

Development of Thermal Insulation Materials Based on Silicate Using Non-Traditional Binders and Fillers

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Abstract : When insulation and rehabilitation of structures is important to use quality building materials with high utility value. One potentially interesting and promising groups of construction materials in this area are advanced, thermally insulating plaster silicate based. With the present trend reduction of energy consumption of building structures and reducing CO2 emissions to be developed capillary-active materials that are characterized by their low density, low thermal conductivity while maintaining good mechanical properties. The paper describes the results of research activities aimed at the development of thermal insulating and rehabilitation material ongoing at the Technical University in Brno, Faculty of Civil Engineering. The achieved results of this development will be the basis for subsequent experimental analysis of the influence of thermal and moisture loads developed on these materials.

Keywords : insulation materials, rehabilitation materials, lightweight aggregate, fly ash, slag, hemp fibers, glass fibers, metakaolin

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