Mechanical properties of Laminated veneer lumber panels of *Eucalyptus* grandis

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Executive Summary

The laminated veneer lumber (LVL) panel it's a product that appeared as substitute of solid wood, being applied mainly in the civil construction and the furniture industry. It's a panel constituted by sheets pasted in the same direction of the fibers, with a structural adhesive, that presents high resistance and dimensional stability. The LVL panel is a product of great versatility, because it allows the making of elements in forms and varied sizes allowing several applications. Other favorable factors in the production of LVL are the species used in the making of the sheets that are usually from a genetic eucalyptus material. This species has been planted extensively in southcastern Brazil and today is the main genetic materials consumed in this country. A product as LVL comes favorable, since it assists the current requirements of the tendency of environmental valorization, for alternative and less harmful products to the environment. The present work has as objective produces and evaluate the mechanical properties of the LVL of *Eucalyptus* grandis from south of Minas Gerais, installed 28 years ago at the Superior School of Agriculture of Lavras (ESAL) today Federal University of Lavras (UFLA). Will be produced 15 panels with 9 sheets of 2 mm of thickness, 500 mm of width and 500mm of length that will be oriented in the same direction on the other. Of this panels will be extruded the necessary samples for the following mechanical testing: parallel and perpendicular static flexure (NBR Project 31: 000.05-001/1); parallel and perpendicular compression to the fibers (NBR Project 31: 000.05-001/1); longitudinal and transverse module of elasticity dynamic in the LVL panel. The testing will be accomplished in the Experimental Unit of Wood Panels (UEPAM) and in the Laboratory of Technology of the Department of Sciences and Technology of the Federal University of Lavras.

Keywords: LVL; Eucalyptus; mechanical properties; resistance; applications.