Job Title: ENSOLEIRAMENTO - SECCAO C

General
Design code: Eurocode 2
Analysis: Failure surface

Loads: $N$, $M_x$
$N < 0$ is compression!

Section
Data [cm]

- $b = 100$
- $h = 130$
- $d_1 = 5$
- $d_2 = 5$

Results

Mx - N chart

Materials

Concrete: C25/30
SSR: Parabolic - linear
- $f_{ck} = 25.00$ MPa
- $E_c = 30471.58$ MPa
- $e_{c2u} = -3.500$ o/oo
- $e_{c2} = -2.000$ o/oo
- $n = 2.00$

Reinforcing steel: S500
SSR: Standard
- $f_{yk} = 500.00$ MPa
- $E_s = 200000.00$ MPa
- $e_{su} = 10.000$ o/oo
Factors
Concrete: \( \gamma_c = 1.50 \)
Steel: \( \gamma_s = 1.15 \)

Reinforcement
Unsymmetric:
\[ A_{s1} = 49.09 \text{cm}^2 \quad A_{s2} = 49.09 \text{cm}^2 \]

Solve data
II order moments: No

Section properties
Reinforcement:
\[ A_{s,tot} = 98.18 \text{cm}^2 \]
Concrete section:
\[ A_c = 13000.00 \text{cm}^2 \]
\[ I_{c,x} = 18308333.33 \text{cm}^4 \]

R/C section:
\[ A_{red} = 13546.22 \text{cm}^2 \]
\[ I_{red,x} = 20274739.08 \text{cm}^4 \]
\[ r_x = 38.69 \text{cm} \]