



“Gheorghe Asachi” Technical University of Iasi, Romania



ASSESSMENT OF STRUCTURE INFLUENCE ON THERMAL CONDUCTIVITY OF HEMP SHIVES COMPOSITE

Giedrius Balčiūnas*, Sigita Vėjelis, Lina Lekūnaitė, Arūnas Kremensas

*VGTU Scientific Institute of Thermal Insulation Laboratory of Thermal Insulating Materials,
Linkmenų st. 28, LT- 08217 Vilnius, Lithuania*

Abstract

In past ten years area of green technologies and materials was the most growing industry sector in the world. It is related with global warming, air pollution and energy saving. Building sector intensively increased air pollution and is related with high energy consumptions. The use of renewable or recyclable materials can reduce these problems.

In current work, thermal insulating materials from hemp shives and corn starch were investigated. Structures of various shives fractions were analyzed. Different sized shives by two indicators bulk density and thermal conductivity were compared. Composite materials with various shives fractions and corn starch were prepared. Different thermal treatment for composite hardening was used. Thermal conductivity and compressive strength of composites were determined. Thermal insulating composites with a high compressive strength and low thermal conductivity were developed.

Key words: corn starch, ecological building materials, hemp shives, renewable resources, thermal insulating composite

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* Author to whom all correspondence should be addressed: e-mail: giedrius.balciunas@vgtu.lt; Phone: +37052512344