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THERMAL CONDUCTIVITY INVESTIGATION OF COMPOSITE FROM HEMP AND PEAT FIBRES

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Abstract

A large number of energy inefficient buildings were constructed without taking into account the principles of green building, which requires efficient utilization of local resources. In this work hemp and peat fibres were used in order to produce effective ecological thermal insulating material. Tests were carried out using short dishevelled hemp and chopped peat fibres. Effective composites from local renewable resources were produced. Macro- and microstructures of composites as well as hemp and peat fibres have shown that activated peat allows getting ecological binder for insulating materials. Hemp and peat fibres are orientated chaotically and fibres consist of many yarns. Investigations have shown that thermal conductivity of natural fibres depends on material density and structure.

Key words: composite, hemp fibres, peat, structure, thermal conductivity

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