

ANALYSIS EFFECT OF ADDITION COCONUT FIBER WASTE AND SHELLS WASTE ON THE PHYSICAL PROPERTIES AND MECHANICAL PROPERTIES OF TILE COATING

COMPOSITE

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ABSTRACT

The less optimal handling of coconut fiber waste and the accumulation of blood clam shells, especially in Lamongan, disturbs the beauty and comfortable of visitors and the community in East Java, Lamongan Regency. For that the author took the initiative to optimize these wastes, especially in Lamongan Regency. Physical tests carried out are friction keofisien test and water absorption test. While the mechanical testing is a bending test and impact test. The main reference standard of this composite is SNI 03-1331-2001 quality requirements of mosaic tiles. The results obtained by adding shells to the absorbability value is 1.32% and the friction coefficient value is 0.44 while, the flexural strength value is 20.95 Mpa and the impact energy is 0.556 J. For the addition of 47.5% shells and 2, 5% coconut fiber increases the coefficient of friction and water absorbability 0.46 and 2.213% while the value of flexural strength and impact energy is 25.59 Mpa and 0.84 J. For the addition of 45.5% shells and 5% coconut fibers increase the coefficient of friction and absorbance 0.57 and 2.72% while the flexural strength and impact energy are 22.5 Mpa and 0.7583 J. For tile applications, almost all variations in the composition of epoxy composite materials, shells, and coconut fibers meet the SNI-03-1331-2001 standard, which is in mechanical and physical properties, where the most recommended composition is the use of a mixture of 47.5% shells filler + 2.5% coconut fiber

Keywords: Coconut fiber waste, Shells waste, Epoxy, Tile Coating

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