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and Other Solid Wood Products; Veneer, Particle, and Fiber Drying; CHAPTER 8 Density and Specific Gravity; Effects of Moisture Content; Cell Wall Density and Porosity; Calculation of Weight and Buoyancy; Impact of Extractives and Inorganic Materials on Specific Gravity; Methods of Determining Specific Gravity; Relationship of Density to Growth Rate; Variability of Density; Sources of Variation in Specific Gravity; Juvenile Wood and Reaction Wood
Density of Forest ProductsMetrication; CHAPTER 9 Strength and Mechanics; Concepts of Stress, Strain, and Flexure; Shear Stress and Strain; Anisotropic Nature of Wood; Relationship of Strength to Specific Gravity; Comparative Strengths of Important Species; Allowable Stresses; Variability of Clear Wood Strength; Factors Affecting the Strength of Clear Wood; Factors Affecting the Strength of Lumber Products; CHAPTER 10 Durability and Protection; Fungi; Bacteria; Insects; Marine Borers; Heat and Fire; Weathering; Preservation; CHAPTER 11 Silvicultural Practices and Wood Quality
Measures of Wood QualityGrowth Manipulation and Wood Quality; Genetic Improvement and Wood Quality; Intensive Culture; CHAPTER 12 Lumber; Differences between Softwood and Hardwood Lumber; Lumber Designation by Species Group; Lumber Size and Measurement Standards; Sawlog Scaling and Measurement; Lumber Manufacturing; Improving Sawmill Efficiency; Importance of Standards and Grades for Proper Lumber Selection and Use; CHAPTER 13 Structural Composites; End-jointed Lumber; Glulam Timber; Structural Plywood; Veneer Clipping; Drying; Veneer Grading; Layup; OSB; LVL
Strand-based Composite Lumber Products

Sommario/riassunto

The new edition of this book offers a fully revised and updated review of the forest products industry. This important text covers the full spectrum of the subject, basing itself in a thorough understanding of the anatomical and physical nature of wood and providing a special emphasis on its use as an industrial raw material. Forest and biomass researchers are provided with comprehensive coverage of all aspects of wood science and industry, ranging from tree growth and wood anatomy to a variety of economically important wood products.