HARDNESS AND COMPRESSIVE PROPERTIES OF CALCIUM CARBONATE DERIVED FROM CLAM SHELL FILLED UNSATURATED POLYESTER COMPOSITES

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Abstract: The correlations between hardness and compressive strength of different size ranges of filler have been investigated through experiments. The filler was ground from the shell of local clam known as *Polymesoda bengalensis* and graded into eight different mean sizes. Hardness and compression tests were done and the compressive strength values correlated with the Vickers hardness number. The result showed that the hardness of the unsaturated polyester was improved as the $CaCO_3$ filler was infused in the matrix. Great enhancement of compressive modulus was achieved as filler size and filler content increased. For compressive strength, finer particles had shown better value than the courser filler at similar filler loading. The correlation of hardness and compressive strength of all samples was found to be lower than 3.