Research Article:

EFFECTS OF SHORT TIME THERMAL TREATMENT ON SOME PROPERTIES OF LIME WOOD

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Abstract:
Thermal treatment of wood is normally used as a non-toxic, environmentally friendly practice to improve some of its natural properties. Lime wood (Tilia cordata) is characterized by relatively low durability and dimensional stability. These factors restrict its applications essentially. In this work, the effects of the short time thermal treatment on some physical and mechanical properties of lime wood were investigated. Samples were thermally treated at 180°C, 200°C and 220°C for two different short time periods of 15 and 30 min, respectively. The following properties were studied: density, variation of dimensional stability after immersion in water, static bending strength (MOR and MOE), impact bending strength, compression strength parallel to the grain, and hardness in radial and tangential direction. The results of both treated and untreated samples were given, for comparative purposes.

Key words: thermal treatment; physical – mechanical properties; lime wood.

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