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Plate-like buckling

2.4.3.1 Unstiffened plates2.4.3.2 Longitudinally stiffened plates; 2.4.4 Column-like buckling; 2.4.4.1 Unstiffened plates; 2.4.4.2 Longitudinally stiffened plates; 2.4.5 Interpolation between plate-like and column-like buckling; 2.4.6 Verification of the cross section resistance in ultimate limit states; 2.4.7 Verification of plated structural elements in the serviceability limit states; 2.4.8 Design examples; 2.5 Resistance To Shear (Including Annex A Where Applicable); 2.5.1 Collapse behaviour; 2.5.2 Design according to section 5, EN 1993-1-5; 2.5.3 Design example

2.6 Resistance To Transverse Loading2.6.1 Collapse behaviour; 2.6.2 Design according to section 6, EN 1993-1-5; 2.6.3 Design examples; 2.7 Interaction; 2.7.1 Interaction between bending moment and shear force in a web panel; 2.7.2 Interaction between axial force, bending moment and shear force in a web panel; 2.7.3 Interaction between axial force, bending moment and shear force in a flange panel; 2.7.4 Interaction between axial force, bending moment and transverse force; 2.7.5 Interaction between shear force and transverse force in a web panel; 2.7.6 Design example

2.8 Flange Induced Buckling2.9 Stiffeners And Detailing; 2.9.1 Introduction; 2.9.2 Transverse stiffeners; 2.9.2.1 Direct stresses; 2.9.2.2 Shear; 2.9.2.3 Simultaneous action of direct stresses and shear; 2.9.2.4 Introduction of reaction forces and other large transverse forces; 2.9.3 Longitudinal stiffeners; 2.9.3.1 Direct stresses; 2.9.3.2 Shear; 2.9.4 Torsional buckling of stiffeners; 2.9.5 Structural detailing related to plate buckling; 2.9.5.1 Transverse welds in the plate; 2.9.5.2 Cut-outs in stiffeners; 2.9.5.3 Welds; 2.9.6 Design examples

2.10 Reduced Stress Method (Including Annexes A And B Where Applicable)

Sommario/riassunto

The main aim of this book is to provide practical advice to designers of plated structures for correct and efficient application of EN 1993-1-5 design rules. In chapter 1 the purpose, the scope and the structure of the book is explained. In chapter 2 a rather detailed and commented overview of EN 1993-1-5 design rules is given following the structure of the standard. Shear lag effect as well as plate buckling problems due to direct stresses, shear forces, transverse forces and interactions of these effects are covered. This chapter also includes a reduced stress method and a finite element ana