



Mechanics of Materials

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Prentice Hall, 2000. Book Condition: New. Brand New, Unread Copy in Perfect Condition. A+ Customer Service! Summary: 1. Introduction.Engineering and the Mechanics of Materials. Units and Numbers. Review of Statics.2. Measures of Stress and Strain.Stresses. Strains.3. Axially Loaded Bars.Stresses in Prismatic Bars. Strains in Prismatic Bars. Statically Indeterminate Problems. Nonprismatic Bars and Distributed Loads. Thermal Strains. Material Behavior. Design Issues.4. Torsion.Pure Shear Stress. Torsion of Prismatic Circular Bars. Statically Indeterminate Problems. Nonprismatic Bars and Distributed Loads. Torsion of an Elastic-Perfectly Plastic Circular Bar. Torsion of Thin-Walled Tubes. Design Issues.5. States of Stress.Components of Stress. Transformations of Plane Stress. Mohr's Circle for Plane Stress. Principal Stresses in Three Dimensions. Design Issues: Pressure Vessels. The Tetrahedron Argument.6. States of Strain.Components of Strain. Transformations of Plane Strain. Mohr's Circle for Plane Strain. Stress-Strain Relations.7. Internal Forces and Moments in Beams.Axial Force, Shear Force, and Bending Moment. Shear Force and Bending Moment Diagrams. Equations Relating Distributed Load, Shear Force, and Bending Moment.8. Stresses in Beams.Normal Stress. Distribution of the Stress. Design Issues. Composite Beams. Elastic-Perfectly Plastic Beams. Unsymmetric Cross Sections. Distribution of the Average Stress. Thin-Walled Cross Sections. Shear Center.9. Deflections of Beams.Determination of the Deflection. Statically Indeterminate Beams. Deflections Using the Fourth-Order Equation....



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