

Project [Project]
Object [Object]
Datum [Datum]

Versie
Status
Auteur

[Versie, versiedatum]
[Status]
[Auteur]



- TITEL -

```
UC (waarde) :=  $\begin{cases} x \leftarrow \text{Round}(\text{waarde}, 0.01) \\ \text{if } x \leq 1 \\ \quad \text{concat}(\text{num2str}(x), " < 1.00 \text{ --> OK"} \\ \text{else} \\ \quad \text{concat}(\text{num2str}(x), " > 1.00 \text{ --> FOUT"} \end{cases}$ 
```

$kNm := kN \cdot m$
 $g := 9.81 \frac{m}{s^2}$

$L1 := 10000$

$E1 := 210000$

$q1(x) := 10$

$I1 := 42510000$

$EI1 := E1 \cdot I1$

$L2 := 10000$

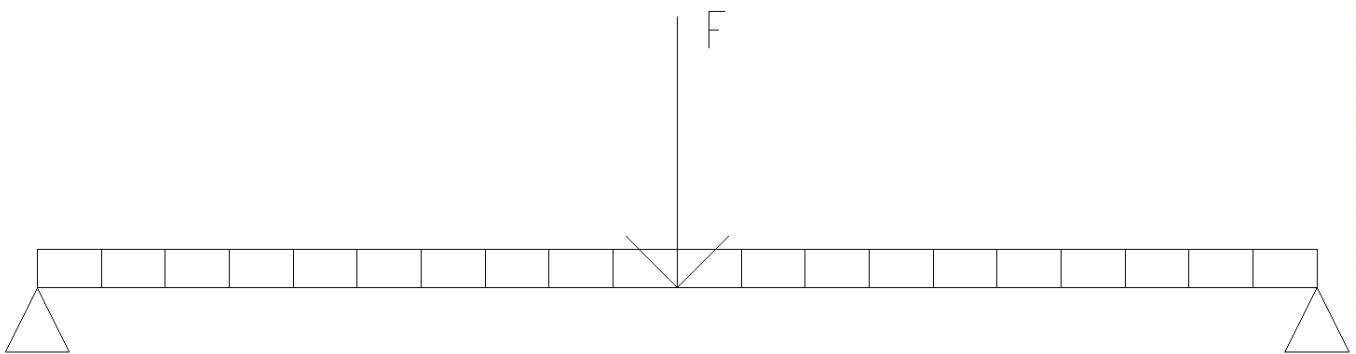
$E2 := 210000$

$q2(x) := 10$

$I2 := 42510000$

$EI2 := E2 \cdot I2$

$F := 10000$



Ограничающие приближения

$$EI1 \cdot w1''''(x) = -q1(x)$$

$$EI2 \cdot w2''''(x) = -q2(x)$$

$$w1(0) = 0$$

$$w1''(0) = 0$$

$$w1(L1) = w2(0)$$

$$w1'(L1) = w2'(0)$$

$$w1''(L1) = w2''(0)$$

$$w1'''(L1) + F = w2'''(0)$$

$$w2(L2) = 0$$

$$w2''(L2) = 0$$

Решатель

$$\begin{bmatrix} w1 \\ w2 \end{bmatrix} := \text{odesolve} \left(\begin{bmatrix} w1(x) \\ w2(x) \end{bmatrix}, \begin{bmatrix} x \\ x \end{bmatrix}, \begin{bmatrix} L2 \\ L2 \end{bmatrix} \right)$$

$$C11 := 0.001$$

$$C12 := 0.001$$

$$C13 := 0$$

$$C14 := 0$$

$$C21 := 0.001$$

$$C22 := 0.001$$

$$C23 := 0.001$$

$$C24 := 0.001$$

$$w1(x) := \frac{-q1(x)}{24 \cdot EI1} \cdot x^4 + C11 \cdot x^3 + C12 \cdot x^2 + C13 \cdot x + C14$$

$$w2(x) := \frac{-q2(x)}{24 \cdot EI2} \cdot x^4 + C21 \cdot x^3 + C22 \cdot x^2 + C23 \cdot x + C24$$

$$phi1(x) := \frac{-q1(x)}{6 \cdot EI1} \cdot x^3 + 3 \cdot C11 \cdot x^2 + 2 \cdot C12 \cdot x + C13$$

$$phi2(x) := \frac{-q2(x)}{6 \cdot EI2} \cdot x^3 + 3 \cdot C21 \cdot x^2 + 2 \cdot C22 \cdot x + C23$$

$$M1(x) := \frac{-q1(x)}{2 \cdot EI1} \cdot x^2 + 6 \cdot C11 \cdot x + 2 \cdot C12$$

$$M2(x) := \frac{-q2(x)}{2 \cdot EI2} \cdot x^2 + 6 \cdot C21 \cdot x + 2 \cdot C22$$

$$V1(x) := \frac{-q1(x)}{EI1} \cdot x + 6 \cdot C11$$

$$V2(x) := \frac{-q2(x)}{EI2} \cdot x + 6 \cdot C21$$

$$w1(0) = 0$$

$$phi1(0) = 0$$

$$w1(L1) = w2(0)$$

$$phi1(L1) = phi2(0)$$

$$M1(L1) = M2(0)$$

$$V1(L1) = V2(0) + F$$

$$M2(L2) = 0$$

$$V2(L2) = 0$$

find(C11, C12, C13, C14, C21, C22, C23, C24) = ?