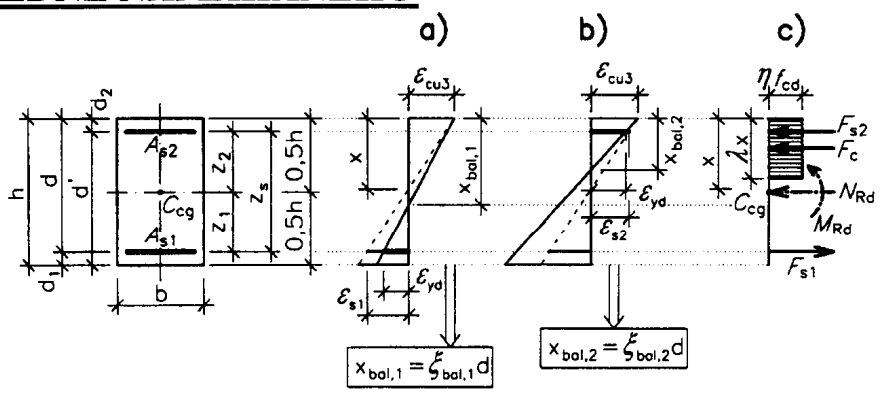
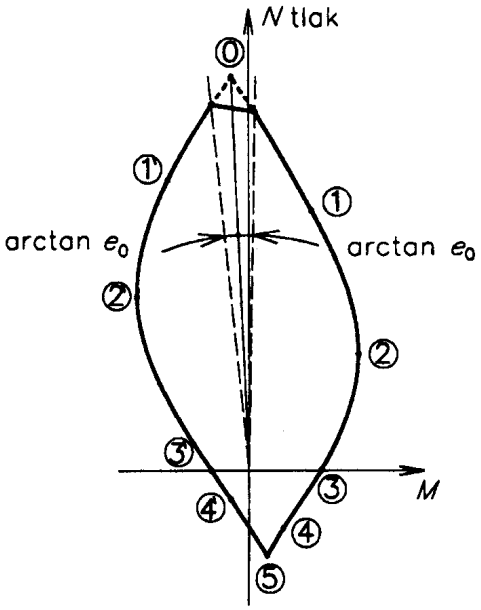
INTERAKČNÍ DIAGRAM OBDÉLNÍKOVÉHO PRŮŘEZU MIMOSTŘEDNĚ NAMÁHANÉHO





Tlak $N < 0$; tah $N > 0$.

$e_0 = h / 30 > 20$ mm

$F_{s1} = A_{s1} f_{yd}$

$F_{s2} = A_{s2} f_{yd}$

$\Delta F_s = (A_{s2} - A_{s1}) f_{yd}$

$$\xi_{bal,1} = \frac{700}{700 + f_{yd}}$$

$$\xi_{bal,2} = \frac{700}{700 - f_{yd}}$$

0

$N_{Rd0} = -(b\ h\ \eta f_{cd} + \Sigma A_s\ \sigma_s)$

$M_{Rd0} = (A_{s2}\ z_2 - A_{s1}\ z_1)\sigma_s$

$\sigma_s = \varepsilon_{c2}\ E_s \le f_{yd}$

1

$N_{Rd1} = -(\lambda\ b\ d\ \eta f_{cd} + F_{s2})$

$M_{Rd1} = \lambda\ b\ d\ \eta f_{cd}\ 0{,}5(h - \lambda\ d) + F_{s2}\ z_2$

$d \ge \xi_{bal,2}\ d_2 \Rightarrow \sigma_{s2} = f_{yd}$

2

$N_{Rd,bal} = -(\lambda\ \xi_{bal,1}\ b\ d\ \eta f_{cd} + \Delta F_s)$

$M_{Rd,bal} = \lambda\ \xi_{bal,1}\ b\ d\ \eta\ f_{cd}\ 0{,}5(h - \lambda\ \xi_{bal,1}\ d) +$
$+ F_{s1}\ z_1 + F_{s2}\ z_2$

$\xi_{bal,1}\ d \ge \xi_{bal,2}\ d_2 \Rightarrow \sigma_{s1} = \sigma_{s2} = f_{yd}$

3

$N_{Rd} = 0$

M_{Rd} = mez únosnosti při namáhání ohybem - výztuž tažená A_{s1}, tlačená A_{s2} – viz kap. 4

4

$N_{Rdt,bal} = F_{s1}$

$M_{Rdt,bal} = F_{s1}\ z_1$

5

$N_{Rdt0} = F_{s1} + F_{s2}$

$M_{Rdt0} = F_{s1}\ z_1 - F_{s2}\ z_2$

1'

$N'_{Rd1} = -(\lambda\ b\ d'\ \eta f_{cd} + F_{s1})$

$M'_{Rd1} = -\lambda\ b\ d'\ \eta f_{cd}\ 0{,}5\ (h - \lambda\ d') - F_{s1}\ z_1$

$d' \ge \xi_{bal,2}\ d_1 \Rightarrow \sigma_{s1} = f_{yd}$

2'

$N'_{Rd,bal} = -(\lambda\ \xi_{bal,1}\ b\ d'\ \eta f_{cd} - \Delta F_s)$

$M'_{Rd,bal} = -\lambda\ \xi_{bal,1}\ b\ d'\ \eta f_{cd}\ 0{,}5\ (h - \lambda\ \xi_{bal,1}\ d') -$
$- F_{s1}\ z_1 - F_{s2}\ z_2$

$\xi_{bal,1}\ d' \ge \xi_{bal,2}\ d_2' \Rightarrow \sigma_{s1} = \sigma_{s2} = f_{yd}$

3'

$N'_{Rd} = 0$

M'_{Rd} = mez únosnosti při namáhání ohybem - výztuž tlačená A_{s1}, tažená A_{s2}

4'

$N'_{Rdt,bal} = F_{s2}$

$M'_{Rdt,bal} = -F_{s2}\ z_2$