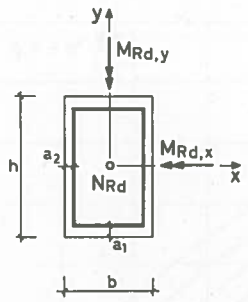
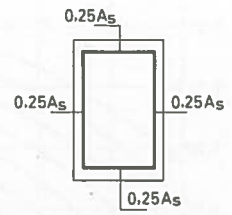
ÁBACO 58
FLEXÃO DESVIADA
Secções rectangulares

A400 | f_{syd} = 348 MPa



$$\mu_x = \frac{M_{Rd,x}}{A_c h f_{cd}} \qquad \mu_y = \frac{M_{Rd,y}}{A_c b f_{cd}}$$

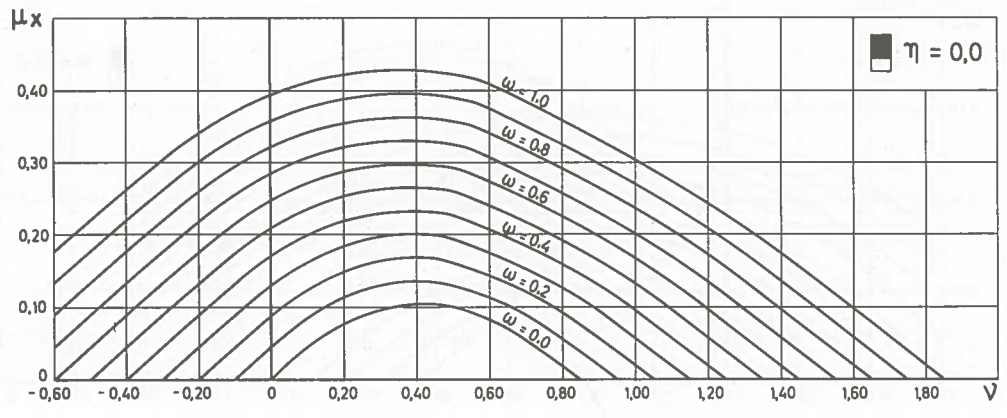
$$\nu = \frac{N_{Rd}}{A_c f_{cd}} \qquad \omega = \frac{A_s}{A_c} \cdot \frac{f_{syd}}{f_{cd}}$$

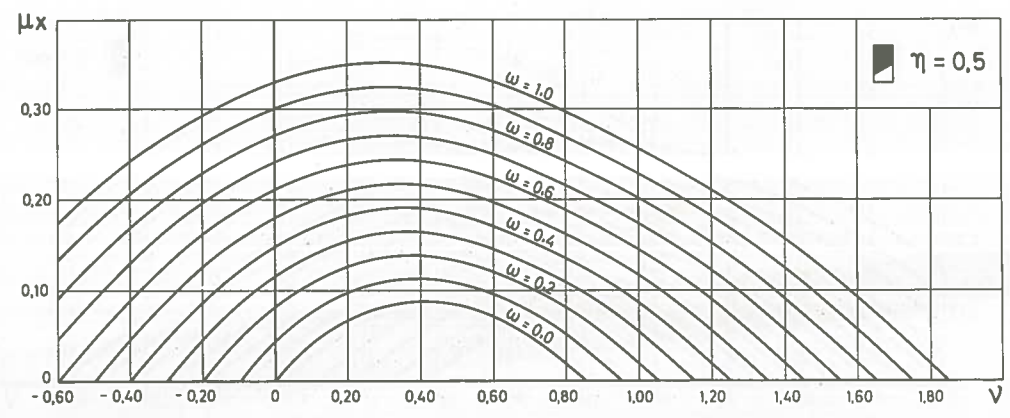


$a_1 / h = a_2 / b = 0.05$

A_s - Área total de armadura
A_c - Área da secção de betão

$\eta = \mu_y / \mu_x$

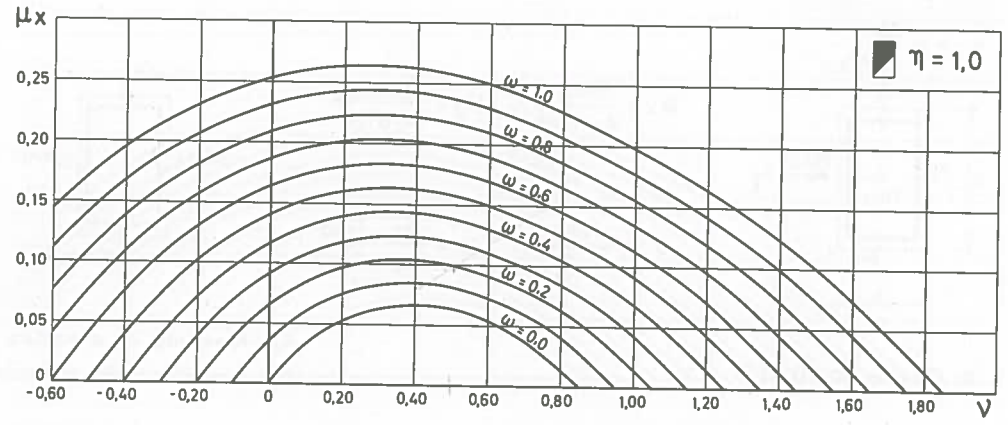


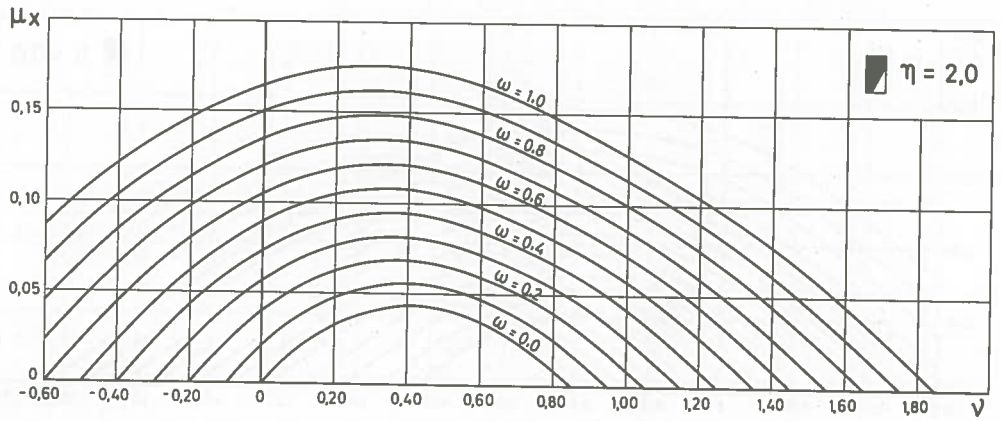


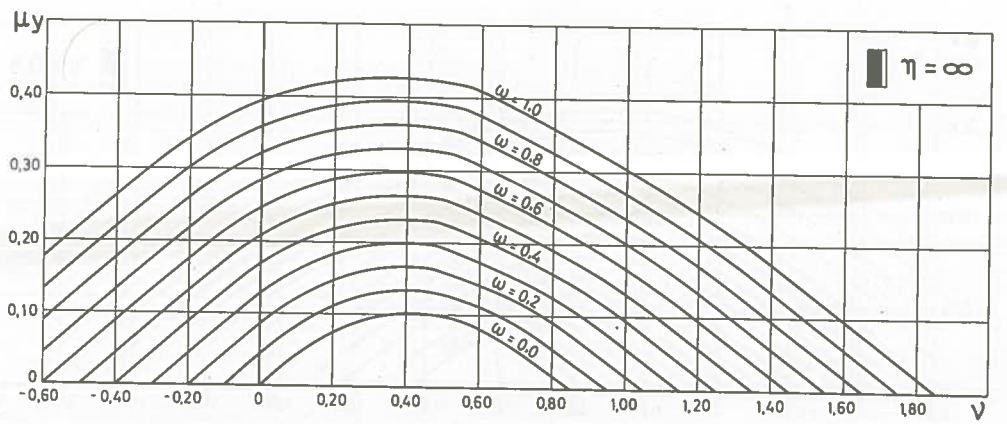
Classe do betão	B15	B20	B25	B30	B35	B40	B45	B50	B55
f_{cd} (MPa)	8,0	10,7	13,3	16,7	20,0	23,3	26,7	30,0	33,3

ÁBACO 58 (continuação)
FLEXÃO DESVIADA
Secções rectangulares

A400 | f_{syd} = 348 MPa



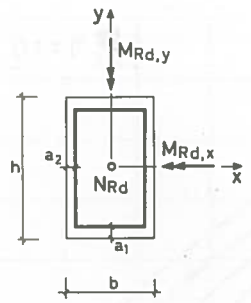




Classe do betão	B15	B20	B25	B30	B35	B40	B45	B50	B55
f_{cd} (MPa)	8,0	10,7	13,3	16,7	20,0	23,3	26,7	30,0	33,3

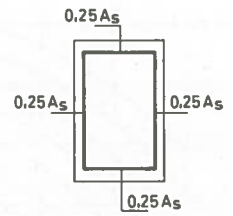
ÁBACO 59
FLEXÃO DESVIADA
Secções rectangulares

A400 | f_{syd} = 348 MPa



$$\mu_x = \frac{M_{Rd,x}}{A_c h f_{cd}} \qquad \mu_y = \frac{M_{Rd,y}}{A_c b f_{cd}}$$

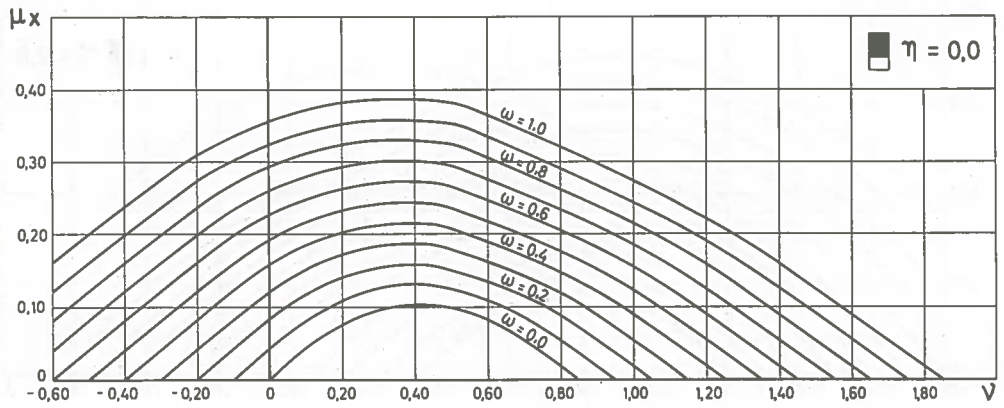
$$\nu = \frac{N_{Rd}}{A_c f_{cd}} \qquad \omega = \frac{A_s}{A_c} \cdot \frac{f_{syd}}{f_{cd}}$$

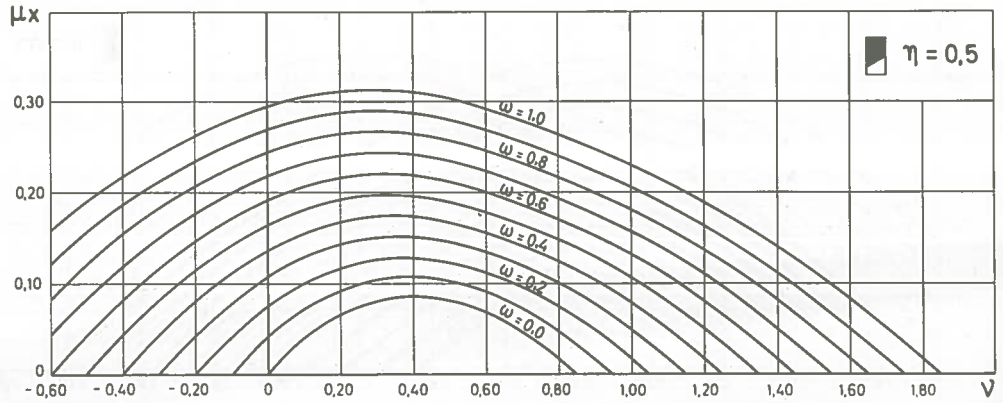


$a_1 / h = a_2 / b = 0{,}10$

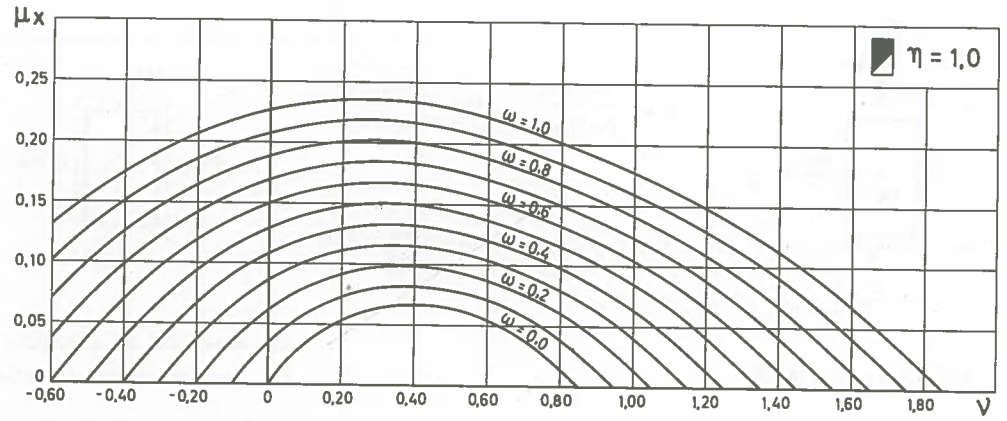
A_s - Área total de armadura
A_c - Área da secção de betão

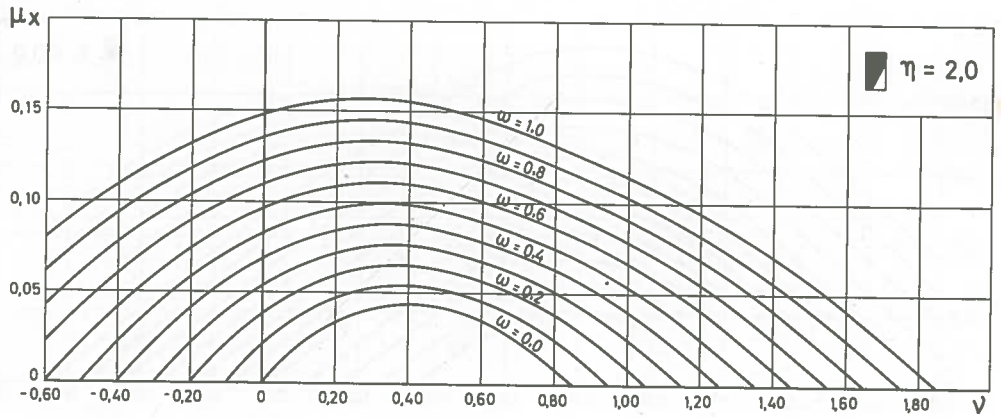
$\eta = \mu_y / \mu_x$

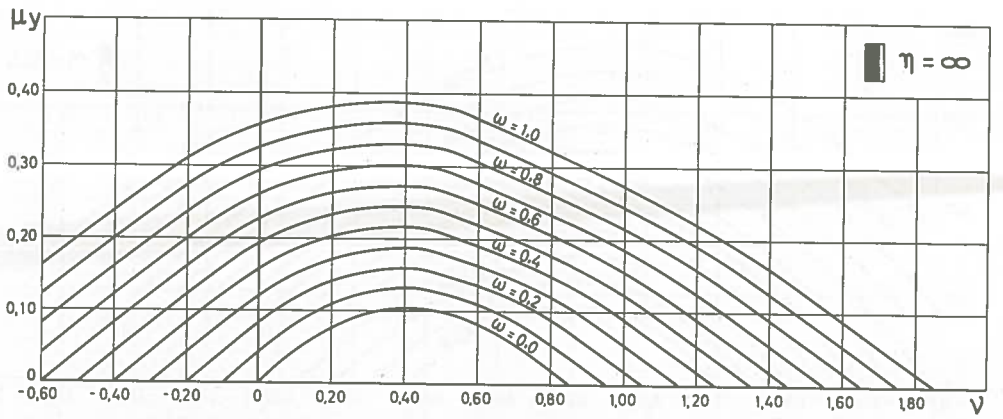




Classe do betão	B 15	B 20	B 25	B 30	B 35	B 40	B 45	B 50	B 55
f_{cd} (MPa)	8,0	10,7	13,3	16,7	20,0	23,3	26,7	30,0	33,3



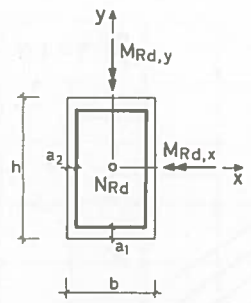




Classe do betão	B 15	B 20	B 25	B 30	B 35	B 40	B 45	B 50	B 55
f_{cd} (MPa)	8,0	10,7	13,3	16,7	20,0	23,3	26,7	30,0	33,3

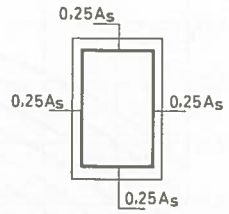
ÁBACO 64
FLEXÃO DESVIADA
Secções rectangulares

A500 | f_{syd} = 435 MPa



$$\mu_x = \frac{M_{Rd,x}}{A_c h f_{cd}} \qquad \mu_y = \frac{M_{Rd,y}}{A_c b f_{cd}}$$

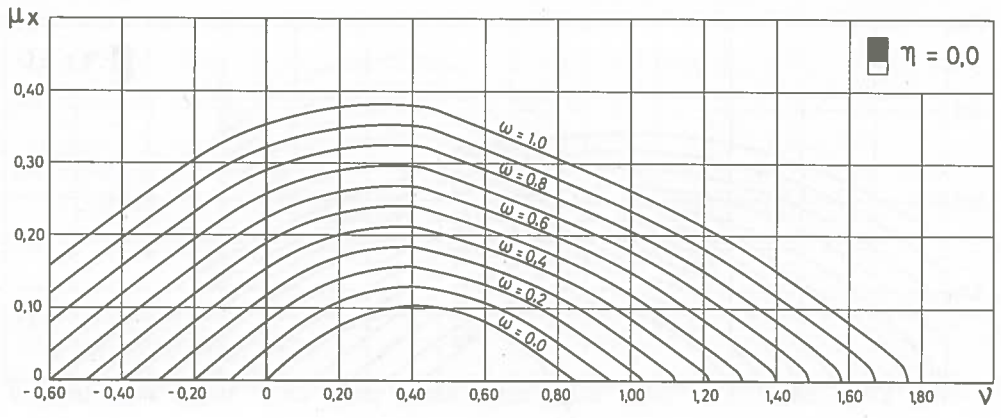
$$\nu = \frac{N_{Rd}}{A_c f_{cd}} \qquad \omega = \frac{A_s}{A_c} \cdot \frac{f_{syd}}{f_{cd}}$$

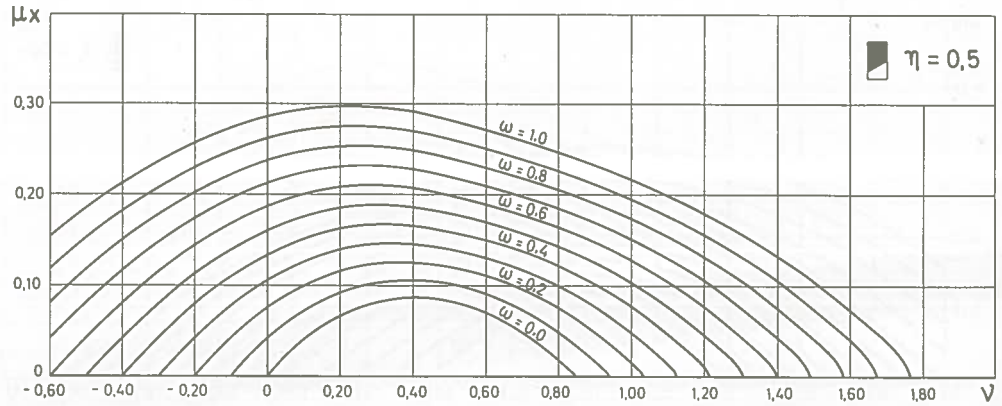


$a_1 / h = a_2 / b = 0{,}10$

A_s - Área total de armadura
A_c - Área da secção de betão

$\eta = \mu_y / \mu_x$

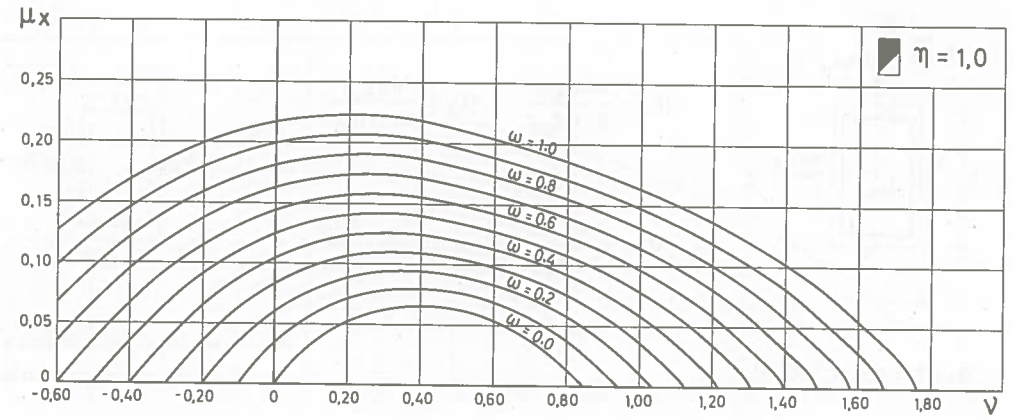


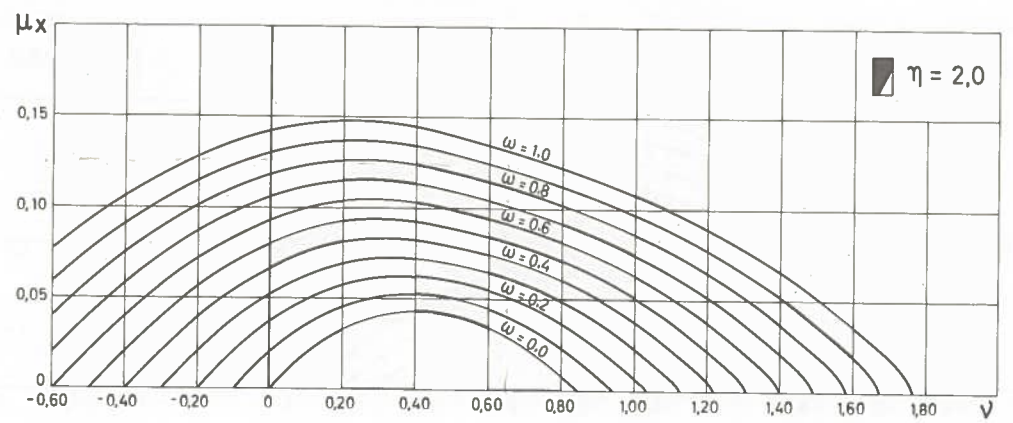


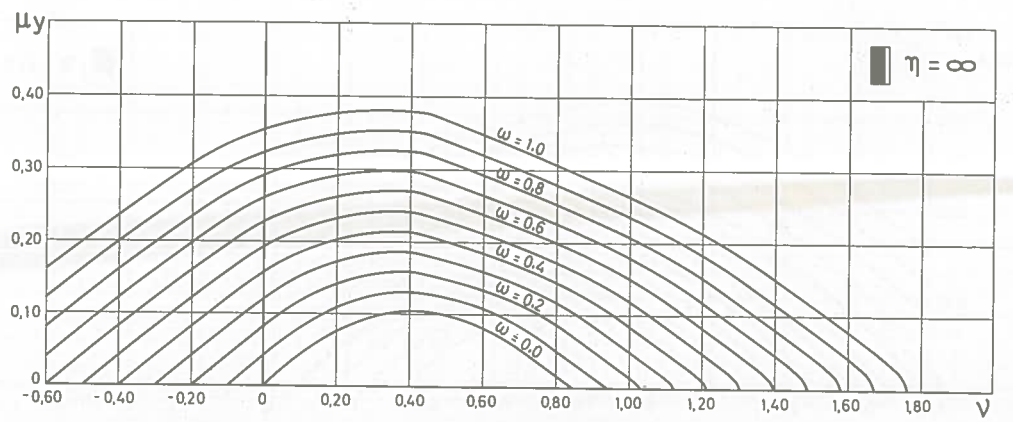
Classe do betão	B 15	B 20	B 25	B 30	B 35	B 40	B 45	B 50	B 55
f_{cd} (MPa)	8,0	10,7	13,3	16,7	20,0	23,3	26,7	30,0	33,3

ÁBACO 64 (continuação)
FLEXÃO DESVIADA
Secções rectangulares

A500 | f_{syd} = 435 MPa







Classe do betão	B 15	B 20	B 25	B 30	B 35	B 40	B 45	B 50	B 55
f_{cd} (MPa)	8,0	10,7	13,3	16,7	20,0	23,3	26,7	30,0	33,3

BETÃO ARMADO

ESFORÇOS NORMAIS E DE FLEXÃO

(REBAP - 83)

J. DARGA E LIMA
VICTOR MONTEIRO
MARY MUN