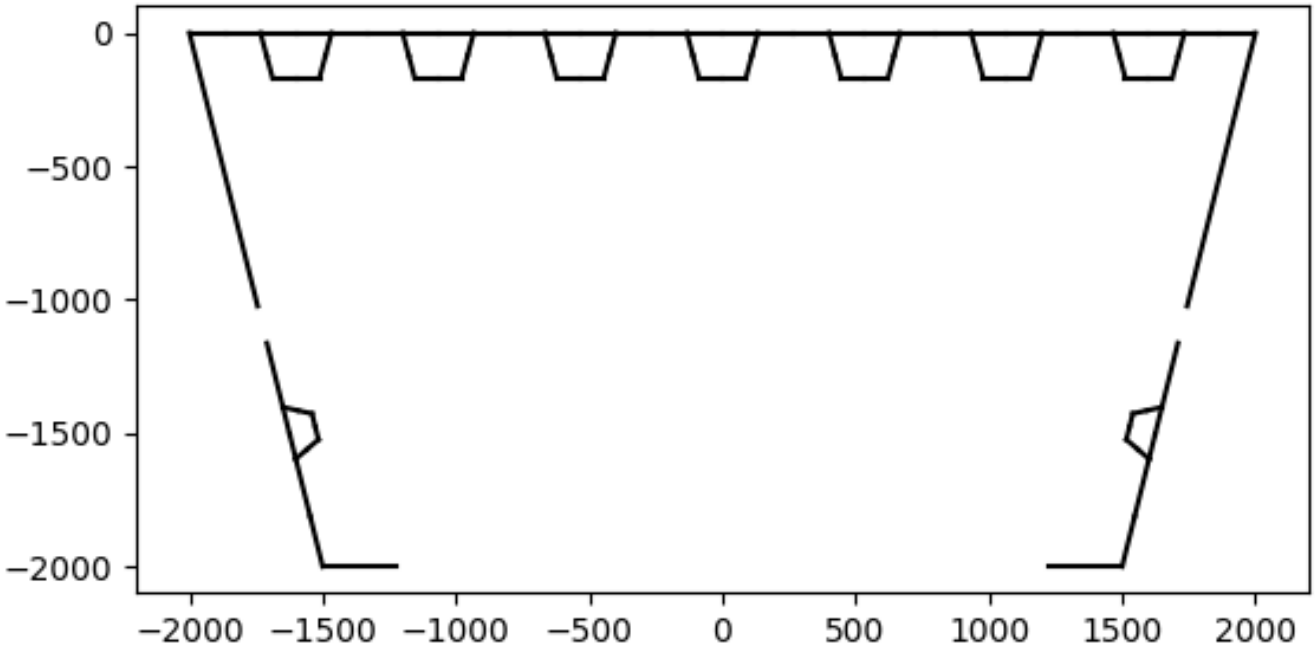
Title of the program

N. Hasler, V. Müller



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: 0.3760575260584114

Shear lag reduction for flange 3

Shear Lag is not neglectable

alpha_0: 1.0

Beta: 0.5980861244019138

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

4.5.2 Plate type behaviour

sigma_cr = 624.6063882854493

Lambda: 0.5069700516333359

Rho_Global: 1.0

4.5.3 Column type buckling behaviour

Column number 9

A_sl=12209.24, A_sl_eff=11712.0, I_sl=3677684.11

sigma_cr_c=6.24

e1=48.1, e2=17.34

All tension =False

Buckling Values 9

beta_A_c =0.9592734170583109

lambda_c_bar =6.009009312298411

Phi_c =19.635943863928524

Chi_c =0.026089327759351248

Critical buckling values

Chi_c: 0.026089327759351248

sigma_cr_c: 6.2431607568278835

4.5.4 Interaction between plate and column buckling

all_tension: False

rho_c = 1.0

Side 3

4.5.4 Interaction between plate and column buckling

all_tension: False

rho_c = 1

Side 4

4.5.2 Plate type behaviour

sigma_cr = 329.250695180544

Lambda: 0.6982680413025738

Rho_Global: 1.0

4.5.3 Column type buckling behaviour

Column number 9

A_sl=12209.24, A_sl_eff=11712.0, I_sl=3677684.11

sigma_cr_c=6.24

e1=48.1, e2=17.34

All tension =False

Buckling Values 9

beta_A_c =0.9592734170583109

lambda_c_bar =6.00900931229841

Phi_c =19.635943863928514

Chi_c =0.02608932775935126

Critical buckling values

Chi_c: 0.02608932775935126

sigma_cr_c: 6.243160756827886

4.5.4 Interaction between plate and column buckling

all_tension: False

rho_c = 1.0

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

5. Resistance to shear

stiffened plate; EBPlate

k_tau: 948.277341472566

eta_3: 0.051989380737931974

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: 0.03649519608301564

eta_3_panel < 1: pass subpanel

5. Resistance to shear

unstiffened plate; (A.5)

k_tau: 5.357777777777778

eta_3: 0.03128159664258483

eta_3_panel < 1: pass subpanel

5. Resistance to shear

unstiffened plate; (A.5)

k_tau: 5.357777777777778

eta_3: 0.02606799720215403

eta_3_panel < 1: pass subpanel

5. Resistance to shear

unstiffened plate; (A.5)

k_tau: 5.357777777777778

eta_3: 0.020854397761723216

eta_3_panel < 1: pass subpanel

5. Resistance to shear

unstiffened plate; (A.5)

k_tau: 5.357777777777778

eta_3: 0.01564079832129241

eta_3_panel < 1: pass subpanel

5. Resistance to shear

unstiffened plate; (A.5)

k_tau: 5.357777777777778

eta_3: 0.010427198880861608

eta_3_panel < 1: pass subpanel

5. Resistance to shear

unstiffened plate; (A.5)

k_tau: 5.357777777777778

eta_3: 0.005213599440430803

eta_3_panel < 1: pass subpanel

5. Resistance to shear

unstiffened plate; (A.5)

k_tau: 5.357777777777778

eta_3: 4.4453822514732394e-18

eta_3_panel < 1: pass subpanel

5. Resistance to shear

unstiffened plate; (A.5)

k_tau: 5.357777777777778

eta_3: 0.005213599440430808

eta_3_panel < 1: pass subpanel

5. Resistance to shear

unstiffened plate; (A.5)

k_tau: 5.357777777777778

eta_3: 0.010427198880861617

eta_3_panel < 1: pass subpanel

5. Resistance to shear

unstiffened plate; (A.5)

k_tau: 5.357777777777778

eta_3: 0.01564079832129242

eta_3_panel < 1: pass subpanel

5. Resistance to shear

unstiffened plate; (A.5)

k_tau: 5.357777777777778

eta_3: 0.02085439776172323

eta_3_panel < 1: pass subpanel

5. Resistance to shear

unstiffened plate; (A.5)

k_tau: 5.357777777777778

eta_3: 0.02606799720215403

eta_3_panel < 1: pass subpanel

5. Resistance to shear

unstiffened plate; (A.5)

k_tau: 5.357777777777778

eta_3: 0.03128159664258484

eta_3_panel < 1: pass subpanel

5. Resistance to shear

unstiffened plate; (A.5)

k_tau: 5.357777777777778

eta_3: 0.036495196083015644

eta_3_panel < 1: pass subpanel

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

5. Resistance to shear

stiffened plate; EBPlate

k_tau: 14.216809210526318

eta_3: 0.17032488529657744

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: 0.17855821359414994

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: 0.10679318994865428

eta_3_panel < 1: pass subpanel

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

5. Resistance to shear

stiffened plate; EBPlate

k_tau: 14.216809210526318

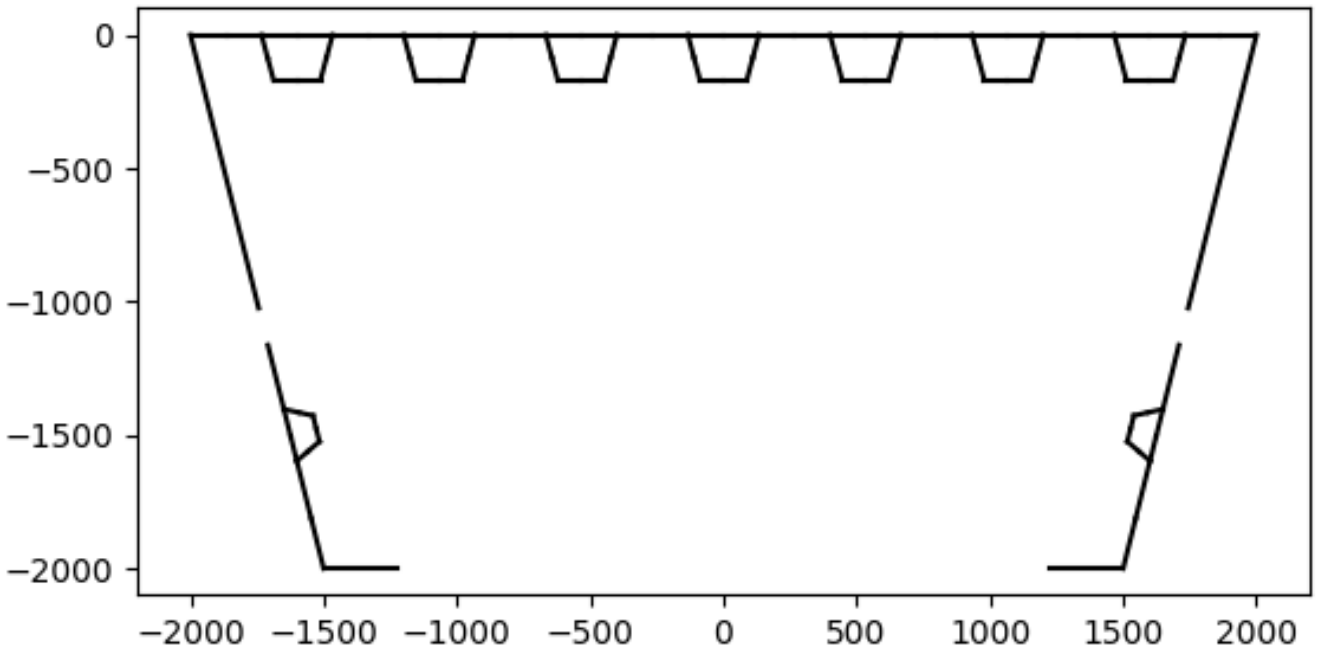
eta_3: 0.17032488529657744

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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2000