Solid And Laminated Wood Bending

A Handbook of Researches in the Philippines (1964-1965)

CONTENTS: Introduction. The Principles of Wood Bending

SOLID BENDING The Selection and Preparation of Bending Material

Quality - Species - Trees - Moisture content - Machining Softening Treatments

Steam - Other heating methods - Chemical treatments - Compressed wood

Hand Bending Cold bending - Hot bending (unsupported) -
Hot bending (supported) - Simple "U" bend - Two-plane bends - Re-entrant and "S" type bends - Chair leg bends - Transverse bending

Machine Bending Rope and windlass machine - Lever arm machines - Revolving table machine - Presses - Spade handle bending machines - Cooperage

The Setting of Bends

The movement or change in shape of
bends LAMINATED BENDING The Process of Laminated Bending Selection and preparation of laminae - Glues - Pre-bending Pressing Laminae to Shape Male and female forms - Fluid pressure - The continuous strip method - Laminated inserts - Two-plane bends - Laminated tubes and cylinders - Moulding Glue Setting The setting of laminated bends - Strip heating - Determination of setting times - Miscellaneous setting methods The Movement and Distortion of Laminated Bends The movement of laminated bends - Distortion of bends Theoretical Considerations Assessment of bending qualities from compressive and tensile stress-strain relationships - End pressures - Tension and compression tests - Minimum radius - Bending moments - Comparison between theoretical and actual bending values - Comments - Movement of bends Index"Whether making a delicate violin, a pair of skis or a graceful armchair, you'll need to bend wood. This text presents the basic methods and trade secrets from the experts."--Amazon.com.Describing the history and state-of-the-art of the thermo-hydrous manipulation of wood, this book provides either a desk reference or a field manual of wood science. It examines the polymeric components of wood and its multilevel hierarchical structure that confer its unique general-purpose character and faculty for transformation. Exceeding all other material in its capacity to deform under controlled conditions and for a proscribed outcome, wood, under thermo-hydrous conditions, permits a multitude of industrial processes. Discussing the processes at work and the industrial applications, this book is a must for all interested in the manipulation of wood.Originally published in 1948, this classic text on bending solid wood, laminated wood, and plywood delivers everything a woodworker needs to successfully understand this timeless art. Wood bending is an ancient craft that is of key importance in many industries today, especially in those that manufacture furniture, boats and ships, agricultural implements, tool handles, and sporting goods. Of the several methods commonly used to produce curved
parts of wood, bending is the most economical of material, the most productive of members of high strength, and perhaps the cheapest. Long experience has evolved practical bending techniques and skilled craftsmen to apply them. Yet commercial operations often sustain serious losses because of breakage during the bending operation or the fixing process that follows. There is a longfelt need for more reliable knowledge about: (1) Criteria for selection of bending stock; (2) better methods of seasoning and plasticizing wood for bending; (3) more efficient machines for the bending operation; (4) techniques for drying and fixing the bent part to the desired shape; and (5) the effect of bending on the strength properties of wood. Wood bending is intriguing to the vast majority of woodworkers, but until now most have not had access to the information they need to add it to their repertoire. This highly visual book and DVD changes that. It features step-by-step instruction on some of the most common techniques. Expert Lon Schleining explains and demonstrates both steam bending (where steam relaxes wood fibers so they can be shaped when clamped to a bending form) and bent lamination (where thin strips of wood are glued together, then clamped to a bending form). Schleining shows just how easy it can be to master these techniques, even using relatively low-tech equipment. 
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