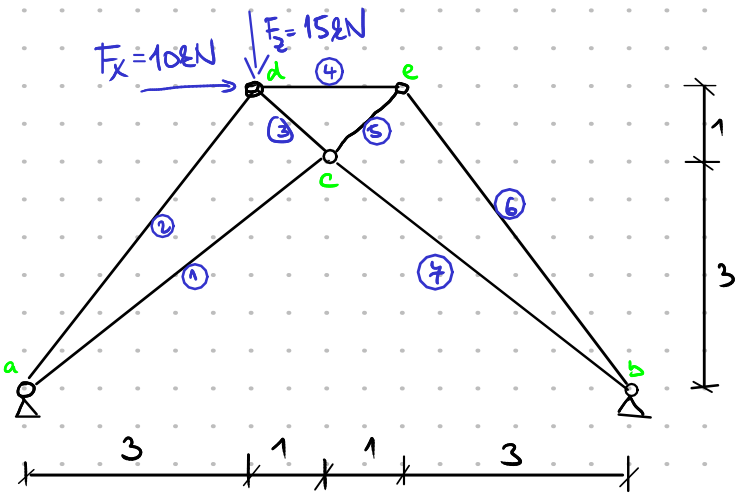


PŘÍHRADOVÉ KONSTRUKCE

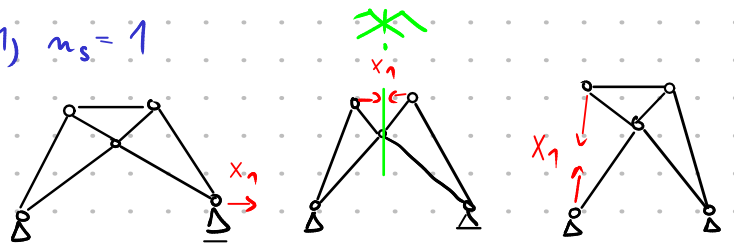


$$E = 210 \text{ GPa} \quad \odot \text{ Tr } 100 \times 10$$

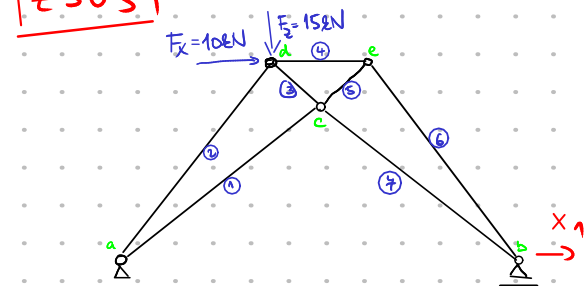
$$A = \pi \frac{(d^2 - d_0^2)}{4} = 1,49225651 \cdot 10^{-3} \text{ m}^2$$

$$EA = 313\,373,8671 \text{ kPa m}^2$$

1) $n_s = 1$



ZSUS

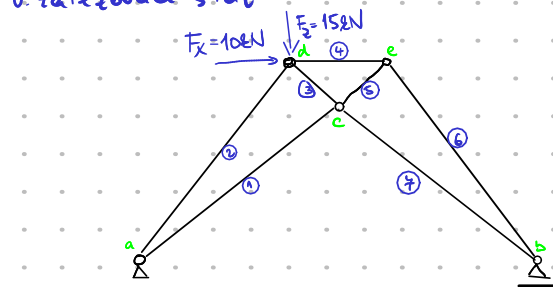


$$l_1 = l_2 = l_6 = l_7 = 5 \text{ m}$$

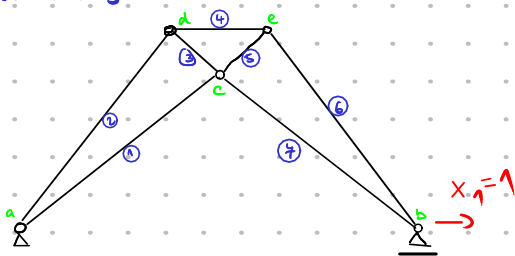
$$l_4 = 2 \text{ m}$$

$$l_3 = l_5 = \sqrt{2} \text{ m}$$

0. zatěžovací stav



1. zatěžovací stav



2. vnitřní síly

[kN]	0	1
N_1	37,946	2,857
N_2	-33,929	-2,143
N_3	17,173	2,425
N_4	-42,5	-3
N_5	34,345	2,425
N_6	-30,357	-2,143
N_7	22,768	2,857

3. rovnice

$$\bar{d}_{11} X_1 + \bar{d}_{10} = 0$$

4. vyčíslení $\bar{d} = \frac{1}{EA} \int N \bar{N} dx$

$$\bar{d}_{11} = \frac{1}{EA} \left[\int N_1 \bar{N}_1 dx + \dots + \int N_7 \bar{N}_7 dx \right] = \frac{1}{EA} \left[(2,857 \cdot l_1 \cdot 2,857 + 2,143^2 \cdot l_2 + 2,425^2 \cdot l_3) \cdot 2 + 3^2 \cdot l_4 \right]$$

$$= \frac{162,1819}{EA}$$

$$\bar{d}_{10} = \frac{1}{EA} \left[\int N_1 \bar{N}_1 dx + \dots + \int N_7 \bar{N}_7 dx \right] = \frac{1}{EA} \left[37,946 \cdot l_1 \cdot 2,857 + 33,929 \cdot l_2 \cdot (-2,143) + 17,173 \cdot l_3 \cdot 2,425 + \right.$$

$$\left. + 42,5 \cdot l_4 \cdot (-3) + 34,345 \cdot l_5 \cdot 2,425 + 30,357 \cdot l_6 \cdot (-2,143) + 22,768 \cdot l_7 \cdot 2,857 \right] =$$

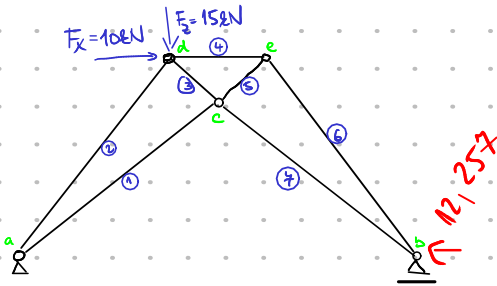
$$= \frac{1987,8033}{EA}$$

symetrické

$$S_1 \quad \delta_{11} X_1 + \delta_{10} = 0$$

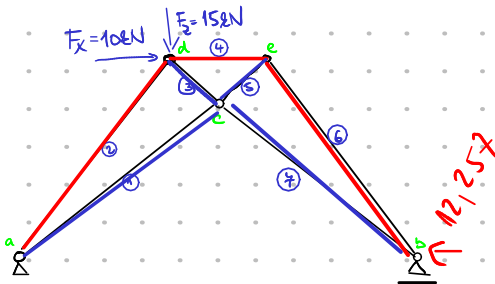
$$\frac{162,1819}{EA} X_1 + \frac{1987,8033}{EA} = 0 \quad \cdot EA$$

$$X_1 = -12,257 \text{ kN}$$

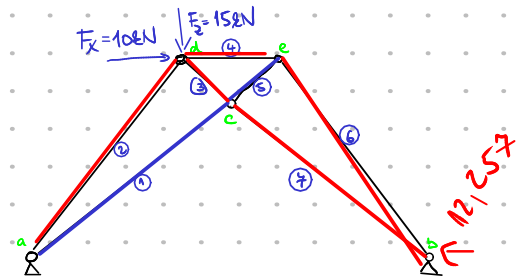


[kN]	□
N ₁	37,946
N ₂	-33,929
N ₃	17,173
N ₄	-42,5
N ₅	34,345
N ₆	-30,357
N ₇	22,768

[kN]	□	□ + X ₁ · □
2,857	2,929	
-2,143	-7,663	
2,425	-12,549	
-3	-5,730	
2,425	4,623	
-2,143	-4,091	
2,875	-12,249	



-tlak
-tah



i	L	N0	N1	delta_10	delta_11	N
1	5	37.946	2.857	542.05861	40.812245	2.928812058
2	5	-33.929	-2.143	363.549235	22.962245	-7.663044886
3	1.414213562	17.173	2.425	58.89425205	8.31645963	-12.54932438
4	2	-42.5	-3	255	18	-5.730114166
5	1.414213562	34.345	2.425	117.7850746	8.31645963	4.622675618
6	5	-30.357	-2.143	325.275255	22.962245	-4.091044886
7	5	22.768	2.857	325.24088	40.812245	-12.24918794
				1987.803307	162.1818993	12.25662861