University of Zabol

Graduate school

Faculty of Natural resources

Department of Wood and Paper Science and Technology

The Thesis Submitted for the Degree of Master of Science
(In the Wood Composite Products)

Investigation of the possibility of laminated product making from waste newspaper and plastic bag

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Abstract

In this study, the possibility of making a layered product using waste paper and plastic bags was investigated. The composite produced is a combination of waste newspaper paper and plastic bag in each layer. These composites in three thicknesses of 3 mm with density (0.3 and 0.5) g / cm3, 8 mm with density (0.7 and 0.95) g / cm3 and 15 mm The meter was made with a density (0.7 and 0.8) g / cm3 at two temperatures of 170 and 190 ° C. After making the boards, their mechanical properties such as modulus of rupture and modulus of elasticity, internal adhesion, hardness resistance, fracture toughness and physical properties such as water absorption and thickness swelling and fire resistance are measured and the data obtained by SAS software was statistically analyzed in a completely randomized design and factorial experiment. The highest values of flexural strength, internal adhesion, stiffness, screw resistance in all three thicknesses of 8, 3 and 15 mm are related to boards with higher density. The construction temperature of the board had no significant effect except in flexural strength and internal adhesion in other cases. The minimum thickness swelling in all three thicknesses of 8, 3 and 15 mm is related to boards made with lower density. The highest fire resistance in all three thicknesses 8, 3 and 15 is related to boards made with higher density. The quality of the layered product is made of waste newspaper paper and plastic bags of such size that it can enter the competitive market of compressed wood papers.

Keywords: Composite-Layer Composite- Waste Newspaper- Plastic Bag