



AN EXPERIMENTAL INVESTIGATION OF THE EFFECT OF NITRILE BUTADIENE RUBBER (NBR) ON MECHANICAL PROPERTIES OF PVC/WOOD FLOUR COMPOSITES

A. Jalili Kohne Shahri^{a,*}, T. Azdast^a, A. H. Behravesb^b, E. Ghaleh^a, S. Rash Ahmadi^a

^a Faculty of Engineering, Mechanical Engineering Department, Urmia University, Urmia, Iran and ^b Faculty of Engineering, Mechanical Engineering Department, Tarbiat Modares University, Tehran, Iran

*Ata Jalili Kohne Shahri: ata.jalilik@gmail.com

This paper investigates the mechanical properties of PVC-NBR/Wood flour composites with various percentages of NBR and different mold temperatures. PVC-NBR 104n manufactured in Iran and Walnuts wood flour with particle size of almost 250 μm were used in this study and the RP-2050 Wood-PVC stabilizer was used as heat stabilizer. A twin extruder machine is used to produce PVC-NBR/Wood flour granules. Then an injection molding machine with a sheet mold is used to produce tensile test specimens. Specimens are produced at mold temperatures of 30, 40 and 50 °c. The specimens were cut with a water jet cutter according to ASTM-D638 standard. Results showed that increasing of the NBR percentage led to improvement of tensile strength properties. The Results also indicated that if mold temperature increases the amount of NBR will affect the tensile strength more significantly.