



Krachten & moment:

$$\sum F_x = 0: A_2 = 0$$

$$\sum F_y = 0: A_1 + B - q \cdot \frac{L}{2} = 0 \Rightarrow A_1 = -\frac{q \cdot 5 \cdot L}{8} + \frac{4 \cdot q \cdot L}{8} = -\frac{q \cdot L}{8} \text{ ok.}$$

$$\sum M_A = 0: B \cdot L - q \cdot \frac{L}{2} \left[ L + \frac{L}{4} \right] = 0$$

$$B \cdot L - q \cdot \frac{L}{2} \cdot \frac{5}{4} L = 0$$

$$\boxed{B = \frac{q \cdot 5 L}{8}} \text{ ok.}$$

elastische lgn.

$$M(x) = A_1 \cdot x + B \cdot (x-L) \delta(x-L) - q \cdot (x-L) \frac{(x-L)}{2} \delta(x-L)$$

$$M(x) = -\frac{q \cdot L \cdot x}{8} + \frac{q \cdot 5 \cdot L (x-L)}{8} \delta(x-L) - \frac{q (x-L)^2}{2} \delta(x-L) \text{ ok.}$$

$$EI \alpha(x) = -\frac{q \cdot L \cdot x^2}{16} + \frac{5 \cdot q \cdot L (x-L)^2}{16} \delta(x-L) - \frac{q (x-L)^3}{6} \delta(x-L) + C_1$$

$$EI y(x) = -\frac{q \cdot L \cdot x^3}{48} + \frac{5 \cdot q \cdot L (x-L)^3}{48} \delta(x-L) - \frac{q (x-L)^4}{24} \delta(x-L) + C_1 \cdot x + C_2 \text{ ok.}$$

zoeken van constanten:

$$\text{OPL: } y_c = \frac{11 q L^4}{384 EI}$$

$$y=0, x=0: \boxed{C_2=0}$$

$$y=0, x=L: \theta = -\frac{q \cdot L^4}{48} + C_1 \cdot L \Rightarrow \boxed{C_1 = \frac{+q \cdot L^3}{48}} \quad 0$$

doorboring in C:  $x = \frac{3}{2}L$

$$EI y(1,5L) = -\frac{q \cdot L (1,5L)^3}{48} + \frac{5 \cdot q \cdot L (0,5L)^3}{48} - \frac{q(0,5L)^4}{24} + \frac{q \cdot L^3}{48} \cdot 1,5 \cdot L$$

$$\boxed{y_c = \frac{13}{128} \frac{q \cdot L^4}{EI}} \rightarrow \text{fout?}$$