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BAGASSE REINFORCED CEMENT COMPOSITES: EFFECT OF FIBER TREATMENT

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Abstract.

Composite materials incorporating vegetable fibres have known an increasingly interest during the past few decades. These environmental friendly materials are low-cost and offer advantages such as reduction of electrical consumption by air conditioning. Moreover, the use of vegetable fibres in replacement of synthetic fibre is interesting in developing countries where the availability of tropical plants and agricultural waste is important.

This paper presents an initial investigation on the use of a construction material, composed of cement and pre-treated (heat or alkaline treatments) sugar cane bagasse fibres.

The purpose of this study is to analyse the effect of fibre content and treatment on thermal conductivity, specific heat, flexural strength and density.

The addition of retified fibres reduces composites thermal conductivity and yields a weaker specific heat in comparison with composites made with alkaline fibres. From mechanical point of view, composites made with alkaline fibres have a better flexural strength than others.