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
of

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Effects of Mimosa Bark Usage on Some Properties of Particleboard

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Abstract: The objective of this study was to determine the effect of mimosa bark usage on the formaldehyde emission, physical and mechanical properties of particleboard. Fifteen panels from black locust (*Robinia pseudoacacia* L.) wood containing mimosa bark in a core layer at different ratios were manufactured. Three boards without bark addition were produced as control boards. Formaldehyde emission, modulus of rupture, modulus of elasticity, internal bond strength and thickness swelling of the specimens were tested. It was found that panels made from black locust wood had the highest mechanical properties while panels containing mimosa bark had the lowest. Bark usage significantly improved (decreased) the formaldehyde emission and thickness swelling of particleboard. Based on the findings of this study, it appears that mimosa bark can be used in the manufacture of particleboard panels. Bark content was found to be a raw material parameter influencing the properties of the panels.

Key Words: Particleboard, mimosa bark, formaldehyde emission, mechanical properties, physical properties.

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