

Resumen ponencia 23

Incorporation of phase change materials (PCM) in ceramics for building applications

Hélio Jorge and Luc Hennetier

Centro Tecnológico da Cerâmica e do Vidro (CTCV), Parque Tecnológico de Coimbra (Coimbra iParque), Lote 7, Antanhol – Coimbra, Portugal, hrjorge@ctcv.pt

ABSTRACT

The application of phase change materials (PCM) in building materials is an emerging field, aiming to improve the energy efficiency of buildings. This article presents part of the work of developing methods for the incorporation of PCMs in ceramic materials for application in the construction.

The tests performed show the variability in the incorporation ratio of the PCM incorporation process in materials with different pore sizes and porosities, indications of conditions where there is higher incorporation and some critical differences between the two methods.

Thermal testing of ceramic tiles in porcelain and earthenware have demonstrated the influence of the thermal storage of PCM when incorporated in tiles, as also to preview the energy savings in buildings.

Keyword: Ceramic material, Ceramic Tiles, Phase Change Materials (PCM), Porosity