ADVANCED DESIGN OF STEEL STRUCTURES

3-0-0-0-9

Properties of steel: mechanical properties, hysteresis, ductility; HotRolled Sections: compactness and noncompactness, slenderness, residual stresses; Design of steel structures: inelastic bending curvature, plastic moments, design criteria stability, strength, drift; Stability criteria: stability of beams local buckling of compression flange & web, lateral torsional buckling, stability of columns slenderness ratio of columns, local buckling of flanges and web, bracing of column about weak axis, method of design allowable stress design, plastic design, load and resistance factor design; Strength Criteria: beams flexure, shear, torsion, columns moment magnification factor, effective length,PM interaction, biaxial bending, joint panel zones; Drift criteria: P effect, deformation based design; Connections: types welded, bolted, location beamcolumn,column foundation, splices