

Chapter 9 Mechanics of Materials

OUTLINE OVERVIEW

AXIALLY LOADED MEMBERS, p. 262

Modulus of Elasticity

Poisson's Ratio

Thermal Deformations

Variable Load

THIN-WALLED CYLINDER, p. 268

GENERAL STATE OF STRESS, p. 270

PLANE STRESS, p. 271

Mohr's Circle—Stress

STRAIN, p. 274

Plane Strain

HOOKE'S LAW, p. 276

TORSION, p. 277

Circular Shafts

Hollow, Thin-Walled Shafts

BEAMS, p. 280

Shear and Moment Diagrams

Stresses in Beams

Shear Stress

Deflection of Beams

Fourth-Order Beam Equation

Superposition

COMBINED STRESS, p. 295

COLUMNS, p. 297