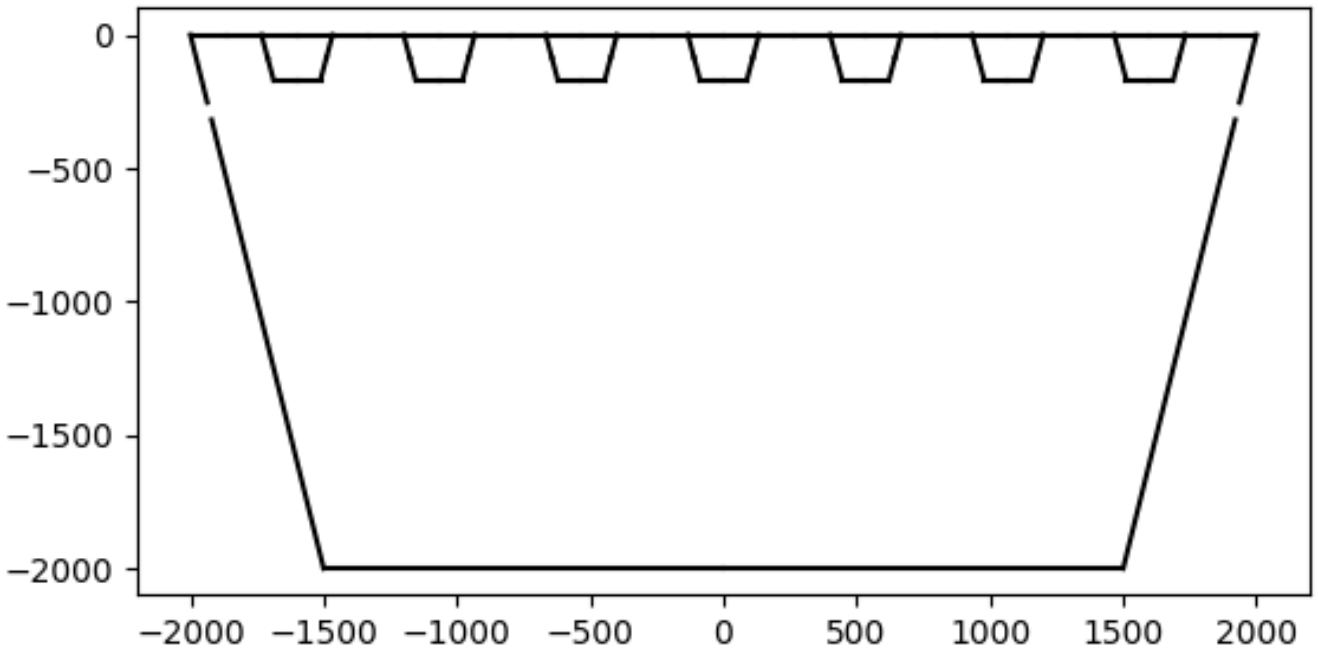


Buckling Proof according to EC 1993 Part 1-5

3.2 Effective width for elastic shear lag

Shear lag reduction for flange 1

Shear Lag is not neglectable

alpha_0: 1.6

Beta: 0.7819557364538499

Shear lag reduction for flange 3

Shear Lag is not neglectable

alpha_0: 1.0

Beta: 0.9398496240601504

4.4 Plate elements without longitudinal stiffeners

Iteratively changing the widths until M_Rd_el_eff converges to a limit of 0.02

4.5 Stiffened plate elements with longitudinal stiffeners

Side 2

4.5.4 Interaction between plate and column buckling

all_tension: False

rho_c = 1

Side 3

4.5.4 Interaction between plate and column buckling

all_tension: True

rho_c = 1

Side 4

4.5.4 Interaction between plate and column buckling

all_tension: False

rho_c = 1

Resistance to shear and interaction shear force and bending moment for side 1

5. Resistance to shear

stiffened plate; EBPlate

k_tau: 948.2774684779264

eta_3: 0.02768013334056764

7.1 Interaction between shear force, bending moment and axial force

Flange -> (7.1), comment (5)

eta_3 <= 0.5; no interaction needed

utilisation: -1

Proofing Resistance to shear for each subpanel

5. Resistance to shear

unstiffened plate; (A.5)

k_tau: 5.357777777777778

eta_3: 0.040403326229400086

eta_3_panel < 1: pass subpanel

5. Resistance to shear

unstiffened plate; (A.5)

k_tau: 5.357777777777778

eta_3: 0.034631422482342925

eta_3_panel < 1: pass subpanel

5. Resistance to shear

unstiffened plate; (A.5)

k_tau: 5.357777777777778

eta_3: 0.028859518735285774

eta_3_panel < 1: pass subpanel

5. Resistance to shear

unstiffened plate; (A.5)

k_tau: 5.357777777777778

eta_3: 0.023087614988228616

eta_3_panel < 1: pass subpanel

5. Resistance to shear

unstiffened plate; (A.5)

k_tau: 5.357777777777778

eta_3: 0.01731571124117146

eta_3_panel < 1: pass subpanel

5. Resistance to shear

unstiffened plate; (A.5)

k_tau: 5.357777777777778

eta_3: 0.011543807494114308

eta_3_panel < 1: pass subpanel

5. Resistance to shear

unstiffened plate; (A.5)

k_tau: 5.357777777777778

eta_3: 0.005771903747057151

eta_3_panel < 1: pass subpanel

5. Resistance to shear

unstiffened plate; (A.5)

k_tau: 5.357777777777778

eta_3: 4.9214211347735565e-18

eta_3_panel < 1: pass subpanel

5. Resistance to shear

unstiffened plate; (A.5)

k_tau: 5.357777777777778

eta_3: 0.005771903747057158

eta_3_panel < 1: pass subpanel

5. Resistance to shear

unstiffened plate; (A.5)

k_tau: 5.357777777777778

eta_3: 0.011543807494114312

eta_3_panel < 1: pass subpanel

5. Resistance to shear

unstiffened plate; (A.5)

k_tau: 5.357777777777778

eta_3: 0.01731571124117147

eta_3_panel < 1: pass subpanel

5. Resistance to shear

unstiffened plate; (A.5)

k_tau: 5.357777777777778

eta_3: 0.02308761498822862

eta_3_panel < 1: pass subpanel

5. Resistance to shear

unstiffened plate; (A.5)

k_tau: 5.357777777777778

eta_3: 0.028859518735285774

eta_3_panel < 1: pass subpanel

5. Resistance to shear

unstiffened plate; (A.5)

k_tau: 5.357777777777778

eta_3: 0.03463142248234293

eta_3_panel < 1: pass subpanel

5. Resistance to shear

unstiffened plate; (A.5)

k_tau: 5.357777777777778

eta_3: 0.040403326229400086

eta_3_panel < 1: pass subpanel

Resistance to shear and interaction shear force and bending moment for side 2

5. Resistance to shear

unstiffened plate; (A.5)

k_tau: 6.4025

eta_3: 0.2538074578374027

7.1 Interaction between shear force, bending moment and axial force

Web -> (7.1) without iterating

eta_3 <= 0.5; no interaction needed

utilisation: -1

Resistance to shear and interaction shear force and bending moment for side 3

5. Resistance to shear

unstiffened plate; (A.5)

k_tau: 7.59

eta_3: 0.13574361736306945

7.1 Interaction between shear force, bending moment and axial force

Flange -> (7.1), comment (5)

eta_3 <= 0.5; no interaction needed

utilisation: -1

Proofing Resistance to shear for each subpanel

5. Resistance to shear

unstiffened plate; (A.5)

k_tau: 7.59

eta_3: 0.1275785877472457

eta_3_panel < 1: pass subpanel

Resistance to shear and interaction shear force and bending moment for side 4

5. Resistance to shear

unstiffened plate; (A.5)

k_tau: 6.4025

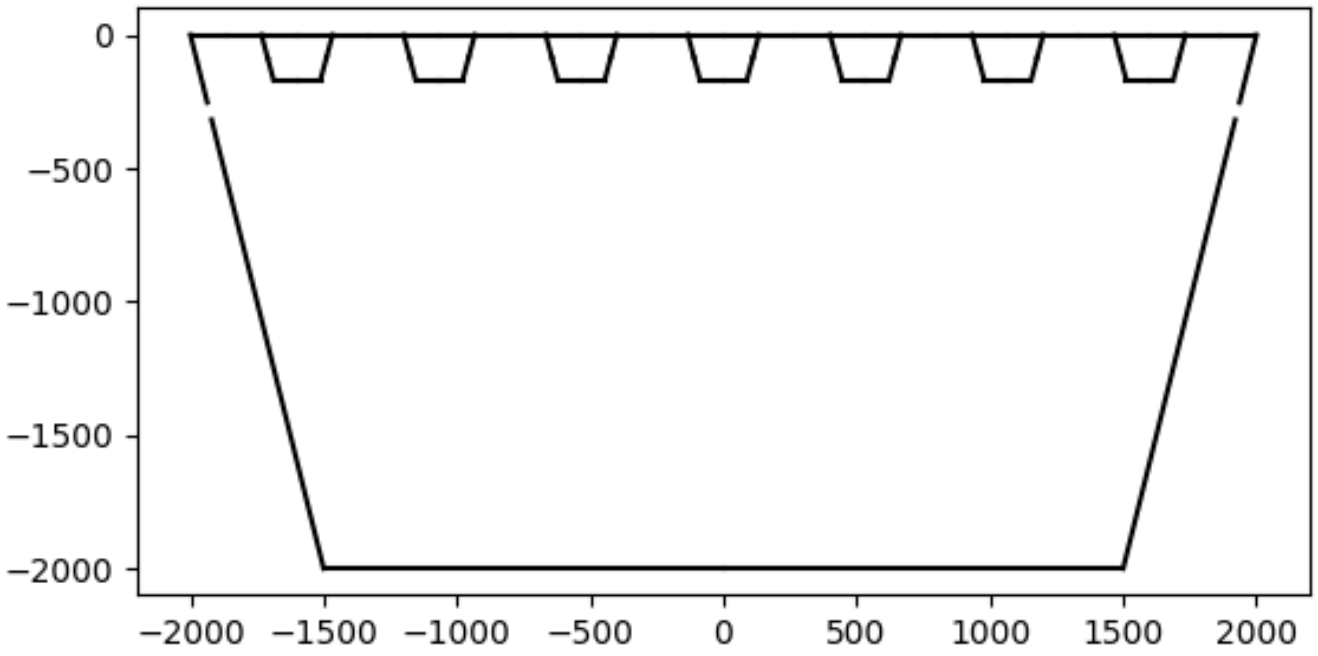
eta_3: 0.2538074578374027

7.1 Interaction between shear force, bending moment and axial force

Web -> (7.1) without iterating

eta_3 <= 0.5; no interaction needed

utilisation: -1


0
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