TESTING THE USE OF MICROWAVE ENERGY TO PRODUCE FOAM GLASS

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ABSTRACT

The paper presents experimental results obtained lately by a Romanian team of researchers in the field of producing foam glass as a building insulation material from very high weight proportion of waste glass (over 98%) and calcium carbonate as a foaming agent at 821 – 830 ºC, in conditions of using the microwave energy. Unlike the conventional heating methods well-known worldwide, the microwave heating of waste glass starting from the ambient temperature has been successfully tested both in an adapted 0.8 kW domestic microwave oven and in an existing microwave reactor with the installed power of 3 kW. The foam glass has the physical and mechanical features (apparent density, porosity, compressive strength, thermal conductivity etc.) comparable to similar products obtained by conventional heating methods, being mainly destined to the building sector.

Keywords: Foam glass, microwave, waste glass.