



Aufstellung der Biegelinie:

$$EI_y z''(x) = -M_b(x)$$

$$EI_y z'(x) = -\frac{A_z}{2} x^2 + 3kN \{x - 2m\}^2 + 4kN \{x - 6m\}^2 + \frac{5}{2} kN \{x - 9m\}^2 + C_1$$

$$EI_y z(x) = -\frac{A_z}{6} x^3 + 1kN \{x - 2m\}^3 + \frac{4}{3} kN \{x - 6m\}^3 + \frac{5}{6} kN \{x - 9m\}^3 + C_1 x + C_2$$

$$EI_y z(0) = C_2 = 0$$

$$EI_y z(12m) = \left(-\frac{10,25}{6} \cdot 144 \cdot 12 + 10^3 + \frac{4}{3} \cdot 6^3 + \frac{5}{6} \cdot 3^3 + C_1 \cdot 12 \right) kNm^3 = 0$$

$$C_1 = \left(\frac{10,25}{6} \cdot 144 - \frac{1000}{12} - \frac{4 \cdot 6^3}{3 \cdot 12} - \frac{5 \cdot 3^3}{6 \cdot 12} \right) kNm^2 = 136,7917 kNm^2$$

Biegelinie:

$$EI_y z(x) = \left(-1,7083 x^3 + \{x - 2m\}^3 + \frac{4}{3} \{x - 6m\}^3 + \frac{5}{6} \{x - 9m\}^3 + 136,792 m^2 x \right) kN$$

x[m]	0-0	0+0	2-0	2+0	6-0	6+0	9-0	9+0	12-0	12+0
$N(x)[kN]$	0	13,86	13,86	13,86	13,86	0	0	0	0	0
$Q(x)[kN]$	0	10,25	10,25	4,25	4,25	-3,75	-3,75	-8,75	8,75	0
$M_b(x)[kNm]$	0	0	20,5	20,5	37,5	37,5	26,25	26,25	0	0
$EI_y z(x)[kNm^3]$	0	0	259,9	259,9	515,7	515,7	364,7	364,7	0	0

