<u>DIAGRAMAS DE INTERACCIÓN</u> (PARTE III)

RESISTENCIA DE SECCIONES CIRCULARES
SOMETIDAS A FLEXIÓN COMPUESTA RECTA



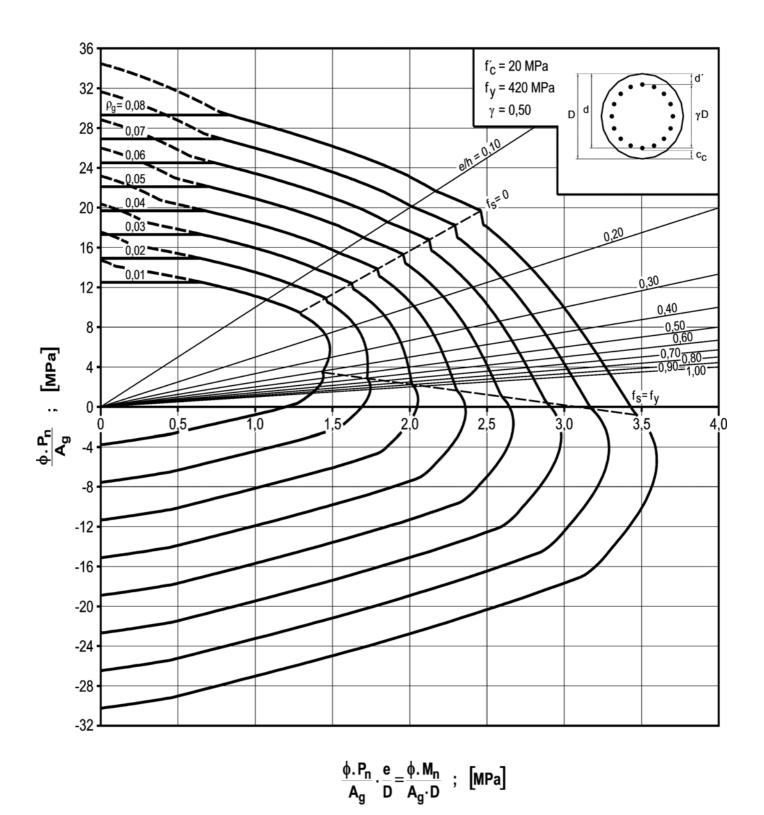
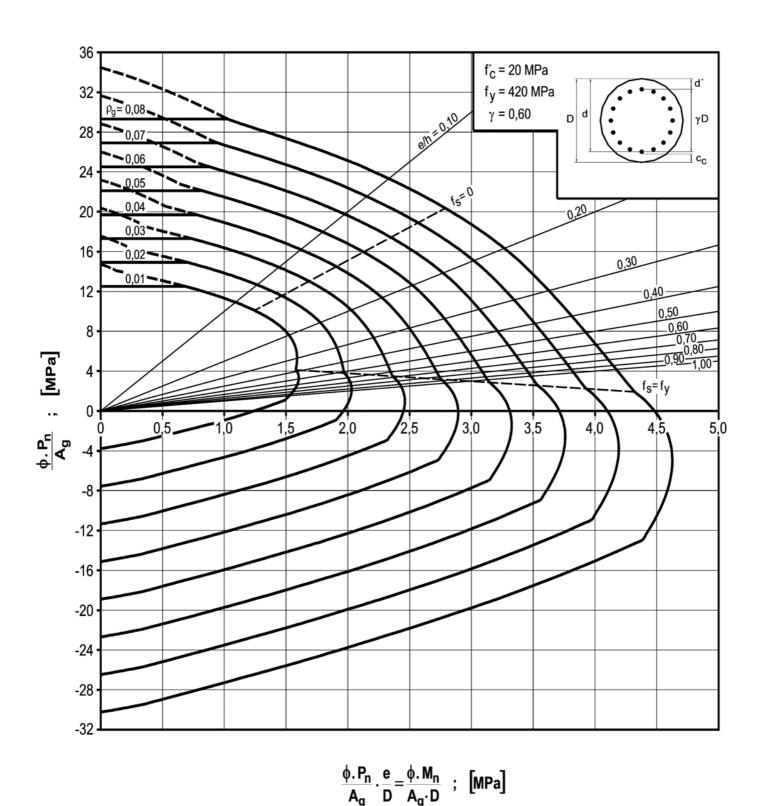


DIAGRAMA III.1

$$f'_{c} = 20 \text{ MPa} \text{ y } \gamma = 0.50.$$



$$f'_{c} = 20 \text{ MPa} \text{ y } \gamma = 0,60.$$

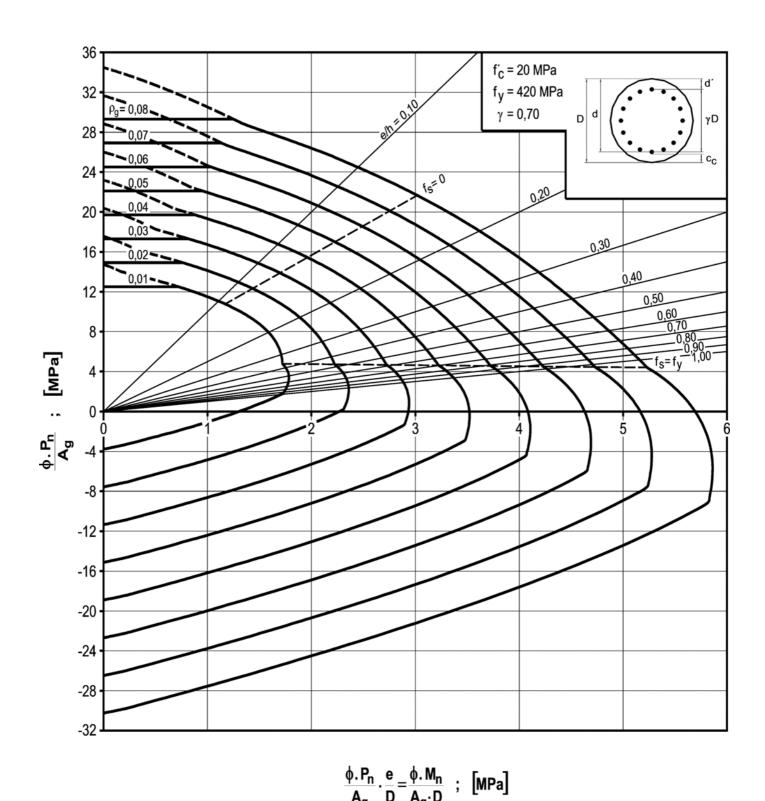
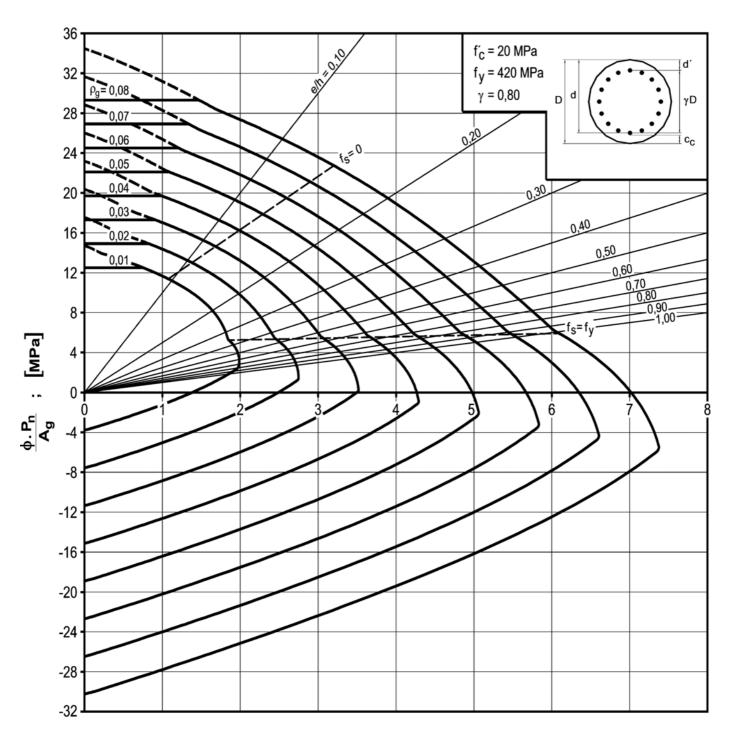


DIAGRAMA III.3

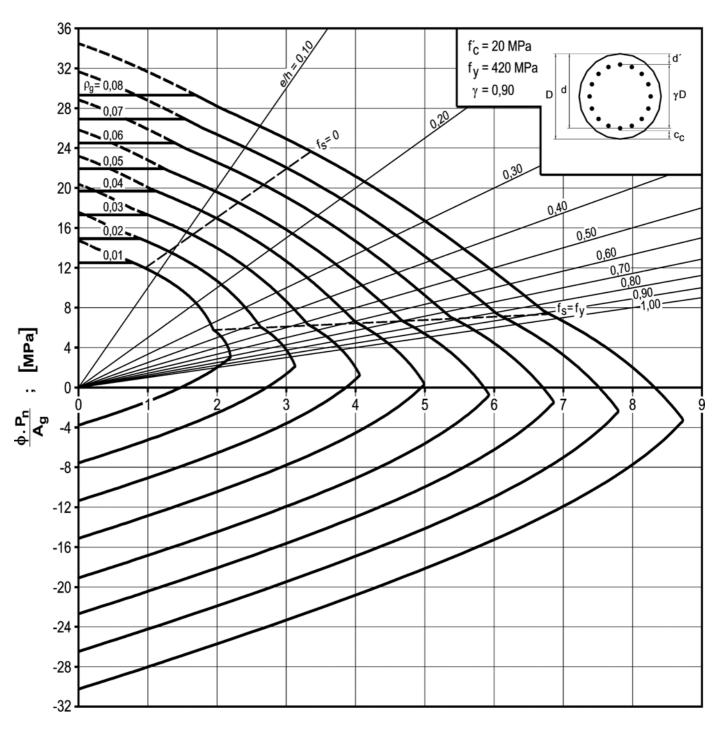
$$f'_{c} = 20 \text{ MPa} \text{ y } \gamma = 0,70.$$



$$\frac{\phi \cdot P_n}{A_g} \cdot \frac{e}{D} = \frac{\phi \cdot M_n}{A_g \cdot D} ; \quad [MPa]$$

DIAGRAMA III.4

$$f'_{c} = 20 \text{ MPa} \text{ y } \gamma = 0.80.$$



$$\frac{\phi \cdot P_n}{A_g} \cdot \frac{e}{D} = \frac{\phi \cdot M_n}{A_g \cdot D} ; [MPa]$$

DIAGRAMA III.5

$$f'_{c} = 20 \text{ MPa} \text{ y } \gamma = 0.90.$$

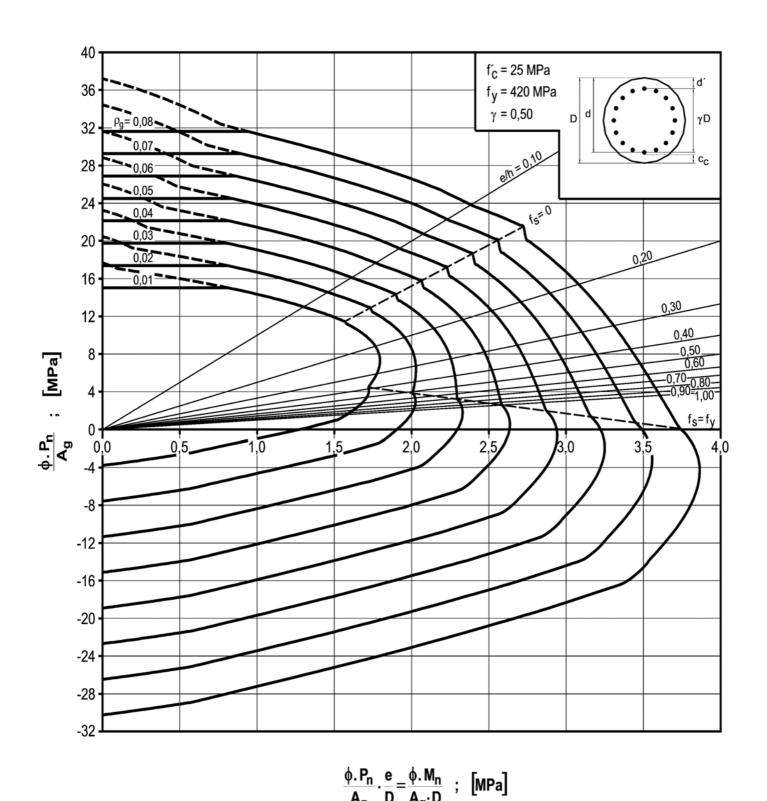
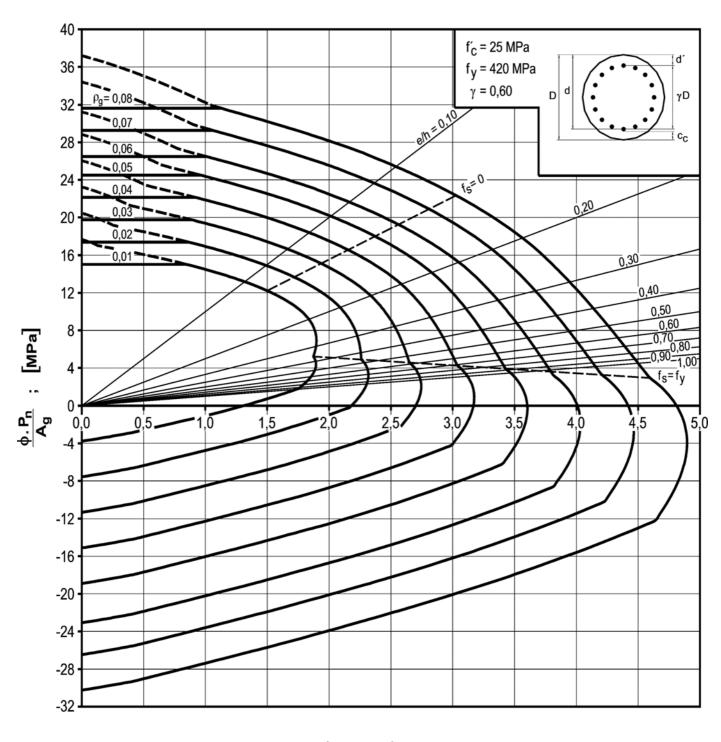


DIAGRAMA III.6

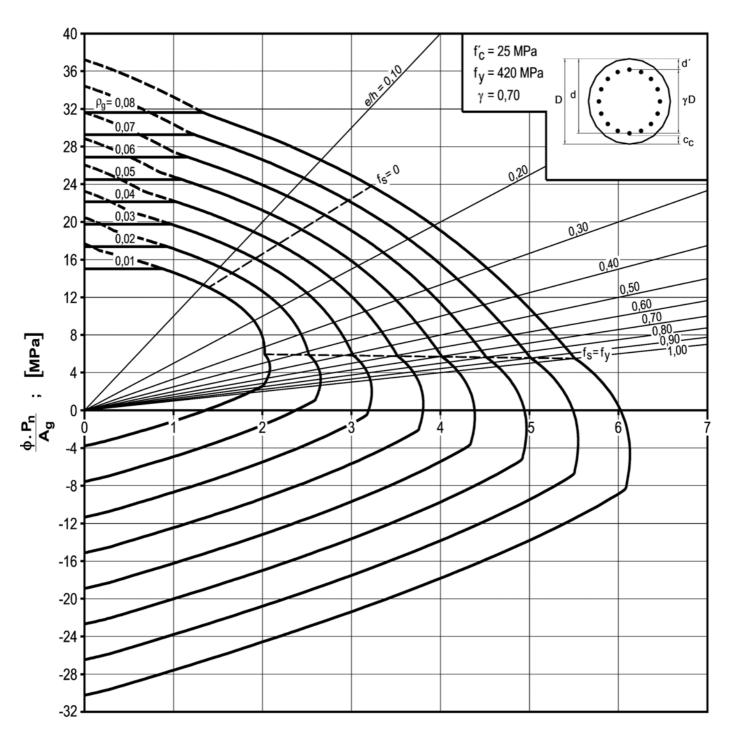
$$f'_{c} = 25 \text{ MPa} \text{ y } \gamma = 0,50.$$



$$\frac{\phi \cdot P_n}{A_g} \cdot \frac{e}{D} = \frac{\phi \cdot M_n}{A_g \cdot D} \quad ; \quad [MPa]$$

DIAGRAMA III.7

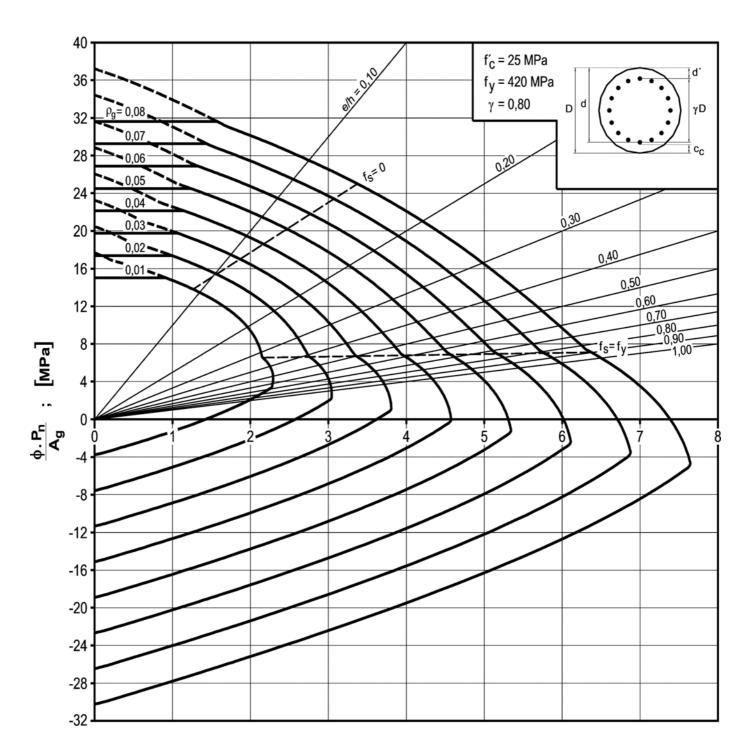
$$f'_{c} = 25 \text{ MPa} \text{ y } \gamma = 0,60.$$



$$\frac{\phi \cdot P_n}{A_g} \cdot \frac{e}{D} = \frac{\phi \cdot M_n}{A_g \cdot D} \quad ; \quad [MPa]$$

DIAGRAMA III.8

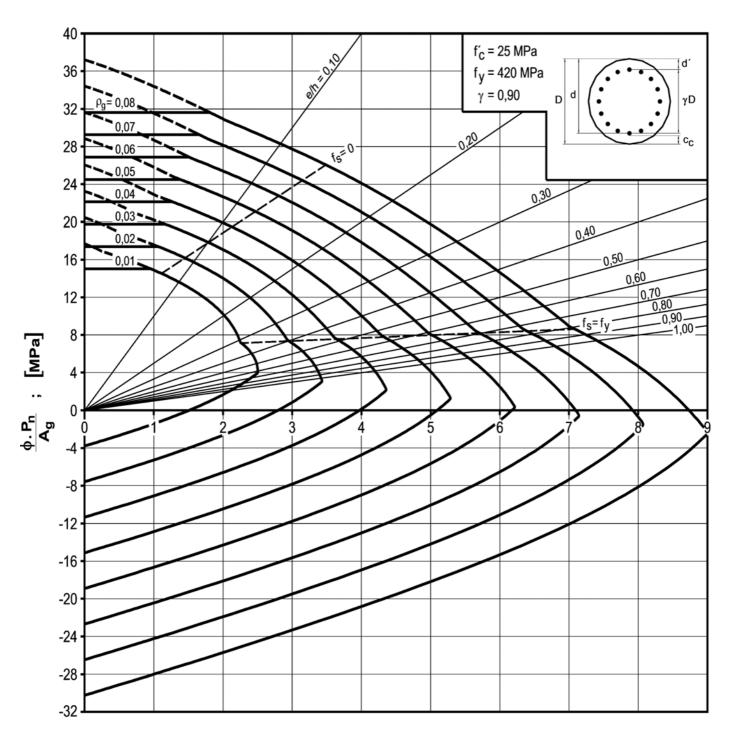
$$f'_{c} = 25 \text{ MPa} \text{ y } \gamma = 0,70.$$



$$\frac{\phi \cdot P_n}{A_g} \cdot \frac{e}{D} = \frac{\phi \cdot M_n}{A_g \cdot D} \quad ; \quad [MPa]$$

DIAGRAMA III.9

$$f'_{c} = 25 \text{ MPa} \text{ y } \gamma = 0.80.$$



$$\frac{\phi \cdot P_n}{A_g} \cdot \frac{e}{D} = \frac{\phi \cdot M_n}{A_g \cdot D} ; \quad [MPa]$$

DIAGRAMA III.10

$$f'_{c} = 25 \text{ MPa} \text{ y } \gamma = 0.90.$$

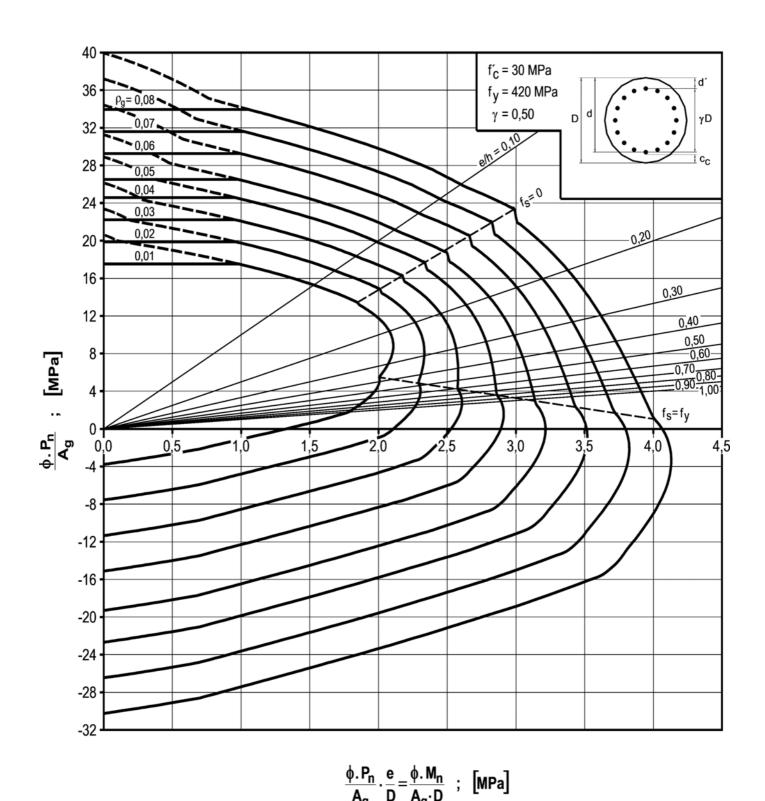
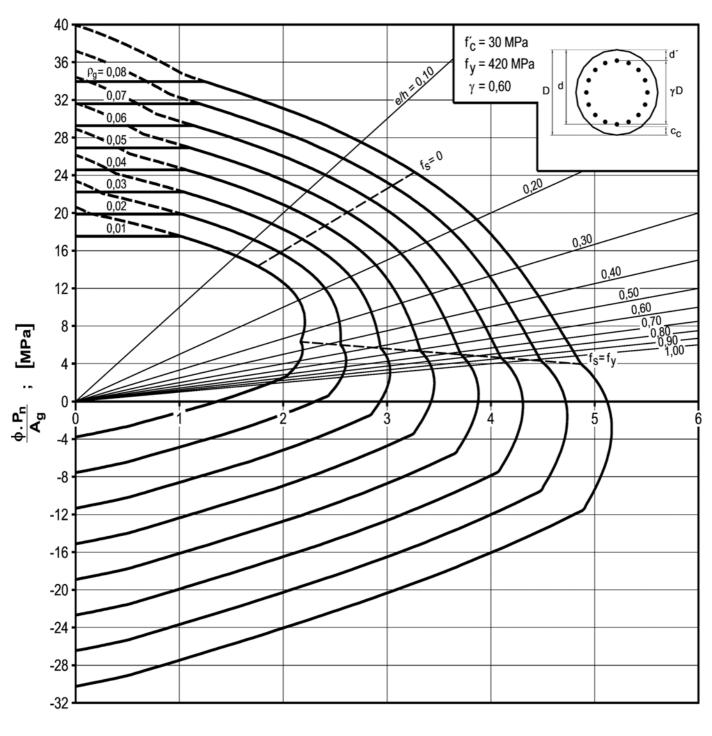


DIAGRAMA III.11

$$f'_{c} = 30 \text{ MPa} \text{ y } \gamma = 0,50.$$



$$\frac{\phi \cdot P_n}{A_g} \cdot \frac{e}{D} = \frac{\phi \cdot M_n}{A_g \cdot D} \quad ; \quad [MPa]$$

DIAGRAMA III.12

$$f'_{c} = 30 \text{ MPa} \text{ y } \gamma = 0,60.$$

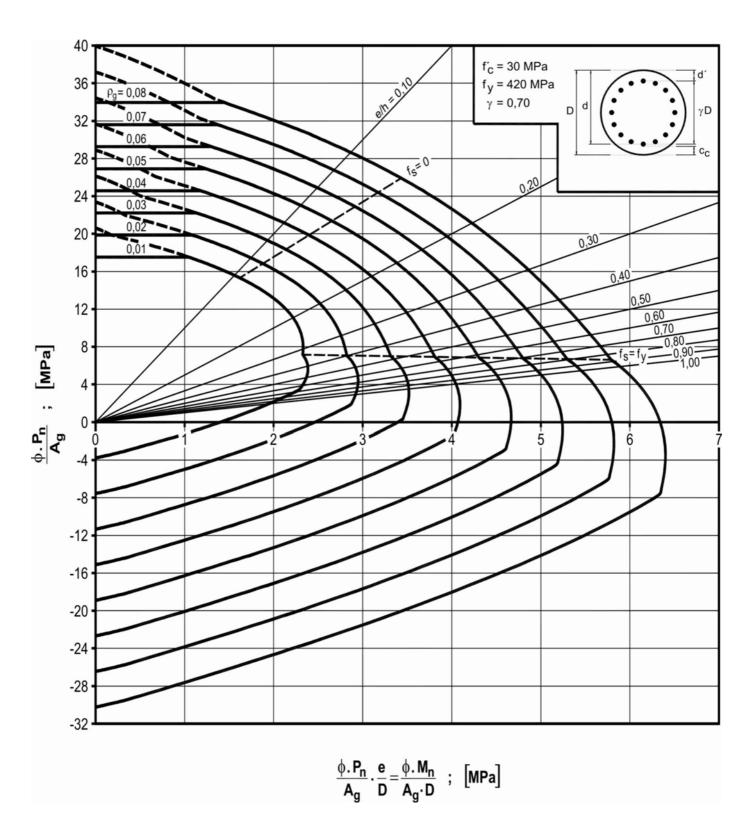
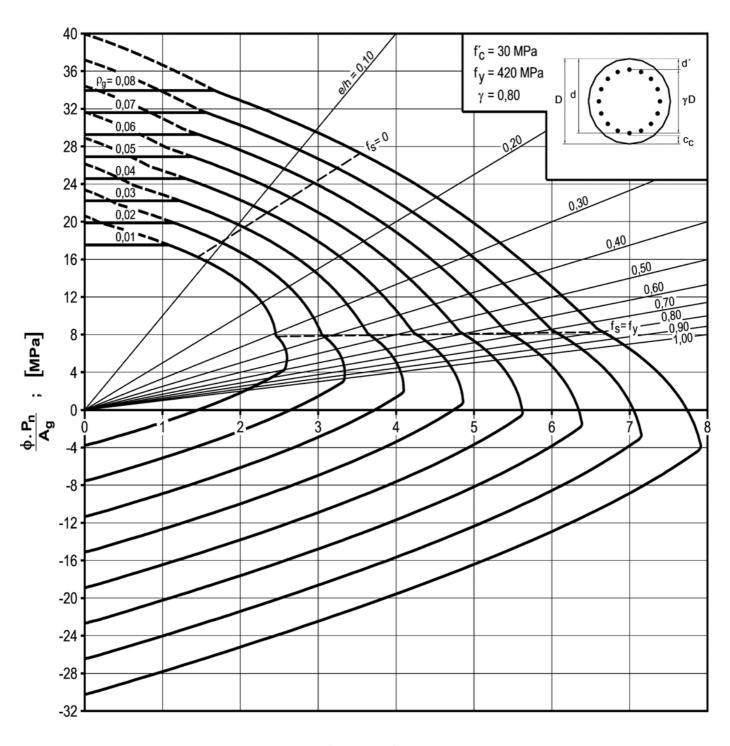


DIAGRAMA III.13

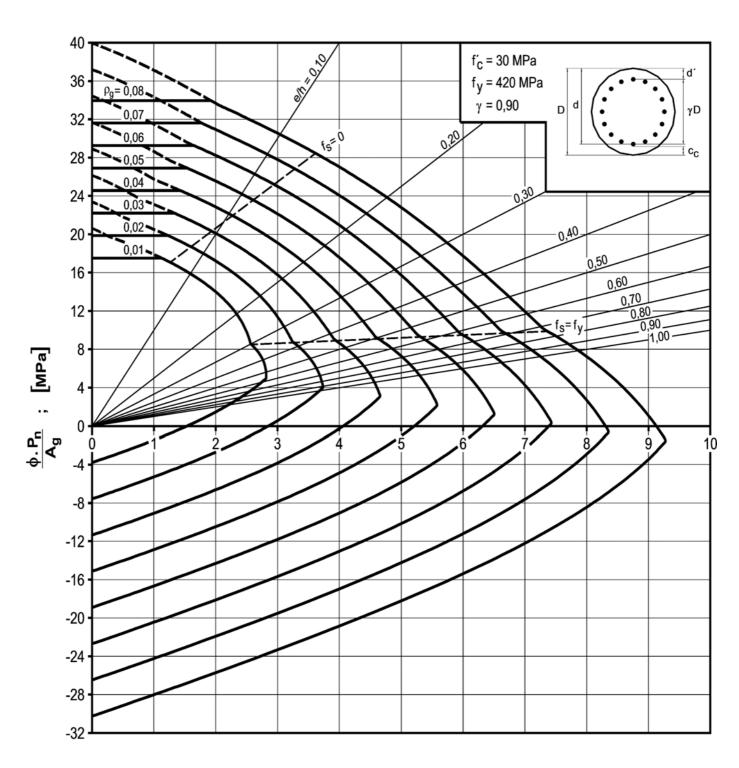
$$f'_{c} = 30 \text{ MPa} \text{ y } \gamma = 0.70.$$



$$\frac{\phi \cdot P_n}{A_g} \cdot \frac{e}{D} = \frac{\phi \cdot M_n}{A_g \cdot D} ; [MPa]$$

DIAGRAMA III.14

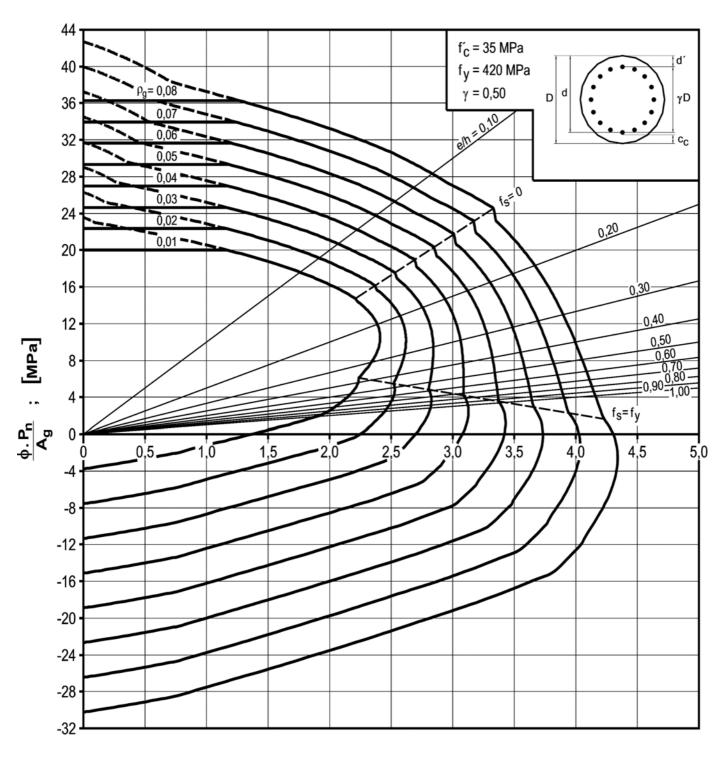
$$f'_{c} = 30 \text{ MPa} \text{ y } \gamma = 0.80.$$



$$\frac{\phi \cdot P_n}{A_g} \cdot \frac{e}{D} = \frac{\phi \cdot M_n}{A_g \cdot D} \quad ; \quad [MPa]$$

DIAGRAMA III.15

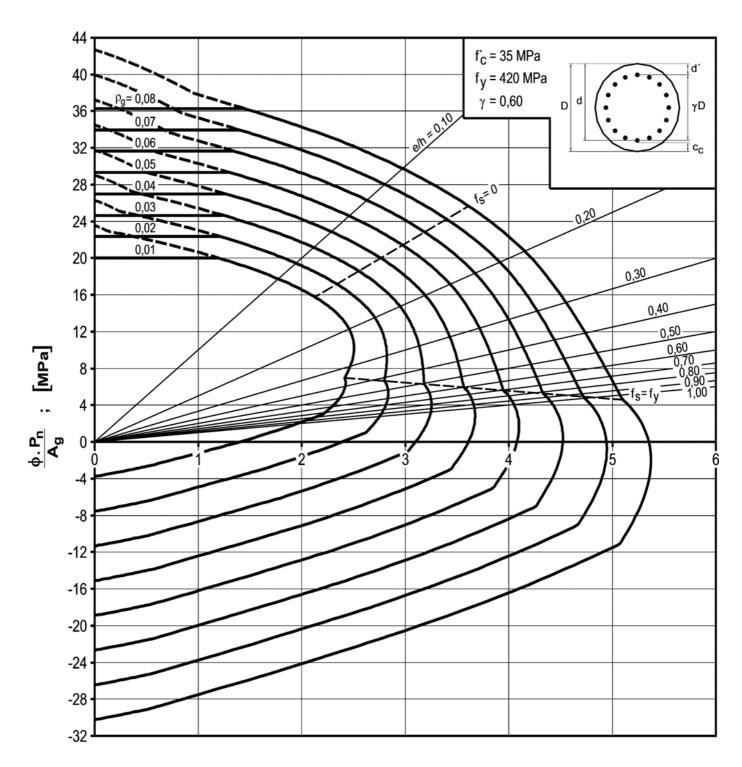
$$f'_{c} = 30 \text{ MPa} \text{ y } \gamma = 0.90.$$



$$\frac{\phi \cdot P_n}{A_n} \cdot \frac{e}{D} = \frac{\phi \cdot M_n}{A_n \cdot D} ; \quad [MPa]$$

DIAGRAMA III.16

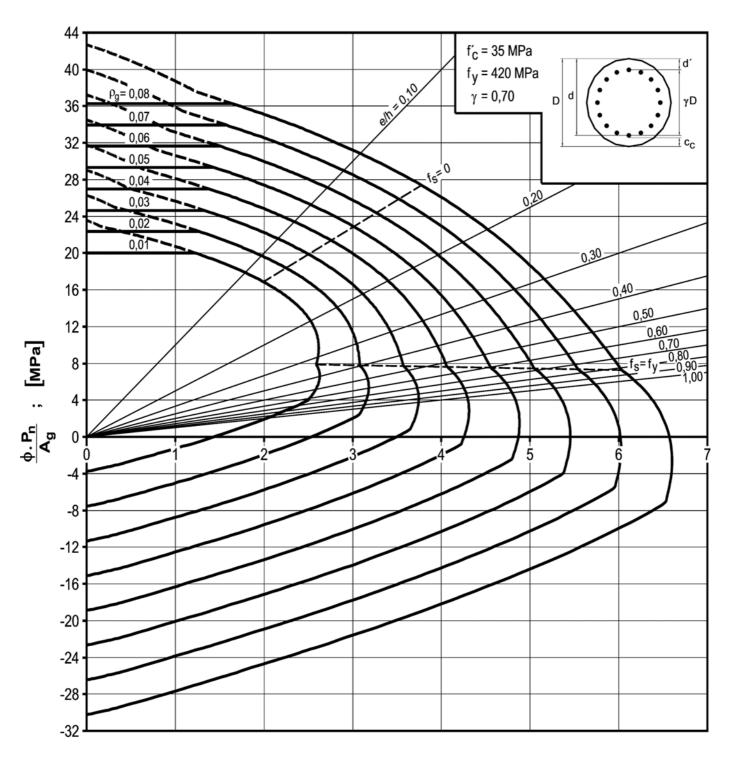
$$f'_{c} = 35 \text{ MPa} \text{ y } \gamma = 0,50.$$



$$\frac{\phi \cdot P_n}{A_n} \cdot \frac{e}{D} = \frac{\phi \cdot M_n}{A_n \cdot D} ; \quad [MPa]$$

DIAGRAMA III.17

$$f'_{c} = 35 \text{ MPa} \text{ y } \gamma = 0,60.$$



$$\frac{\phi \cdot P_n}{A_n} \cdot \frac{e}{D} = \frac{\phi \cdot M_n}{A_n \cdot D} ; \quad [MPa]$$

DIAGRAMA III.18

$$f'_{c} = 35 \text{ MPa} \text{ y } \gamma = 0.70.$$

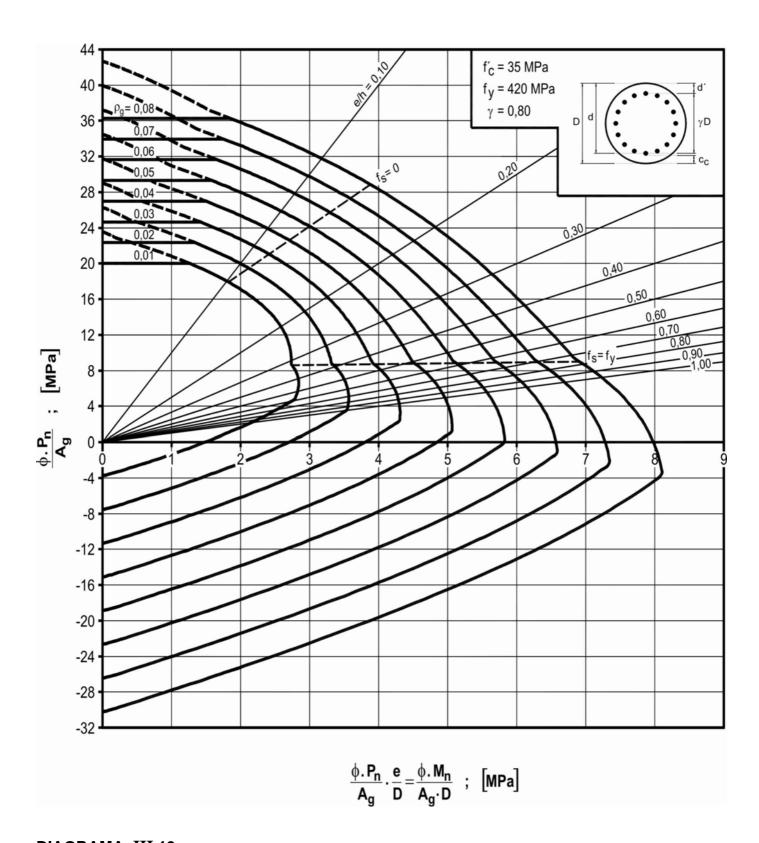
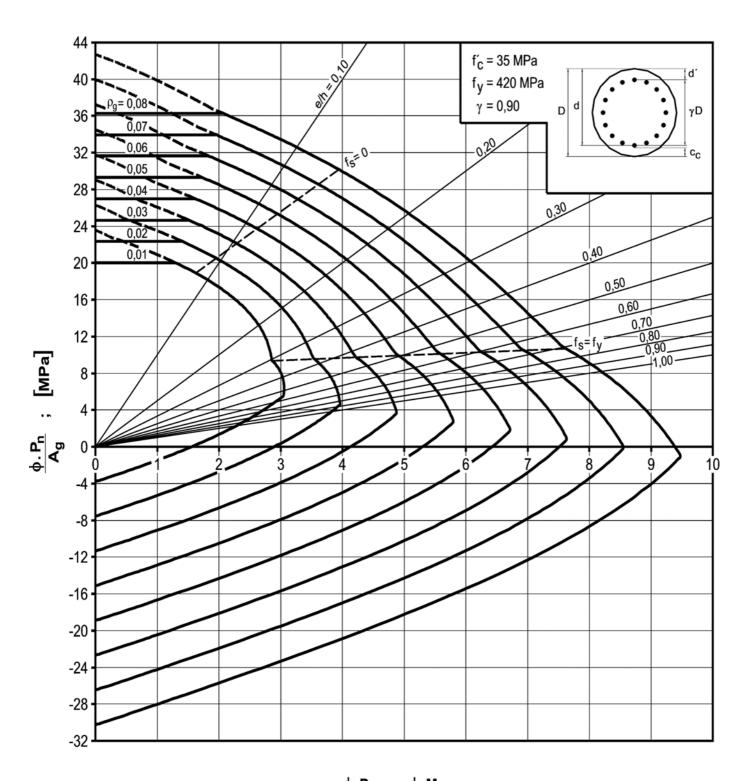


DIAGRAMA III.19

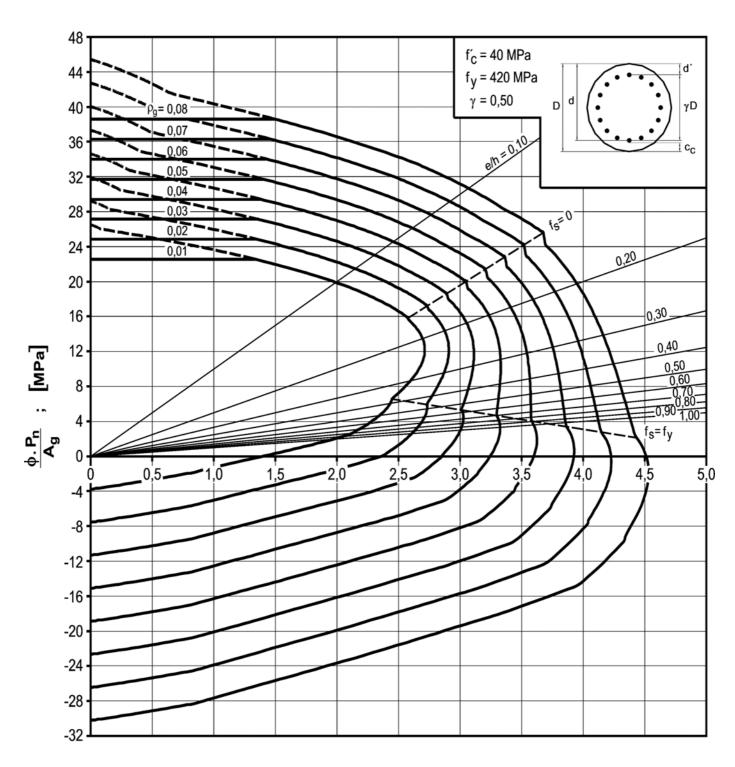
$$f'_{c} = 35 \text{ MPa} \text{ y } \gamma = 0.80.$$



$$\frac{\Phi \cdot P_n}{A_n} \cdot \frac{e}{D} = \frac{\Phi \cdot M_n}{A_n \cdot D} ; [MPa]$$

DIAGRAMA III.20

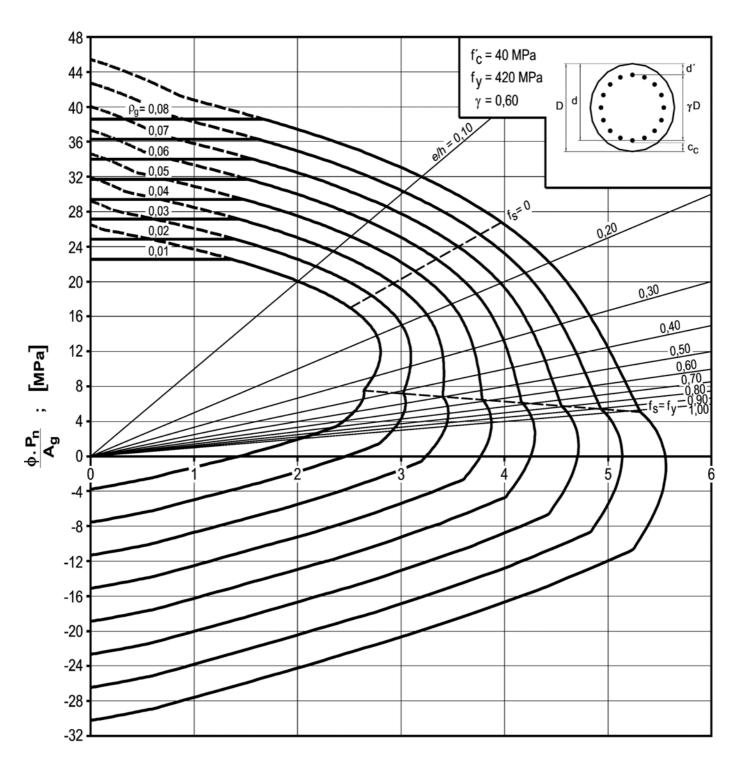
$$f'_{c} = 35 \text{ MPa} \text{ y } \gamma = 0.90.$$



$$\frac{\phi \cdot P_n}{A_n} \cdot \frac{e}{D} = \frac{\phi \cdot M_n}{A_n \cdot D} ; \quad [MPa]$$

DIAGRAMA III.21

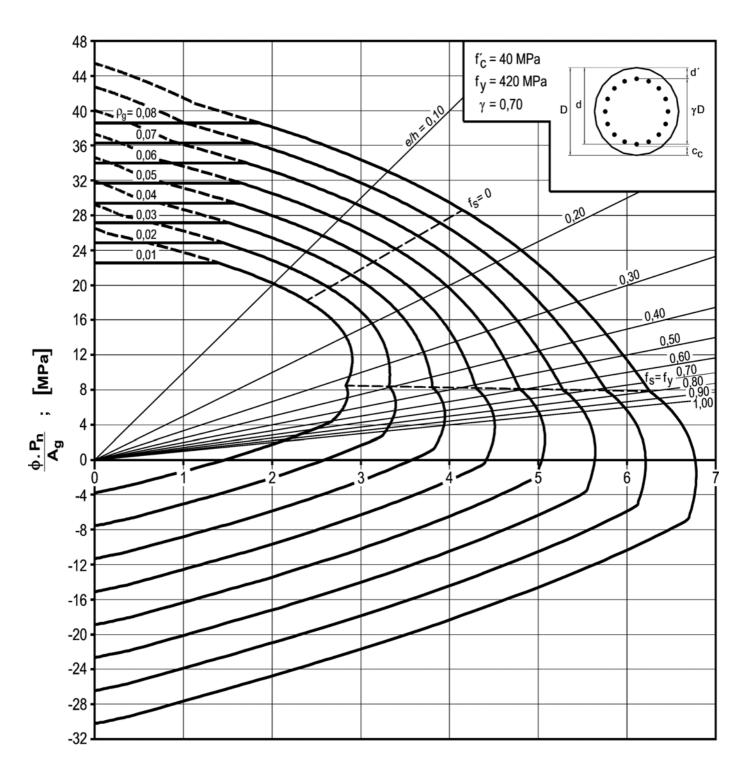
$$f'_{c} = 40 \text{ MPa} \text{ y } \gamma = 0,50.$$



$$\frac{\phi \cdot P_n}{A_n} \cdot \frac{e}{D} = \frac{\phi \cdot M_n}{A_n \cdot D} ; \quad [MPa]$$

DIAGRAMA III.22

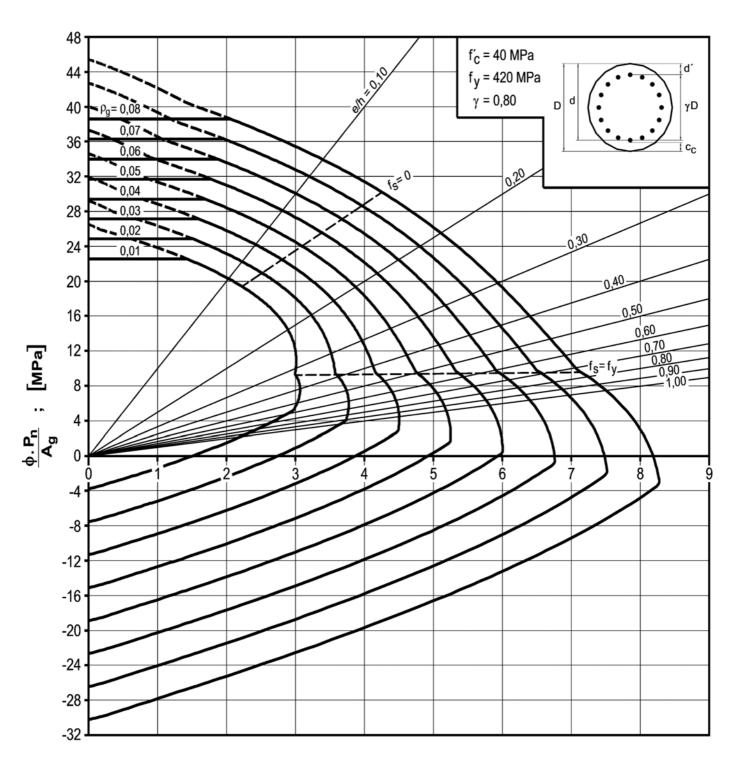
$$f'_c = 40 \text{ MPa} \text{ y } \gamma = 0,60.$$



$$\frac{\phi.P_n}{A_g} \cdot \frac{e}{D} = \frac{\phi.M_n}{A_g \cdot D} \ ; \ \left[MPa \right]$$

DIAGRAMA III.23

$$f'_{c} = 40 \text{ MPa} \text{ y } \gamma = 0.70.$$



$$\frac{\phi \cdot P_n}{A_{\alpha}} \cdot \frac{e}{D} = \frac{\phi \cdot M_n}{A_{\alpha} \cdot D} ; \quad [MPa]$$

DIAGRAMA III.24

$$f'_c = 40 \text{ MPa} \text{ y } \gamma = 0.80.$$

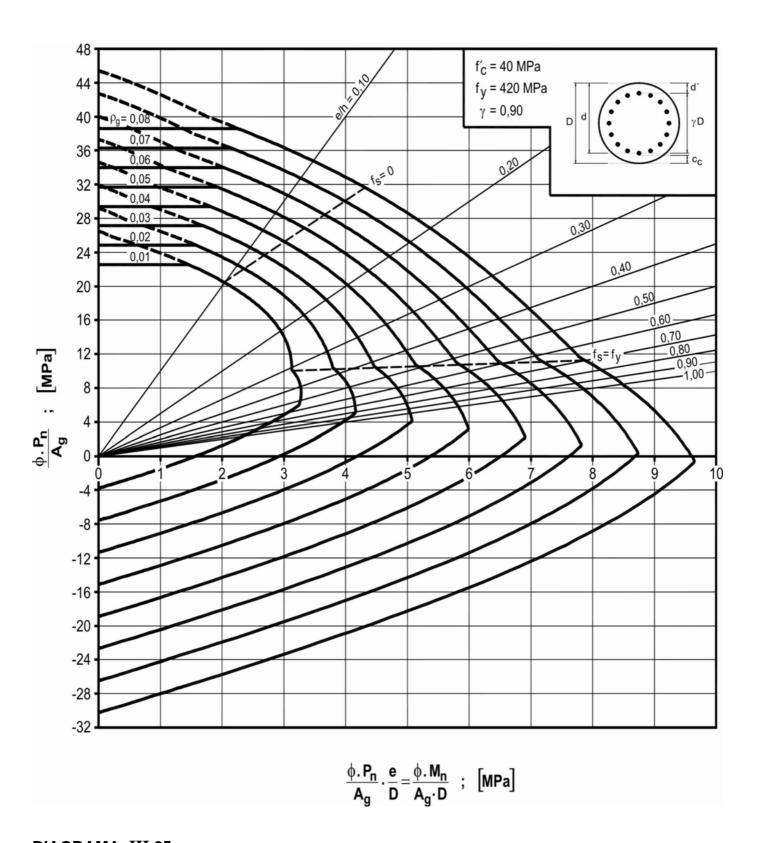
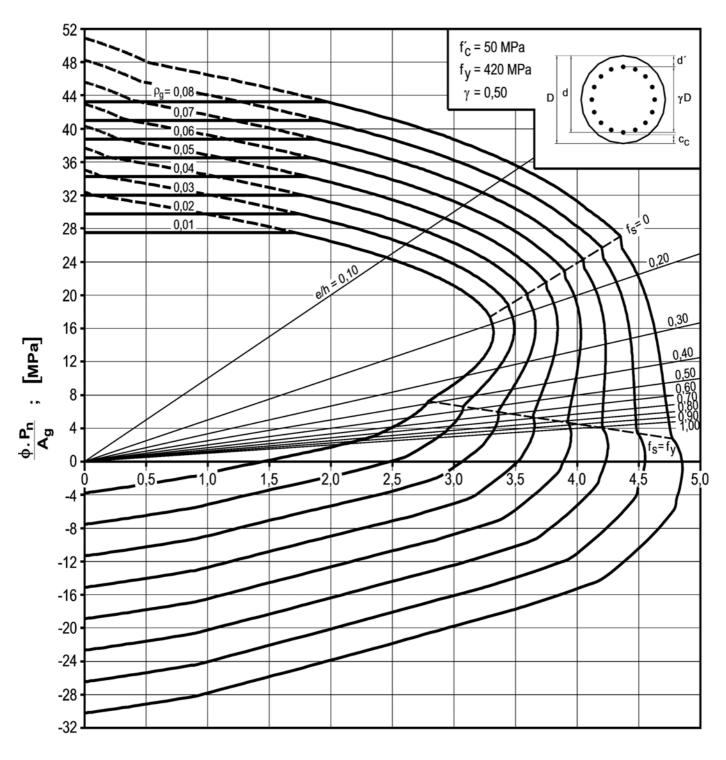


DIAGRAMA III.25

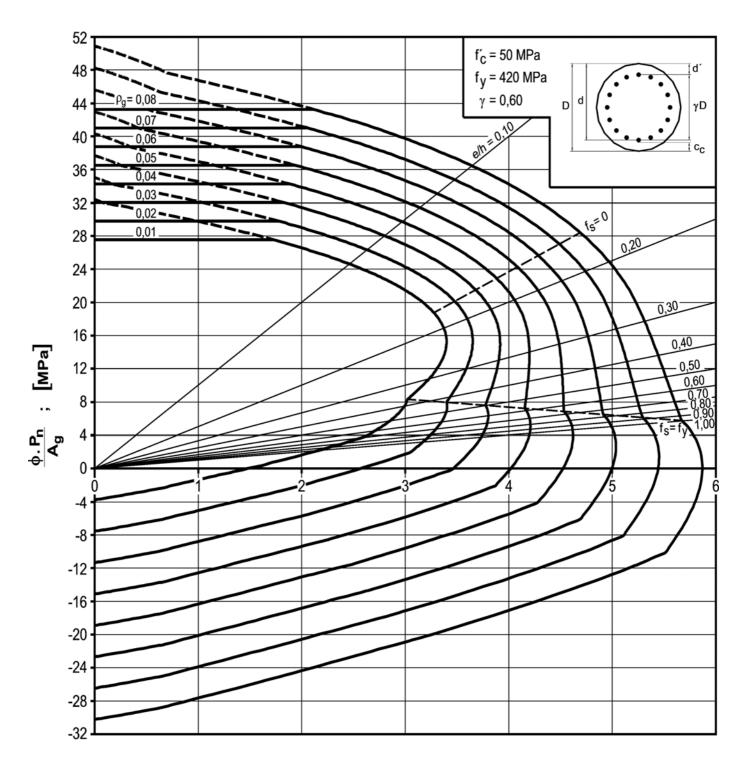
$$f'_{c} = 40 \text{ MPa} \text{ y } \gamma = 0.90.$$



$$\frac{\phi \cdot P_n}{A_n} \cdot \frac{e}{D} = \frac{\phi \cdot M_n}{A_n \cdot D} ; \quad [MPa]$$

DIAGRAMA III.26

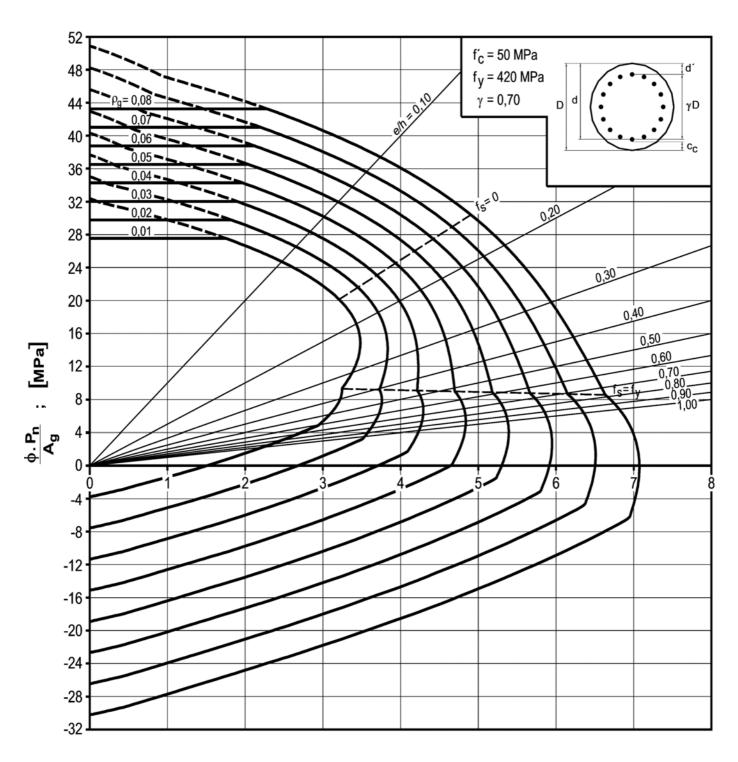
$$f'_{c} = 50 \text{ MPa} \text{ y } \gamma = 0,50.$$



$$\frac{\phi.\,P_n}{A_g}\cdot\frac{e}{D}\!=\!\frac{\phi.\,M_n}{A_g\cdot D}\ ;\ \left[\text{MPa}\right]$$

DIAGRAMA III.27

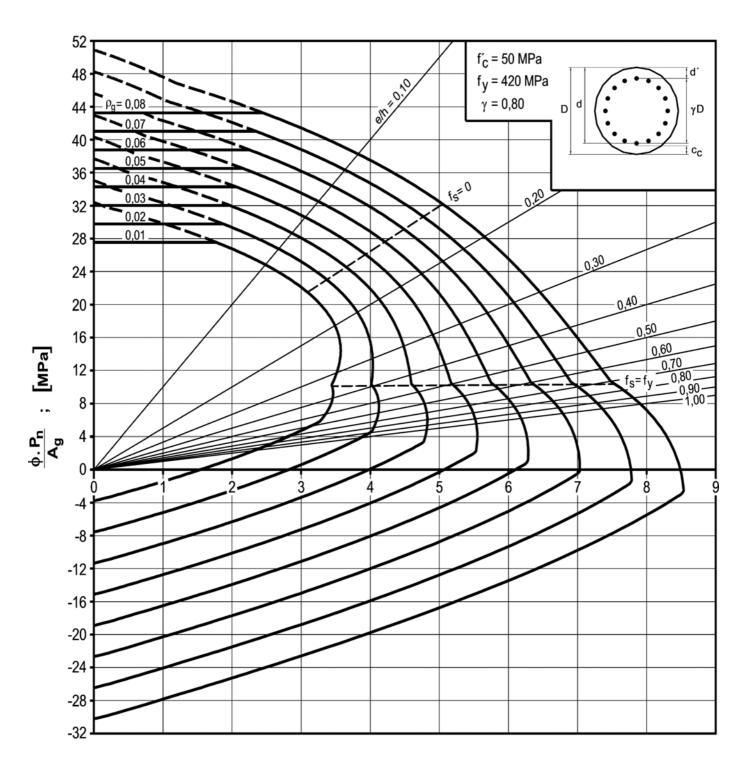
$$f'_{c} = 50 \text{ MPa} \text{ y } \gamma = 0,60.$$



$$\frac{\phi \cdot P_n}{A_{\alpha}} \cdot \frac{e}{D} = \frac{\phi \cdot M_n}{A_{\alpha} \cdot D} \quad ; \quad [MPa]$$

DIAGRAMA III.28

$$f'_{c} = 50 \text{ MPa} \text{ y } \gamma = 0,70.$$



$$\frac{\phi \cdot P_n}{A_{\alpha}} \cdot \frac{e}{D} = \frac{\phi \cdot M_n}{A_{\alpha} \cdot D} \quad ; \quad [MPa]$$

DIAGRAMA III.29

$$f'_{c} = 50 \text{ MPa} \text{ y } \gamma = 0.80.$$

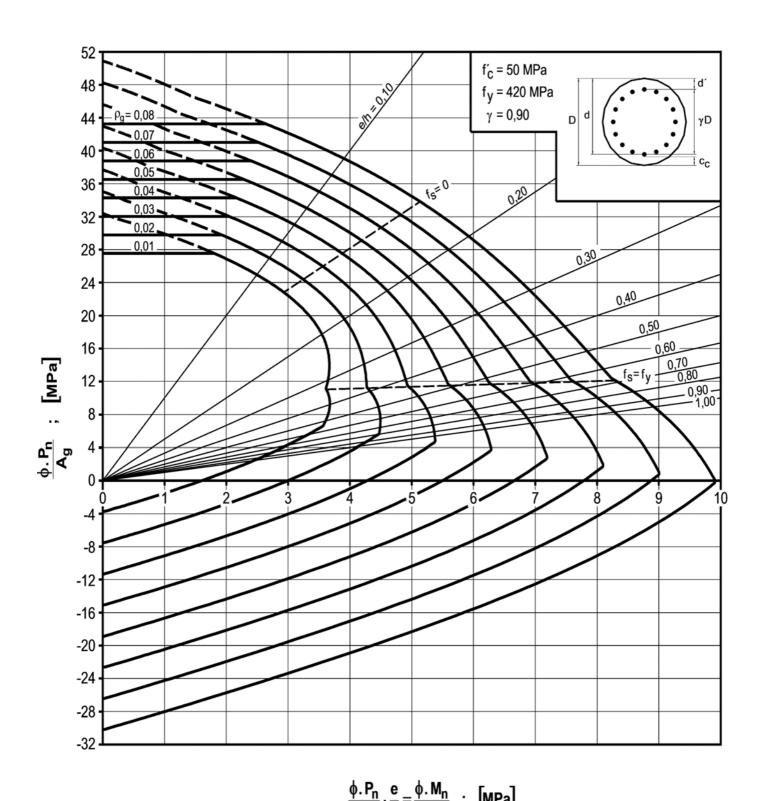


DIAGRAMA III.30

$$f'_{c} = 50 \text{ MPa} \text{ y } \gamma = 0.90.$$