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Date Palm Compreg: A High Quality Bio-Composite of Date Palm Wood

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Abstract : Date Palm Wood (D.P.W) specimens were impregnated with Phenol formaldehyde (PF) resin at 15% level, using vacuum/pressure method. Three levels of moisture content (MC) (50%, 60%, and 70%) before pressing stage and three hot pressing times (15, 20, and 30 minutes) were the variables. The boards were prepared at 20% compression rate. The physical properties of specimens such as spring back, thickness swelling and water absorption, and mechanical properties including MOR, MOE were studied and compared between variables. The results indicated that the percentage of MC levels before compression set was the main factor on the properties of the Date Palm Compreg. Also, the results showed that this compregnation method can be used as a good method for making high-quality bio-composite from Date Palm Wood.

Keywords : Date palm, phenol formaldehyde resin, high-quality bio-composite, physical and mechanical properties
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