PROTOTYPE CRRRF (COMPOUND RUBBER REINFORCE RAMIE FIBER) WITH COMPARISON JUTE FIBER MIX

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ABSTRACT

The purpose of this study is to modify compound formulas that use natural rubber which a matrix with hemp reinforcement in the manufacture of automotive products, with variations in fiber blends of 10 phr, 15 phr and 25 phr. That will be applied to the manufacture of motorcycle engine mounting. The plan of this research is to adding natural fibers that add strength and toughness to machine-installed products, and can be a further development to see other properties. The results of this study without heat process which was the tensile test for fiber variations of 10 *phr,* 15 *phr and* 25 *phr were* 10.37 *N/mm², 9.21 N/mm² and* 8.21 *N/mm². However, The Increased in length with the same method with fiber variations were* 190*%,* 170*% and* 170*%. The breaking stress used the heat process of the fiber variations of* 10 *phr,* 15 *phr and* 25 *phr were* 4.29 *N/mm², 3.02 N/mm² and* 4.10 *N/mm². In the same way, the elongations at break were 101%, 44% and 41.8%. In this study, the hardness values of the fiber variation of* 10 *phr,* 15 *phr and* 25 *phr were* 63.8 *shore A,* 71.1 *shore A and* 77 *shore A, while the manufactured product obtained a value of* 71 *shore A. Furthermore, In the compression tested results of each variation of* 10 *phr, 15 phr and* 25 *phr fibers were* 3.3*%,* 6.6*% and* 10*%, while the manufactured products got a value of* 20*%. Based on this research, it could be concluded that the results that fulfilled the quality requirements of* SNI 06-1540-1989 *which was the requirements for making engine bearing rubber was at the variations of* 10 *phr, while the fiber variations of* 15 *phr and* 25 *phr had not fulfilled the quality requirements of* SNI 06-1540-1989.

Keywords*: Matrix, Engine Mounting, heat proces, Shore* A, SNI 06-1540-1989.