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TENSILE STRENGTH TESTS IN POLYESTER COMPOSITES WITH HIGH INCORPORATION OF MALVA FIBERS

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green composites are excellent alternative as reinforcement of conventional polymer matrices and already used in the automobile industry. In addition to the environmental and societal advantages of the green composites, the lignocellulosic fiber reinforced with conventional polymer composite also has economical and technical advantage because the price of the green composite can be considerably lower than "fiberglass". This present work have the objective of the to investigate the mechanical behavior of polymer matrix composites reinforced with high volumes of malva fibers subjected to tensile stresses. For the molding of the test specimens, the fibers were aligned in a steel bone-shaped mold. Onto the fibers the still fluid polyester resin was poured into the mold. The volume fraction of fiber used in this work was increased from 0 up to 50%. Then the system was subjected to gradual increase of pressure from 0.5 to 5 tons which was relieved only after 24 hours at room temperature. Than the samples were buffed to improve the surface quality. After that the samples was submitted to a tensile test in a Instron machine model 5582, with a strain rate of $4,2 \times 10$ -4s-1 in controlled temperature environmental at 25°C. The increase amount of fibers influenced in a better mechanical behavior of composites reinforced with natural fibers.