

Централна прашња

① [12.09.2009-4]

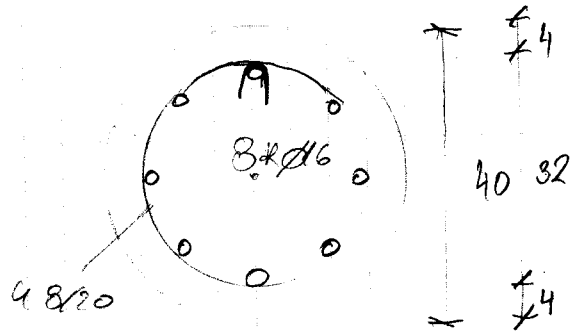
Одредиши N_p , $N_g = 1000 \text{ kH}$

$$N_u = 1,9 N_g + 2,1 N_p = 1900 + 2,1 N_p$$

$$N_u = A_b \cdot f_b + A_a \cdot G_v$$

$$N_u = 3219,5 \text{ kH}$$

$$\boxed{N_p = 629 \text{ kH}}$$



RA 400/500

MB 30

$f_b = 255 \text{ MPa}$

$$A_a = 8 \cdot \frac{16^2 \cdot \pi}{4} = 16,085 \text{ cm}^2$$

② [26.09.2009-3]

$D = 40 \text{ cm}$

$N_g = 1000 \text{ kH}$

$N_p = 530 \text{ kH}$

$$N_u = 1,9 N_g + 2,1 N_p = 3055 \text{ kH}$$

$$N_u = A_b \cdot f_b + A_a \cdot G_v$$

$$2575,106 + A_a \cdot 40$$

$$A_a \approx 12 \text{ cm}^2$$

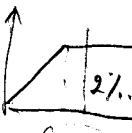
$$A_b = 1256,64 \text{ cm}^2$$

$$\mu = \frac{A_a}{A_b} = 0,955\% \geq 0,6\% \rightarrow A_{a \text{ pot}} = 12 \text{ cm}^2 \rightarrow \boxed{6 \text{ } \phi 16}$$

2%



RDC



$$G_v = 40 \text{ kH/cm}^2$$

MB 30

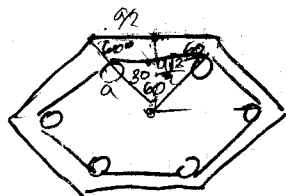
③ [9.9.2008-2]

$N_g = 1200 \text{ kH}$

$$N_u = 3937 \text{ kH}$$

$$2,1 N_p = 1656,96$$

$$\boxed{N_p = 790 \text{ kH}}$$



$$l = 22,5 = \frac{a\sqrt{3}}{2}$$

$$a = 25,98 \text{ cm}$$

$$P_a = \frac{a^2 \sqrt{3}}{4}$$

$$A_a = 6R/22 = 221,81 \text{ cm}^2$$

$$G_v = 40 \text{ kH/cm}^2$$

$$N_{au} = 912 \text{ kH}$$

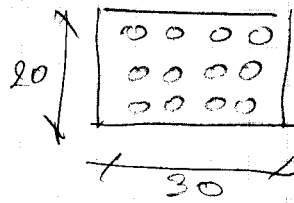
$$\text{MB } 25 \rightarrow f_b = 1,725 \text{ kH/cm}^2$$

$$A_b = 1753,6 \text{ cm}^2$$

$$N_{bu} = 3024,99$$

④ [9.9.2008-3]

$$Z_y = 600 \text{ kN}$$



* $\phi 22$

$$Z_u = 1.6 \cdot Z_y + \{82p = A_s \cdot G_v$$

$$[Z_p = 480 \text{ kN}]$$

Задачи за колонци

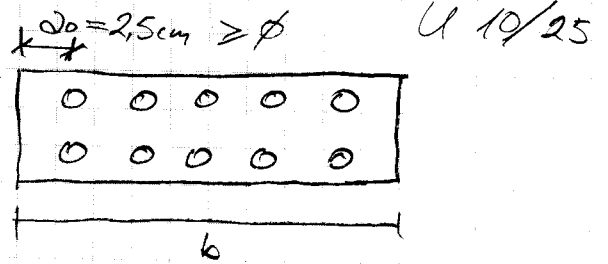
Центрично зашезање

1. $A_a = ?$ $b/d = ?$, умерена средина

$Z_g = 305 \text{ kN}$ $Z_p = 227 \text{ kN}$ $GA = 240/360$

$Z_u = 1.6 \cdot Z_g + 1.8 Z_p = 1094.6 \text{ kN}$

$A_a = \frac{Z_u}{6v} = 45.61 \text{ cm}^2 \rightarrow 10 \phi 25$



$d \geq 2 \cdot d_0 + 2 \phi_u + 2 \cdot \phi + 1 \cdot e_v = 3 \text{ cm}$

$[d \geq 15]$

$b \geq 2 \cdot d_0 + 2 \phi_u + 5 \cdot \phi + 4e_H^{5 \text{ cm}}$

$40/15$

$[b \geq 39.5] \sim 40$

2. "Мали ексцентрицитет"

$Z_g = 305 \text{ kN}$

$Z_p = 337 \text{ kN}$

$M_g = 6.6 \text{ kNm}$

$Z_u = 1.6 \cdot Z_g + 1.8 Z_p = 1094.6 \text{ kN}$
 $M_u = 1.6 M_g = 10.56 \text{ kNm}$

$b/d = 25/30$

$GA = 240/360$

- ексцентрицитет е e :

$e = \frac{M_u}{Z_u} = 0.965 \text{ cm}$

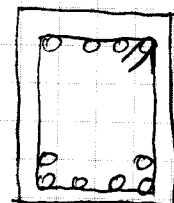
$d_1 = 5.5 \text{ cm}$ $d_2 = 5 \text{ cm}$

$y_{z1} = d/2 - d_1 = 9.5 \text{ cm}$

$y_{z2} = d/2 - d_2 = 10 \text{ cm}$

$A_{a2} = \frac{Z_u \cdot y_{z1} - e}{6v \cdot (y_{z1} + y_{z2})} = 19.96 \text{ cm}^2 \rightarrow 4 \phi 25$

$A_{a1} = \frac{Z_u \cdot y_{z2} + e}{6v \cdot (y_{z1} + y_{z2})} = 25.65 \text{ cm}^2 \rightarrow 6 \phi 25$



$d_1 = 6 \text{ cm}$

$d_2 = 5 \text{ cm}$

$d_0 = 2.75 \text{ cm}$

$U \phi 10/15$

$d' = 5 \text{ cm}$