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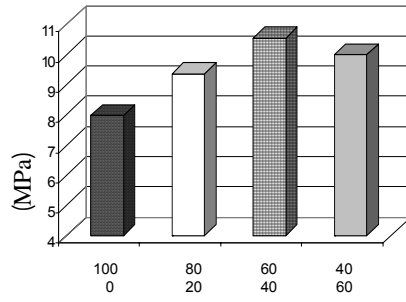
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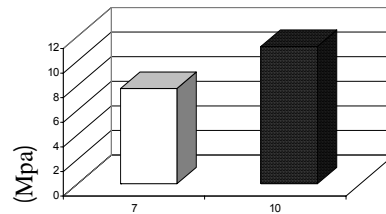
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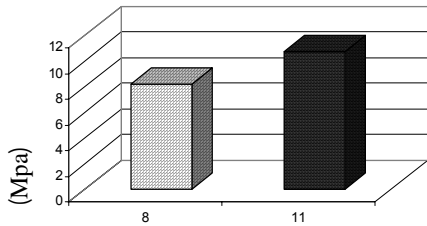
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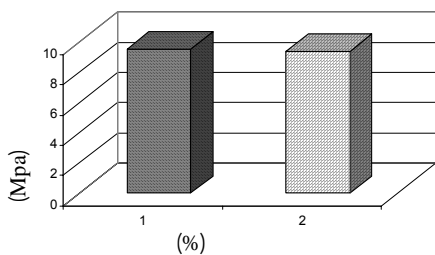
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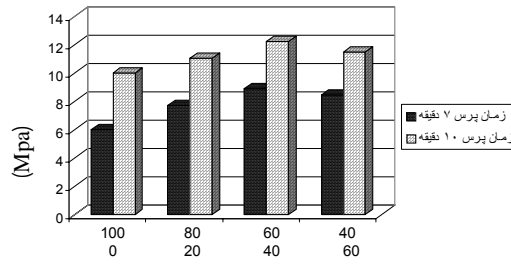
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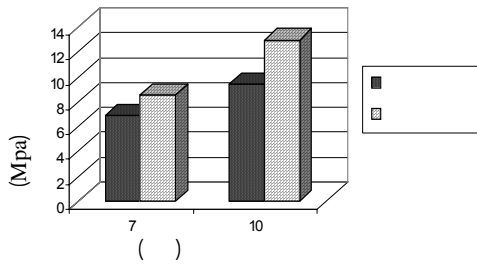
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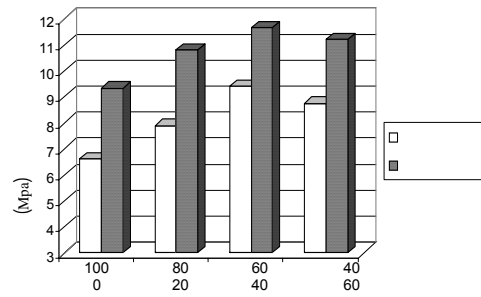


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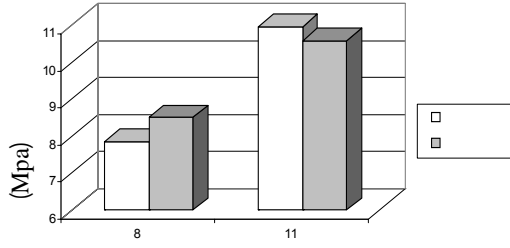


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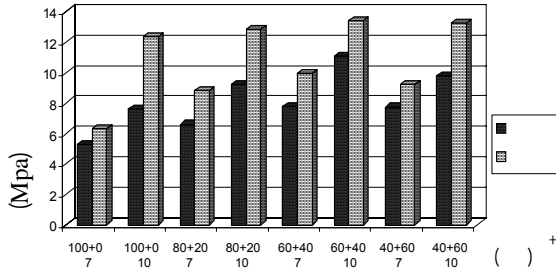


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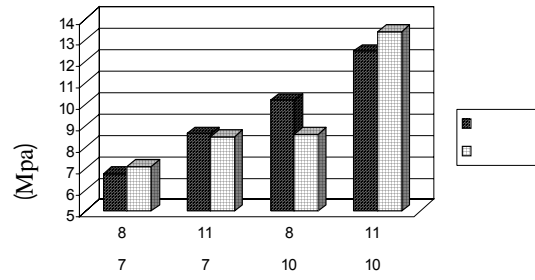


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Improving Effect of Paulownia in Manufacture of Particleboard from *Eucalyptus*

By: T. Tabarsa¹

M. Farsi²

Abstract

Improving effect of paulownia in manufacture of particleboard from *Eucalyptus cameldulensis* was investigated. In order to find out the effect of eucalyptus extractives on adhesion phenomenon, The amount of extractives, PH after particle drying, end buffering capacity were measured. Laboratory boards were manufactured from a mixture of eucalyptus and paulownia particles. Percentage of eucalyptus and paulownia in mixture, press time, amount of resin, and the amount of hardner were considered as variables with other parameters begin kept constant. Test specimens were cut from manufactured boards. Modulus of rupture (MOR) was obtained for specimens. Results indicated that adding paulownia to eucalyptus p to 40 percent increases MOR in boards. Increase in compressability of mixed particles was the reason for this improvement due to lower density of paulownia. Press time, and the amount of resin content play a significant role in reducing the negative aspects of eucalyptus. Increasing press time up to 10 minutes and the amount of resin content up to 11 percent increased MOR. Results indicated that boards made by employing one percent hardner benefited from a higher MOR than boards made while using two percent hardner. It seems that eucalyptus is of an acidic nature which helps curing of the resin. In general boards manufactured from 40 percent paulownia, 60 percent eucalyptus while using 11 percent urea form aldehyde resin of one percent hardner content, and pressed for ten minutes yield particleboards of the highest MOR.

Keywords: Eucalyptus, Paulownia, Buffering capacity, MOR, Press time.

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