



Mechanical Properties of Laminate of Residual Polyester Resin Reinforced with Recycled Newspaper

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Abstract: In the present project were evaluated the mechanical properties of residual polyester resin laminate reinforced with recycled newspaper, such as tensile, flexural and hardness. The catalyst / resin ratio and the number of layers of recycled newspaper were manipulating in order to establish the effect of these variables on the mechanical properties of the residual resin laminate, and comparing these properties with those obtained from virgin resin laminates. The results show that the average tensile strength of the laminates (0,5%) with residual and virgin resin were 71,8 and 73 MPa, respectively; and it decreases with increasing percentage of catalyst and increases with the addition of layers of recycled newspaper. The flexure strength of residual resin laminates (214,7 MPa) was higher than the virgin resin (210,5 MPa) at 0,5%, and it decreases with increasing percentage of catalyst and the number of layers of recycled newspaper. The number of layers of newspaper does not affect significantly the Shore D hardness of laminates; while, the hardness of laminates increases with increasing the catalytic percentage. On the other hand, hardness of laminates with virgin resin is higher than recycled resin.

Keywords: Residual resin, recycled newspaper, polyester, tensile strength.

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