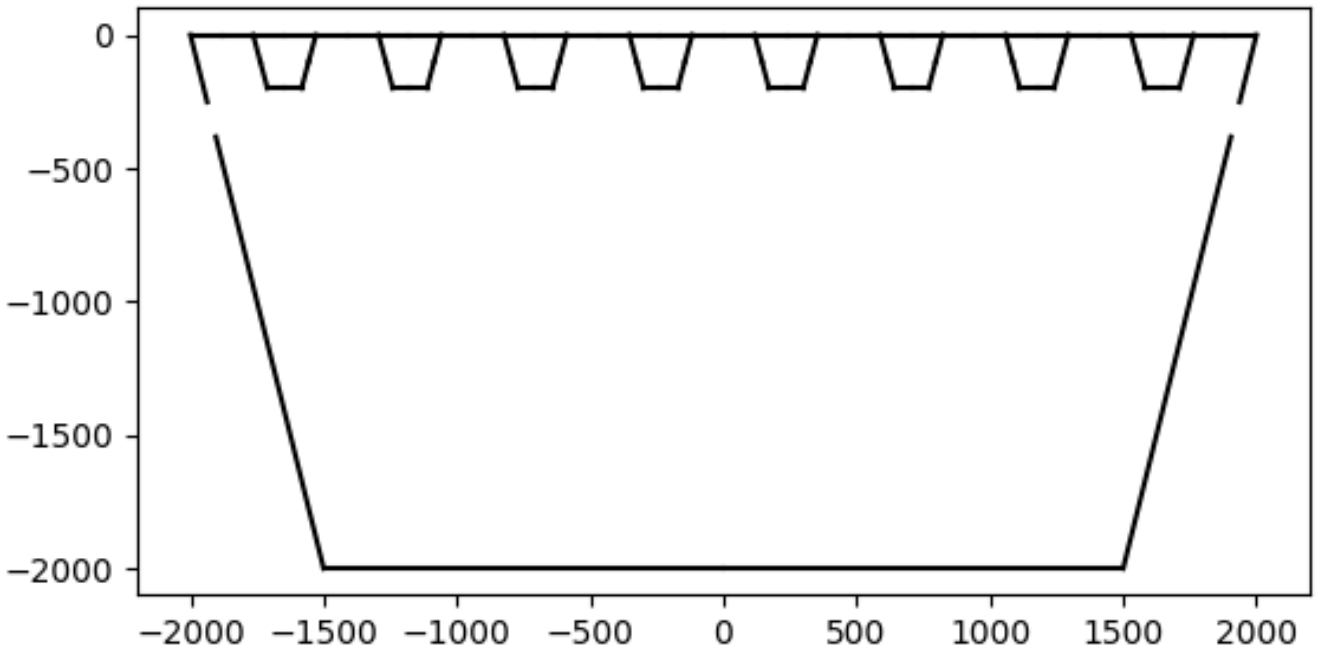

Buckling Proof according to EC 1993 Part 1-5

3.2 Effective width for elastic shear lag

Shear lag reduction for flange 1

Shear Lag is not neglectable

alpha_0: 1.6

Beta: 0.6051075457633321

Shear lag reduction for flange 3

Shear Lag is not neglectable

alpha_0: 1.0

Beta: 0.8741258741258742

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: 1198.6503368036094

eta_3: 0.03388146579817934

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: 5.353840830449827

eta_3: 0.03859186939482459

eta_3_panel < 1: pass subpanel

5. Resistance to shear

unstiffened plate; (A.5)

k_tau: 5.353840830449827

eta_3: 0.03376788572047151

eta_3_panel < 1: pass subpanel

5. Resistance to shear

unstiffened plate; (A.5)

k_tau: 5.353840830449827

eta_3: 0.02894390204611844

eta_3_panel < 1: pass subpanel

5. Resistance to shear

unstiffened plate; (A.5)

k_tau: 5.353840830449827

eta_3: 0.024119918371765373

eta_3_panel < 1: pass subpanel

5. Resistance to shear

unstiffened plate; (A.5)

k_tau: 5.353840830449827

eta_3: 0.019295934697412295

eta_3_panel < 1: pass subpanel

5. Resistance to shear

unstiffened plate; (A.5)

k_tau: 5.353840830449827

eta_3: 0.014471951023059225

eta_3_panel < 1: pass subpanel

5. Resistance to shear

unstiffened plate; (A.5)

k_tau: 5.353840830449827

eta_3: 0.009647967348706151

eta_3_panel < 1: pass subpanel

5. Resistance to shear

unstiffened plate; (A.5)

k_tau: 5.353840830449827

eta_3: 0.004823983674353078

eta_3_panel < 1: pass subpanel

5. Resistance to shear

unstiffened plate; (A.5)

k_tau: 5.353840830449827

eta_3: 4.8072742965247425e-18

eta_3_panel < 1: pass subpanel

5. Resistance to shear

unstiffened plate; (A.5)

k_tau: 5.353840830449827

eta_3: 0.004823983674353068

eta_3_panel < 1: pass subpanel

5. Resistance to shear

unstiffened plate; (A.5)

k_tau: 5.353840830449827

eta_3: 0.009647967348706144

eta_3_panel < 1: pass subpanel

5. Resistance to shear

unstiffened plate; (A.5)

k_tau: 5.353840830449827

eta_3: 0.014471951023059215

eta_3_panel < 1: pass subpanel

5. Resistance to shear

unstiffened plate; (A.5)

k_tau: 5.353840830449827

eta_3: 0.019295934697412295

eta_3_panel < 1: pass subpanel

5. Resistance to shear

unstiffened plate; (A.5)

k_tau: 5.353840830449827

eta_3: 0.024119918371765373

eta_3_panel < 1: pass subpanel

5. Resistance to shear

unstiffened plate; (A.5)

k_tau: 5.353840830449827

eta_3: 0.02894390204611845

eta_3_panel < 1: pass subpanel

5. Resistance to shear

unstiffened plate; (A.5)

k_tau: 5.353840830449827

eta_3: 0.03376788572047151

eta_3_panel < 1: pass subpanel

5. Resistance to shear

unstiffened plate; (A.5)

k_tau: 5.353840830449827

eta_3: 0.03859186939482459

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: 0.14549351534325097

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: 0.12717964627906553

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