frac{1}{n} - 4\right)$ $B = \frac{P}{8}\left(5n - \frac{1}{n} - 4\right)$ $M_b = -\frac{Pl}{8}\left(n - \frac{1}{n}\right)$	$A = B = \frac{n-1}{2}P$ $M_a = M_b = -\frac{Pl}{12}\left(n - \frac{1}{n}\right)$ $M_m = \frac{Pl}{24}\left(n - \frac{1}{n}\right)$
8 	$C_0 = nP$ $M_{c0} = -\frac{n^2}{2}Pc$	$A_0 = B_0 = \frac{n}{2}P$ $M_0 = M_m = \frac{Pl}{8}\left(n + \frac{1}{n}\right)$ n ungerade	$A = \frac{P}{8}\left(3n - \frac{1}{2n}\right)$ $B = \frac{P}{8}\left(5n + \frac{1}{2n}\right)$ $M_b = -\frac{Pl}{8}\left(n + \frac{1}{2n}\right)$	$A = B = \frac{n}{2}P$ $M_a = M_b = -\frac{Pl}{12}\left(n + \frac{1}{2n}\right)$ $M_m = \frac{Pl}{24}\left(n + \frac{2}{n}\right)$
9 	$C_0 = 2P$ $M_{c0} = -Pl$	$A_0 = B_0 = P$ $M_0 = M_m = \frac{P}{2}(l - c)$	$A = \frac{P}{8l^2}(5l^2 + 3c^2)$ $B = \frac{P}{8l^2}(11l^2 - 3c^2)$ $M_b = -\frac{3P}{8l}(l^2 - c^2)$	$A = B = P$ $M_a = M_b = -\frac{P}{4l}(l^2 - c^2)$ $M_m = \frac{P}{4l}(l - c)^2$
10 	$C_0 = 2P$ $M_{c0} = -2Pb$	$A_0 = \frac{2Pb}{l}$; $B_0 = \frac{2Pa}{l}$ $M_0 = \frac{Pa}{l}(2b - c)$ für $a < b$ $M_0 = \frac{Pb}{l}(2a - c)$ für $a > b$	$A = 2P - \frac{Pa}{l^3}\left(3l^2 - a^2 - \frac{3}{4}c^2\right)$ $B = \frac{Pa}{l^3}\left(3l^2 - a^2 - \frac{3}{4}c^2\right)$ $M_b = -\frac{Pa}{l^2}\left(l^2 - a^2 - \frac{3}{4}c^2\right)$	$A = \frac{P}{2l^3}[4bl^2 + (a-b)(3c^2 - 4ab)]$ $B = \frac{P}{2l^3}[4al^2 + (b-a)(3c^2 - 4ab)]$ $M_a = -\frac{P}{2l^2}[4ab^2 + c^2(a - 2b)]$ $M_b = -\frac{P}{2l^2}[4a^2b + c^2(b - 2a)]$
11 	$C_0 = pl$ $M_{c0} = -\frac{pl^2}{2}$ $\max \delta = \frac{1}{8}\frac{pl^4}{EI}$	$A_0 = B_0 = \frac{pl}{2}$ $M_0 = M_m = \frac{pl^2}{8}$ $\delta_m = \frac{5}{384}\frac{pl^4}{EI}$	$A = \frac{3}{8}pl$; $B = \frac{5}{8}pl$ $M_b = -\frac{pl^2}{8}$ $\max M = \frac{9}{128}pl^2$; $x = \frac{3}{8}l$ $\max \delta = \frac{1}{185}\frac{pl^4}{EI}$; $x = 0{,}4215\,l$	$A = B = \frac{pl}{2}$ $M_a = M_b = -\frac{pl^2}{12}$ $M_m = \frac{pl^2}{24}$; $\delta_m = \frac{1}{384}\frac{pl^4}{EI}$

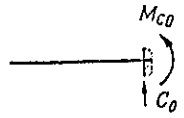
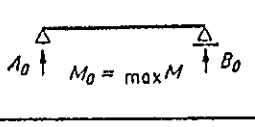
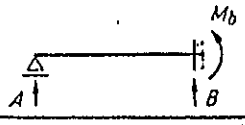
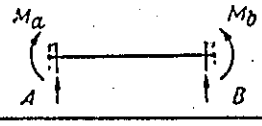
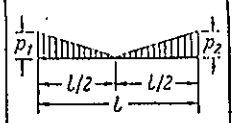
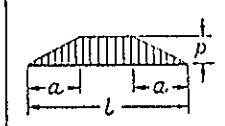
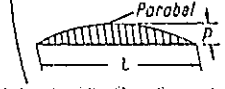
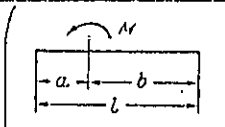
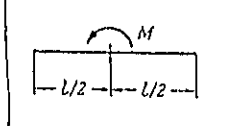
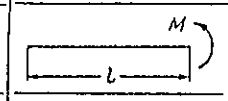
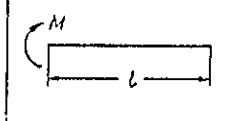
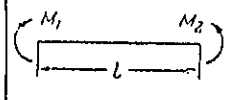
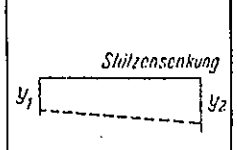
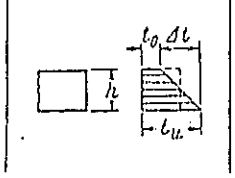
Tafel 4. (Fortsetzung)

Belastungsfall \ Trägerart	M_{c0}  C_0	A_0 $M_0 = \max M$ B_0 	M_b  A B	M_a M_b  A B
12 	$C_0 = p\,c$ $M_{c0} = -\frac{p\,c\,l}{2}$	$A_0 = B_0 = \frac{p\,c}{2}$ $M_0 = M_m = \frac{p\,c}{8}(2l - c)$	$A = \frac{p\,c}{16\,l^2}(5l^2 + c^2)$ $B = \frac{p\,c}{16\,l^2}(11\,l^2 - c^2)$ $M_b = -\frac{p\,c}{16\,l}(3l^2 - c^2)$	$A = B = \frac{p\,c}{2}$ $M_a = M_b = -\frac{p\,c}{24\,l}(3l^2 - c^2)$
13 	$C_0 = \frac{p\,l}{3}$ $M_{c0} = -\frac{p\,l^2}{6}$	$A_0 = B_0 = \frac{p\,l}{6}$ $M_0 = M_m = \frac{5}{75}\,p\,l^2$	$A = \frac{23}{216}\,p\,l;\quad B = \frac{49}{216}\,p\,l$ $M_b = -\frac{13}{216}\,p\,l^2$	$A = B = \frac{p\,l}{6}$ $M_a = M_b = -\frac{13}{324}\,p\,l^2$
14 	$C_0 = \frac{2}{3}\,p\,l$ $M_{c0} = -\frac{p\,l^2}{3}$	$A_0 = B_0 = \frac{p\,l}{3}$ $M_0 = M_m = \frac{p\,l^2}{18}$	$A = \frac{29}{108}\,p\,l;\quad B = \frac{43}{108}\,p\,l$ $M_b = -\frac{7}{108}\,p\,l^2$	$A = B = \frac{p\,l}{3}$ $M_a = M_b = -\frac{7}{162}\,p\,l^2$
15 	$C_0 = 2\,p\,a$ $M_{c0} = -p\,a\,l$	$A_0 = B_0 = p\,a$ $M_0 = M_m = \frac{p\,a^2}{2}$	$A = \frac{p\,a}{4\,l^2}(4l^2 - 3la + 2a^2)$ $B = \frac{p\,a}{4\,l^2}(4l^2 + 3la - 2a^2)$ $M_b = -\frac{p\,a^3}{4\,l}(3l - 2a)$	$A = B = p\,a$ $M_a = M_b = -\frac{p\,a^2}{6\,l}(3l - 2a)$
16 	$C_0 = 2\,p\,c$ $M_{c0} = -p\,c\,l$	$A_0 = B_0 = p\,c$ $M_0 = M_m = \frac{p\,c}{2}(l - a)$	$A = \frac{p\,c}{8\,l^2}(5\,l^2 + 3\,a^2 + c^2)$ $B = \frac{p\,c}{8\,l^2}(11\,l^2 - 3\,a^2 - c^2)$ $M_b = -\frac{p\,c}{8\,l}[3\,(l^2 - a^2) - c^2]$	$A = B = p\,c$ $M_a = M_b = -\frac{p\,c}{12\,l}[3\,(l^2 - a^2) - c^2]$
17 	$C_0 = \frac{p\,l}{2}$ $M_{c0} = -\frac{p\,l^2}{8}$	$A_0 = \frac{1}{8}\,p\,l;\quad B_0 = \frac{3}{8}\,p\,l$ $M_0 = \frac{9}{128}\,p\,l^2$	$A = \frac{7}{128}\,p\,l;\quad B = \frac{57}{128}\,p\,l$ $M_b = -\frac{9}{128}\,p\,l^2$	$A = \frac{3}{32}\,p\,l;\quad B = \frac{13}{32}\,p\,l$ $M_a = -\frac{5}{192}\,p\,l^2;\quad M_b = -\frac{11}{192}\,p\,l^2$
17a 	$C_0 = \frac{p\,l}{2}$ $M_{c0} = -\frac{3}{8}\,p\,l^2$	$A_0 = \frac{3}{8}\,p\,l;\quad B_0 = \frac{1}{8}\,p\,l$ $M_0 = \frac{9}{128}\,p\,l^2$	$A = \frac{41}{128}\,p\,l;\quad B = \frac{23}{128}\,p\,l$ $M_b = -\frac{7}{128}\,p\,l^2$	$A = \frac{13}{32}\,p\,l;\quad B = \frac{3}{32}\,p\,l$ $M_a = -\frac{11}{192}\,p\,l^2;\quad M_b = -\frac{5}{192}\,p\,l^2$
18 	$C_0 = p\,b$ $M_{c0} = -\frac{p\,b^2}{2}$	$A_0 = \frac{p\,b^2}{2\,l}$ $B_0 = \frac{p\,b}{2\,l}(2\,l - b)$ $M_0 = \frac{p\,b^2}{8\,l^2}(2\,l - b)^2$ bei $x' = \frac{B_0}{p}$	$A = \frac{p\,b^3}{8\,l^3}(4\,l - b)$ $B = \frac{p\,b}{8\,l^3}(a + l)(5\,l^2 - a^2)$ $M_b = -\frac{p\,b^2}{8\,l^2}(2\,l - b)^2$	$A = \frac{p\,b^3}{2\,l^3}(2\,l - b)$ $B = \frac{p\,b}{2\,l^3}[l^2(l + a) + a^2\,b]$ $M_a = -\frac{p\,b^2}{12\,l^3}(4\,l - 3\,b)$ $M_b = -\frac{p\,b^2}{12\,l^2}[2\,(2\,l - b)^2 - (2\,l^2 - b^2)]$
18a 	$C_0 = p\,a$ $M_{c0} = -\frac{p\,a}{2}(2\,l - a)$	$A_0 = \frac{p\,a}{2\,l}(2\,l - a)$ $B_0 = \frac{p\,a^2}{2\,l}$ $M_0 = \frac{p\,a^2}{8\,l^2}(2\,l - a)^2$ bei $x = \frac{A_0}{p}$	$A = \frac{p\,a}{8\,l^3}(8\,l^3 - 6\,a\,l^2 + a^3)$ $B = \frac{p\,a^2}{8\,l^3}(6\,l^2 - a^2)$ $M_b = -\frac{p\,a^2}{8\,l^2}(2\,l^2 - a^2)$	$A = \frac{p\,a}{2\,l^3}[l^2(l + b) + a\,b^2]$ $B = \frac{p\,a^3}{2\,l^3}(2\,l - a)$ $M_a = -\frac{p\,a^2}{12\,l^2}[2\,l^2 + 4\,(l - a)^2 - a^2]$ $M_b = -\frac{p\,a^3}{12\,l^2}(4\,l - 3\,a)$
19 	$C_0 = p\,c$ $M_{c0} = -p\,b\,c$	$A_0 = \frac{p\,b\,c}{l}$ $B_0 = \frac{p\,a\,c}{l}$ $M_0 = \frac{p\,b\,c}{2\,l^2}[l\,(2\,a - c) + b\,c]$ bei $x = \frac{A_0}{p}$	$A = p\,c - \frac{p\,c\,a}{8\,l^3}(12\,l^2 - 4\,a^2 - c^2)$ $B = \frac{p\,c\,a}{8\,l^3}(12\,l^2 - 4\,a^2 - c^2)$ $M_b = -\frac{p\,c\,a}{8\,l^2}[4\,(l^2 - a^2) - c^2]$	$A = A_0 + \frac{M_b - M_a}{l}$ $B = B_0 + \frac{M_a - M_b}{l}$ $M_a = -\frac{p\,c}{12\,l^2}[(4\,l^2 - c^2)(2\,b - a) - 4\,(2\,b^3 - a^3)]$ $M_b = -\frac{p\,c}{12\,l^2}[(4\,l^2 - c^2)(2\,a - b) - 4\,(2\,a^3 - b^3)]$
20 	$C_0 = \frac{p\,l}{2}$ $M_{c0} = -\frac{p\,l^2}{6}$ $\max\delta = \frac{1}{30}\frac{p\,l^4}{EI}$	$A_0 = \frac{1}{6}\,p\,l;\quad B_0 = \frac{1}{3}\,p\,l$ $M_0 = \frac{p\,l^2}{9\sqrt{3}}\quad$ bei $x = \frac{l}{\sqrt{3}}$ $\max\delta = 0{,}00652\,\frac{p\,l^4}{EI}$	$A = \frac{1}{10}\,p\,l;\quad B = \frac{4}{10}\,p\,l$ $M_b = -\frac{1}{15}\,p\,l^2$ $\max\delta = 0{,}002385\,\frac{p\,l^4}{EI}$	$A = \frac{3}{20}\,p\,l;\quad B = \frac{7}{20}\,p\,l$ $M_a = -\frac{1}{30}\,p\,l^2;\quad M_b = -\frac{1}{20}\,p\,l^2$ $\max\delta = 0{,}001309\,\frac{p\,l^4}{EI}$

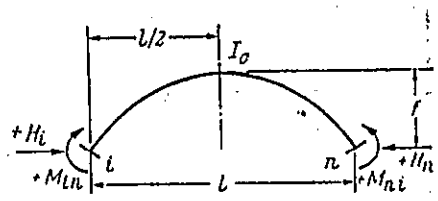
Tafel 4. (Fortsetzung)

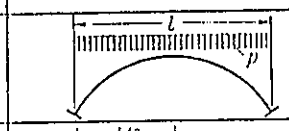
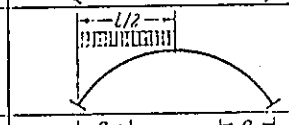
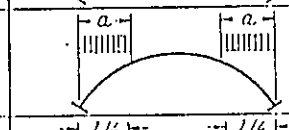
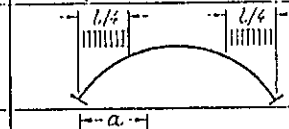
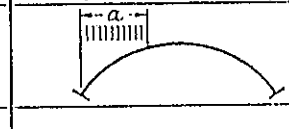
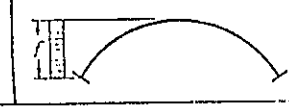
Belastungsfall \ Trägerart	M_{c0} 	A_0 $M_0 = \max M$ B_0 	M_b 	M_a M_b 
20 a 	$C_0 = \frac{p\,l}{2}$ $M_{c0} = -\frac{p\,l^2}{3}$ $\max\delta = \frac{11}{120}\frac{p\,l^4}{E\,I}$	$A_0 = \frac{1}{3}p\,l$; $B_0 = \frac{1}{6}p\,l$ $M_0 = \frac{p\,l^2}{9\sqrt{3}}$ $\max\delta = 0{,}00652\frac{p\,l^4}{E\,I}$	$A = \frac{11}{40}p\,l$; $B = \frac{9}{40}p\,l$ $M_b = -\frac{7}{120}p\,l^2$ $\max\delta = 0{,}0030475\frac{p\,l^4}{E\,I}$	$A = \frac{7}{20}p\,l$; $B = \frac{3}{30}p\,l$ $M_a = -\frac{1}{20}p\,l^2$; $M_b = -\frac{1}{30}p\,l^2$ $\max\delta = 0{,}001309\frac{p\,l^4}{E\,I}$
21 	$C_0 = \frac{p\,c}{2}$ $M_{c0} = -\frac{p\,c^2}{6}$	$A_0 = \frac{p\,c^2}{6\,l}$ $B_0 = \frac{p\,c}{6\,l}(3\,l - c)$ $M_0 = \frac{p\,c^2}{6\,l}\left(l - c + \frac{2}{3}c\sqrt{\frac{c}{3\,l}}\right)$	$A = \frac{p\,c^3}{40\,l^3}(5\,l - c)$ $B = \frac{p\,c}{2} - \frac{p\,c^3}{40\,l^3}(5\,l - c)$ $M_b = -\frac{p\,c^2}{120\,l^2}(20\,l^2 - 15\,l\,c + 3\,c^2)$	$A = \frac{p\,c^3}{20\,l^3}(5\,l - 2\,c)$ $B = \frac{p\,c}{2} - \frac{p\,c^3}{20\,l^3}(5\,l - 2\,c)$ $M_a = -\frac{p\,c^3}{60\,l^2}(5\,l - 3\,c)$ $M_b = -\frac{p\,c^2}{60\,l^2}(10\,l^2 - 10\,l\,c + 3\,c^2)$
21 a 	$C_0 = \frac{p\,c}{2}$ $M_{c0} = -\frac{p\,c}{6}(3\,l - c)$	$A_0 = \frac{p\,c}{6\,l}(3\,l - c)$ $B_0 = \frac{p\,c^2}{6\,l}$ $M_0 = \frac{p\,c^2}{6\,l}\left(l - c + \frac{2}{3}c\sqrt{\frac{c}{3\,l}}\right)$	$A = \frac{p\,c}{2} - \frac{p\,c^2}{40\,l^3}(10\,l^2 - c^2)$ $B = \frac{p\,c^2}{40\,l^3}(10\,l^2 - c^2)$ $M_b = -\frac{p\,c^2}{120\,l^2}(10\,l^2 - 3\,c^2)$	$A = \frac{p\,c}{2} - \frac{p\,c^3}{20\,l^3}(5\,l - 2\,c)$ $B = \frac{p\,c^3}{20\,l^3}(5\,l - 2\,c)$ $M_a = -\frac{p\,c^2}{60\,l^2}(10\,l^2 - 10\,l\,c + 3\,c^2)$ $M_b = -\frac{p\,c^3}{60\,l^2}(5\,l - 3\,c)$
22 	$C_0 = \frac{p\,c}{2}$ $M_{c0} = -\frac{p\,c}{6}(3\,l - 2\,c)$	$A_0 = \frac{p\,c}{6\,l}(3\,l - 2\,c)$ $B_0 = \frac{p\,c^2}{3\,l}$ $M_0 = \frac{p\,c^2}{3}\left(\sqrt{1 - \frac{2}{3}\frac{c}{l}}\right)^3$	$A = \frac{p\,c}{2} - \frac{p\,c^2}{10\,l^3}(5\,l^2 - c^2)$ $B = \frac{p\,c^2}{10\,l^3}(5\,l^2 - c^2)$ $M_b = -\frac{p\,c^2}{30\,l^2}(5\,l^2 - 3\,c^2)$	$A = \frac{p\,c}{2} - \frac{p\,c^3}{20\,l^3}(15\,l - 8\,c)$ $B = \frac{p\,c^3}{20\,l^3}(15\,l - 8\,c)$ $M_a = -\frac{p\,c^2}{30\,l^2}(10\,l^2 + 6\,c^2 - 15\,c\,l)$ $M_b = -\frac{p\,c^3}{20\,l^2}(5\,l - 4\,c)$
22 a 	$C_0 = \frac{p\,c}{2}$ $M_{c0} = -\frac{p\,c^2}{3}$	$A_0 = \frac{p\,c^2}{3\,l}$ $B_0 = \frac{p\,c}{6\,l}(3\,l - 2\,c)$ $M_0 = \frac{p\,c^2}{3}\left(\sqrt{1 - \frac{2}{3}\frac{c}{l}}\right)^3$	$A = \frac{p\,c^3}{40\,l^3}(15\,l - 4\,c)$ $B = \frac{p\,c}{2} - \frac{p\,c^3}{40\,l^3}(15\,l - 4\,c)$ $M_b = -\frac{p\,c^2}{120\,l^2}(40\,l^2 - 45\,l\,c + 12\,c^2)$	$A = \frac{p\,c^3}{20\,l^3}(15\,l - 8\,c)$ $B = \frac{p\,c}{2} - \frac{p\,c^3}{20\,l^3}(15\,l - 8\,c)$ $M_a = -\frac{p\,c^3}{20\,l^2}(5\,l - 4\,c)$ $M_b = -\frac{p\,c^2}{30\,l^2}(10\,l^2 + 6\,c^2 - 15\,c\,l)$
23 	$C_0 = \frac{p\,l}{2}$ $M_{c0} = -\frac{p\,l^2}{4}$	$A_0 = B_0 = \frac{1}{4}p\,l$ $M_0 = M_m = \frac{p\,l^2}{12}$	$A = \frac{11}{64}p\,l$ $B = \frac{21}{64}p\,l$ $M_b = -\frac{5}{64}p\,l^2$	$A = B = \frac{1}{4}p\,l$ $M_a = M_b = -\frac{5}{96}p\,l^2$
24 	$C_0 = \frac{p\,l}{2}$ $M_{c0} = -\frac{p\,l}{6}(l + b)$	$A_0 = \frac{p}{6}(l + b)$ $B_0 = \frac{p}{6}(l + a)$ $M_0 = \frac{p\,(l + b)}{27}\sqrt{3\,a\,(l + b)}$ bei $x = \sqrt{\frac{a\,(l + b)}{3}}$ für $a > b$	$A = \frac{p}{40}\left[11\,l - 9\,a + \frac{a^2(l + a)}{l^2}\right]$ $B = \frac{p}{40}\left[9(l + a) - \frac{a^2(l + a)}{l^2}\right]$ $M_b = -\frac{p\,l}{120}(l + a)\left(7 - 3\frac{a^2}{l^2}\right)$	$A = \frac{p}{20\,l^2}[l^2(a + 9b) + l(a^2 - b^2) + (a^3 - b^3)]$ $B = \frac{p}{20\,l^2}[l^2(9a + b) - l(a^2 - b^2) - (a^3 - b^3)]$ $M_a = -\frac{p}{180\,l}[7\,l^3 - 7\,l^2(a - 2b) + 3\,l(a^2 - 2b^2) + 3(a^3 - 2b^3)]$ $M_b = -\frac{p}{180\,l}[7\,l^3 + 7\,l^2(2a - b) - 3\,l(2a^2 - b^2) - 3(2a^3 - b^3)]$
25 	$C_0 = \frac{p\,l}{2}$ $M_{c0} = -\frac{p\,l^2}{4}$	$A_0 = B_0 = \frac{1}{4}p\,l$ $M_0 = M_m = \frac{p\,l^2}{24}$	$A = \frac{13}{64}p\,l$; $B = \frac{19}{64}p\,l$ $M_b = -\frac{3}{64}p\,l^2$	$A = B = \frac{1}{4}p\,l$ $M_a = M_b = -\frac{1}{32}p\,l^2$
26 	$C_0 = p\,a$ $M_{c0} = -\frac{p\,a\,l}{2}$	$A_0 = B_0 = \frac{1}{2}p\,a$ $M_0 = M_m = \frac{1}{6}p\,a^2$	$A = \frac{p\,a}{8\,l^2}[3\,l^2 + (l - a)^2]$ $B = \frac{p\,a}{8\,l^2}[3\,l^2 - 2\,a^2 + (l + a)^2]$ $M_b = -\frac{p\,a^2}{8\,l}(2\,l - a)$	$A = B = \frac{1}{2}p\,a$ $M_a = M_b = -\frac{p\,a^2}{12\,l}(2\,l - a)$

Tafel 4: (Fortsetzung)

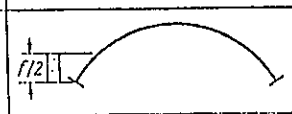
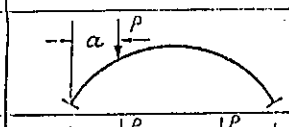
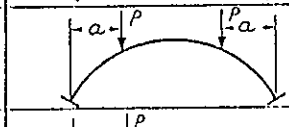
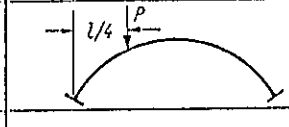
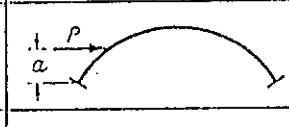
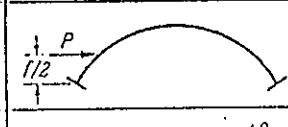
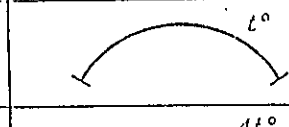
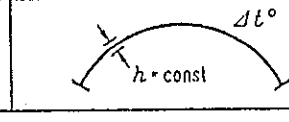
Belastungsfall \ Trägerart	M_{c0} 	A_0 $M_0 = \max M$ B_0 	M_b 	M_a M_b 
27 	$C_0 = \frac{l}{4}(p_1 + p_2)$ $M_{c0} = -\frac{l^2}{24}(5p_1 + p_2)$	$A_0 = \frac{l}{24}(5p_1 + p_2)$ $B_0 = \frac{l}{24}(p_1 + 5p_2)$ $M_m = \frac{l^2}{48}(p_1 + p_2)$	$A = \frac{l}{640}(121p_1 + 9p_2)$ $B = \frac{l}{640}(39p_1 + 151p_2)$ $M_b = -\frac{l^2}{1920}(37p_1 + 53p_2)$	$A = \frac{l}{40}(9p_1 + p_2)$ $B = \frac{l}{40}(p_1 + 3p_2)$ $M_a = -\frac{l^2}{960}(23p_1 + 7p_2)$ $M_b = -\frac{l^2}{960}(7p_1 + 23p_2)$
28 	$C_0 = p(l-a)$ $M_{c0} = -\frac{pl}{2}(l-a)$	$A_0 = B_0 = \frac{p}{2}(l-a)$ $M_0 = M_m = \frac{p}{24}(3l^2 - 4a^2)$	$A = \frac{p}{8l}\left[(2l-a)^2 - l^2 + a^2 - \frac{a^3}{l}\right]$ $B = \frac{p}{8l}\left[(2l-a)^2 + l^2 - 3a^2 + \frac{a^3}{l}\right]$ $M_b = -\frac{p}{8}\left(l^2 - 2a^2 + \frac{a^3}{l}\right)$	$A = B = \frac{p}{2}(l-a)$ $M_a = M_b = -\frac{p}{12}\left(l^2 - 2a^2 + \frac{a^3}{l}\right)$
29 	$C_0 = \frac{l}{2}(p_1 + p_2)$ $M_{c0} = -\frac{l^2}{6}(2p_1 + p_2)$	$A_0 = \frac{l}{6}(2p_1 + p_2)$ $B_0 = \frac{l}{6}(p_1 + 2p_2)$ $M_x = A_0 x - \frac{x^2}{6}\left[3p_1 + (p_2 - p_1)\frac{x}{l}\right]$ $\max M$ bei $x = \frac{l}{p_2 - p_1}\left[-p_1 + \sqrt{\frac{1}{3}(p_1^2 + p_1 p_2 + p_2^2)}\right]$ für $p_1 \neq p_2$	$A = \frac{l}{40}(11p_1 + 4p_2)$ $B = \frac{l}{40}(9p_1 + 16p_2)$ $M_b = -\frac{l^2}{120}(7p_1 + 8p_2)$	$A = \frac{l}{20}(7p_1 + 3p_2)$ $B = \frac{l}{20}(3p_1 + 7p_2)$ $M_a = -\frac{l^2}{60}(3p_1 + 2p_2)$ $M_b = -\frac{l^2}{60}(2p_1 + 3p_2)$
30 	$C_0 = \frac{2}{3}pl$ $M_{c0} = -\frac{pl^2}{3}$	$A_0 = B_0 = \frac{1}{3}pl$ $M_0 = M_m = \frac{5}{48}pl^2$	$A = \frac{7}{30}pl$; $B = \frac{13}{30}pl$ $M_b = -\frac{1}{10}pl^2$	$A = B = \frac{1}{3}pl$ $M_a = M_b = -\frac{1}{15}pl^2$
31 	$C_0 = 0$ $M_{c0} = -M$	$A_0 = +\frac{M}{l}$; $B_0 = -\frac{M}{l}$ $M_0 = -M\frac{b}{l}$ für $a < b$ $M_0 = +M\frac{a}{l}$ für $a > b$	$A = +\frac{3}{2l^3}(l^2 - a^2)$ $B = -\frac{3M}{2l^3}(l^2 - a^2)$ $M_b = +\frac{M}{2l^3}(l^2 - 3a^2)$	$A = +\frac{M}{l^2}$; $B = -\frac{M}{l^2}$ $M_a = -\frac{Mb}{l^2}(3a - l)$ $M_b = +\frac{Ma}{l^2}(3b - l)$
32 	$C_0 = 0$ $M_{c0} = -M$	$A_0 = +\frac{M}{l}$; $B_0 = -\frac{M}{l}$ $M_0 = M_m = \pm\frac{M}{2}$	$A = +\frac{9}{8}\frac{M}{l}$; $B = -\frac{9}{8}\frac{M}{l}$ $M_b = +\frac{M}{8}$ $\max M = +\frac{9}{16}M$	$A = +\frac{3}{2}\frac{M}{l}$; $B = -\frac{3}{2}\frac{M}{l}$ $M_a = -\frac{M}{4}$; $M_b = +\frac{M}{4}$ $M_m = \pm\frac{M}{2}$
33 	$C_0 = 0$ $M_{c0} = -M$	$A_0 = +\frac{M}{l}$; $B_0 = -\frac{M}{l}$ $M_0 = M$		
33a 	$C_0 = 0$ $M_{c0} = M$	$A_0 = -\frac{M}{l}$; $B_0 = +\frac{M}{l}$ $M_0 = M$	$A = -\frac{3}{2}\frac{M}{l}$; $B = +\frac{3}{2}\frac{M}{l}$ $M_a = +M$; $M_b = -\frac{M}{2}$ $M_m = +\frac{M}{4}$	
34 	$C_0 = 0$ $M_{c0} = M_1 - M_2$	$A_0 = \frac{M_2 - M_1}{l}$ $B_0 = \frac{M_1 - M_2}{l}$ $M_m = \frac{1}{2}(M_1 + M_2)$		
35 		$A_0 = B_0 = 0$ $M_x = 0$	$A = -\frac{3EI}{l^3}(y_1 - y_2)$ $B = +\frac{3EI}{l^3}(y_1 - y_2)$ $M_b = -\frac{3EI}{l^2}(y_1 - y_2)$	$A = -\frac{12EI}{l^3}(y_1 - y_2)$ $B = +\frac{12EI}{l^3}(y_1 - y_2)$ $M_a = +\frac{6EI}{l^2}(y_1 - y_2)$ $M_b = -\frac{6EI}{l^2}(y_1 - y_2)$
36 	$C_0 = 0$ $M_x = 0$	$A_0 = B_0 = 0$ $M_x = 0$	$A = -\frac{3EI\Delta t\alpha_t}{2h}$ $B = +\frac{3EI\Delta t\alpha_t}{2h}$ $M_b = -\frac{3EI\Delta t\alpha_t}{2h}$	$A = B = 0$ $M_a = M_b = -\frac{EI\Delta t\alpha_t}{h}$

Tafel 5. *Einspannmomente und Horizontalschübe für parabelförmige Rahmenstäbe mit $I = I_c/\cos\varphi$ infolge verschiedener Lasten*

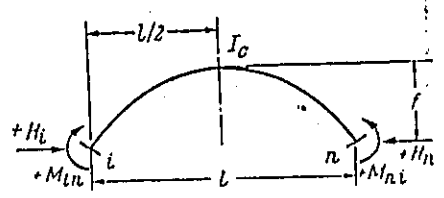


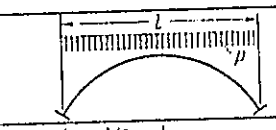
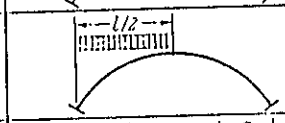
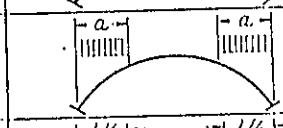
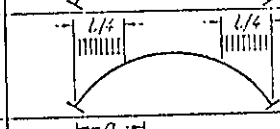
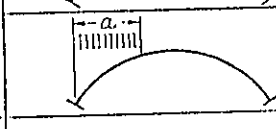
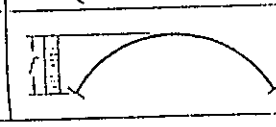
Nr.	Belastung	M_{in}	M_{ni}	H_i	H_n
1		0	0	$+\frac{1}{8} p \frac{l^2}{f}$	$+\frac{1}{8} p \frac{l^2}{f}$
2		$-\frac{1}{64} p l^2$	$+\frac{1}{64} p l^2$	$+\frac{1}{16} p \frac{l^2}{f}$	$+\frac{1}{16} p \frac{l^2}{f}$
3		$-p\frac{a^2}{2}\left(1-4\frac{a}{l}+5\frac{a^2}{l^2}-2\frac{a^3}{l^3}\right)$	$-p\frac{a^2}{2}\left(1-4\frac{a}{l}+5\frac{a^2}{l^2}-2\frac{a^3}{l^3}\right)$	$+p\frac{a^3}{2fl}\left(5-7{,}5\frac{a}{l}+3\frac{a^2}{l^2}\right)$	$+p\frac{a^3}{2fl}\left(5-7{,}5\frac{a}{l}+3\frac{a^2}{l^2}\right)$
4		$-\frac{9}{1024} p l^2$	$-\frac{9}{1024} p l^2$	$+\frac{53}{2048} p \frac{l^2}{f}$	$+\frac{53}{2048} p \frac{l^2}{f}$
5		$-\frac{1}{2} p a^2\left(1-3\frac{a}{l}+3\frac{a^2}{l^2}-\frac{a^3}{l^3}\right)$	$+\frac{1}{2} p \frac{a^3}{l}\left(1-2\frac{a}{l}+\frac{a^2}{l^2}\right)$	$+\frac{1}{4} p \frac{a^3}{fl}\left(5-7{,}5\frac{a}{l}+3\frac{a^2}{l^2}\right)$	$+\frac{1}{4} p \frac{a^3}{fl}\left(5-7{,}5\frac{a}{l}+3\frac{a^2}{l^2}\right)$
6		$-\frac{51}{280} p f^2$	$+\frac{19}{280} p f^2$	$-\frac{11}{14} p f$	$+\frac{3}{14} p f$

Tafel 5. (Fortsetzung)

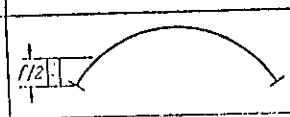
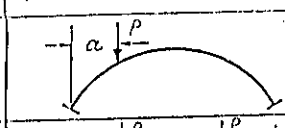
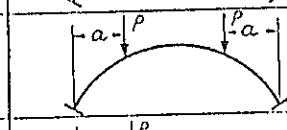
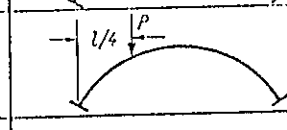
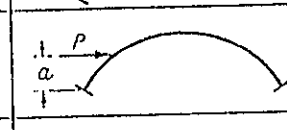
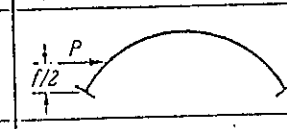
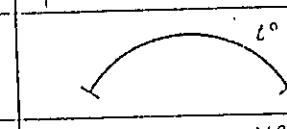
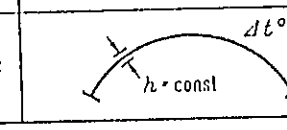
Nr.	Belastung	M_{in}	M_{ni}	H_i	H_n
7		$-0{,}15705\, p f^2$	$+0{,}0633\, p f^2$	$-0{,}4663\, p f$	$+0{,}0337\, p f$
8		$-\frac{1}{2} P a\left(1-\frac{a}{l}\right)^2\left(2-5\frac{a}{l}\right)$	$+\frac{1}{2} P \frac{a^2}{l}\left(1-\frac{a}{l}\right)\left(3-5\frac{a}{l}\right)$	$+\frac{15}{4} P \frac{a^2}{fl}\left(1-\frac{a}{l}\right)^2$	$+\frac{15}{4} P \frac{a^2}{fl}\left(1-\frac{a}{l}\right)^2$
9		$-Pa\left(1-\frac{a}{l}\right)\left(1-5\frac{a}{l}+5\frac{a^2}{l^2}\right)$	$-Pa\left(1-\frac{a}{l}\right)\left(1-5\frac{a}{l}+5\frac{a^2}{l^2}\right)$	$+\frac{15}{2} P \frac{a^2}{fl}\left(1-\frac{a}{l}\right)^2$	$+\frac{15}{2} P \frac{a^2}{fl}\left(1-\frac{a}{l}\right)^2$
10		$-\frac{27}{512} P l$	$+\frac{21}{512} P l$	$+\frac{135}{1024} P \frac{l}{f}$	$+\frac{135}{1024} P \frac{l}{f}$
11		$-\frac{P}{2} a\left[1+\sqrt{1-\frac{a}{f}}-\frac{a}{f}\left(\frac{3}{4}+\sqrt{1-\frac{a}{f}}\right)\right]$	$+\frac{P}{2} a\left[1-\sqrt{1-\frac{a}{f}}-\frac{a}{f}\left(\frac{3}{4}-\sqrt{1-\frac{a}{f}}\right)\right]$	$-\frac{P}{2}\left(1+\sqrt{\cdots}+\frac{1}{2}\frac{a}{f}\sqrt{\cdots}-\frac{3}{2}\frac{a^2}{f^2}\sqrt{\cdots}\right)$	$+\frac{P}{2}\left(1-\sqrt{\cdots}-\frac{1}{2}\frac{a}{f}\sqrt{\cdots}+\frac{3}{2}\frac{a^2}{f^2}\sqrt{\cdots}\right)$
12		$-\frac{1}{16} P f\left(\frac{5}{2}+\sqrt{2}\right) = -0{,}245\, P f$	$+\frac{1}{16} P f\left(\frac{5}{2}-\sqrt{2}\right) = +0{,}068\, P f$	$-\frac{1}{2} P\left(1+\frac{7}{16}\sqrt{2}\right) = -0{,}809\, P$	$+\frac{1}{2} P\left(1-\frac{7}{16}\sqrt{2}\right) = +0{,}191\, P$
13		$+7{,}5\, E I_c \frac{\alpha_t t}{f}$	$+7{,}5\, E I_c \frac{\alpha_t t}{f}$	$+11{,}25\, E I_c \frac{\alpha_t t}{f^2}$	$+11{,}25\, E I_c \frac{\alpha_t t}{f^2}$
14		$-E I_c \alpha_t \frac{\Delta t}{h}$	$-E I_c \alpha_t \frac{\Delta t}{h}$	0	0

Tafel 5. *Einspannmomente und Horizontalschübe für parabelförmige Rahmenstäbe mit* $I = I_c/\cos\varphi$ *infolge verschiedener Lasten*



Nr.	Belastung	M_{in}	M_{ni}	H_i	H_n
1		0	0	$+\frac{1}{8}p\frac{l^2}{f}$	$+\frac{1}{8}p\frac{l^2}{f}$
2		$-\frac{1}{64}pl^2$	$+\frac{1}{64}pl^2$	$+\frac{1}{16}p\frac{l^2}{f}$	$+\frac{1}{16}p\frac{l^2}{f}$
3		$-p\frac{a^2}{2}\left(1-4\frac{a}{l}+5\frac{a^2}{l^2}-2\frac{a^3}{l^3}\right)$	$-p\frac{a^2}{2}\left(1-4\frac{a}{l}+5\frac{a^2}{l^2}-2\frac{a^3}{l^3}\right)$	$+p\frac{a^3}{2fl}\left(5-7{,}5\frac{a}{l}+3\frac{a^2}{l^2}\right)$	$+p\frac{a^3}{2fl}\left(5-7{,}5\frac{a}{l}+3\frac{a^2}{l^2}\right)$
4		$-\frac{9}{1024}pl^2$	$-\frac{9}{1024}pl^2$	$+\frac{53}{2048}p\frac{l^2}{f}$	$+\frac{53}{2048}p\frac{l^2}{f}$
5		$-\frac{1}{2}pa^2\left(1-3\frac{a}{l}+3\frac{a^2}{l^2}-\frac{a^3}{l^3}\right)$	$+\frac{1}{2}p\frac{a^3}{l}\left(1-2\frac{a}{l}+\frac{a^2}{l^2}\right)$	$+\frac{1}{4}p\frac{a^3}{fl}\left(5-7{,}5\frac{a}{l}+3\frac{a^2}{l^2}\right)$	$+\frac{1}{4}p\frac{a^3}{fl}\left(5-7{,}5\frac{a}{l}+3\frac{a^2}{l^2}\right)$
6		$-\frac{51}{280}pf^2$	$+\frac{19}{280}pf^2$	$-\frac{11}{14}pf$	$+\frac{3}{14}pf$

Tafel 5. (Fortsetzung)

Nr.	Belastung	M_{in}	M_{ni}	H_i	H_n
7		$-0{,}15705\,pf^2$	$+0{,}0633\,pf^2$	$-0{,}4663\,pf$	$+0{,}0337\,pf$
8		$-\frac{1}{2}Pa\left(1-\frac{a}{l}\right)^2\left(2-5\frac{a}{l}\right)$	$+\frac{1}{2}P\frac{a^2}{l}\left(1-\frac{a}{l}\right)\left(3-5\frac{a}{l}\right)$	$+\frac{15}{4}P\frac{a^2}{fl}\left(1-\frac{a}{l}\right)^2$	$+\frac{15}{4}P\frac{a^2}{fl}\left(1-\frac{a}{l}\right)^2$
9		$-Pa\left(1-\frac{a}{l}\right)\left(1-5\frac{a}{l}+5\frac{a^2}{l^2}\right)$	$-Pa\left(1-\frac{a}{l}\right)\left(1-5\frac{a}{l}+5\frac{a^2}{l^2}\right)$	$+\frac{15}{2}P\frac{a^2}{fl}\left(1-\frac{a}{l}\right)^2$	$+\frac{15}{2}P\frac{a^2}{fl}\left(1-\frac{a}{l}\right)^2$
10		$-\frac{27}{512}Pl$	$+\frac{21}{512}Pl$	$+\frac{135}{1024}P\frac{l}{f}$	$+\frac{135}{1024}P\frac{l}{f}$
11		$-\frac{P}{2}a\left[1+\sqrt{1-\frac{a}{f}}-\frac{a}{f}\left(\frac{3}{4}+\sqrt{1-\frac{a}{f}}\right)\right]$	$+\frac{P}{2}a\left[1-\sqrt{1-\frac{a}{f}}-\frac{a}{f}\left(\frac{3}{4}-\sqrt{1-\frac{a}{f}}\right)\right]$	$-\frac{P}{2}\left(1+\sqrt{\cdots}+\frac{1}{2}\frac{a}{f}\sqrt{\cdots}-\frac{3}{2}\frac{a^2}{f^2}\sqrt{\cdots}\right)$	$+\frac{P}{2}\left(1-\sqrt{\cdots}-\frac{1}{2}\frac{a}{f}\sqrt{\cdots}+\frac{3}{2}\frac{a^2}{f^2}\sqrt{\cdots}\right)$
12		$-\frac{1}{16}Pf\left(\frac{5}{2}+\sqrt{2}\right)=-0{,}245\,Pf$	$+\frac{1}{16}Pf\left(\frac{5}{2}-\sqrt{2}\right)=+0{,}068\,Pf$	$-\frac{1}{2}P\left(1+\frac{7}{16}\sqrt{2}\right)=-0{,}809\,P$	$+\frac{1}{2}P\left(1-\frac{7}{16}\sqrt{2}\right)=+0{,}191\,P$
13		$+7{,}5\,E\,I_c\,\frac{\alpha_t t}{f}$	$+7{,}5\,E\,I_c\,\frac{\alpha_t t}{f}$	$+11{,}25\,E\,I_c\,\frac{\alpha_t t}{f^2}$	$+11{,}25\,E\,I_c\,\frac{\alpha_t t}{f^2}$
14		$-E\,I_c\,\alpha_t\,\frac{\Delta t}{h}$	$-E\,I_c\,\alpha_t\,\frac{\Delta t}{h}$	0	0