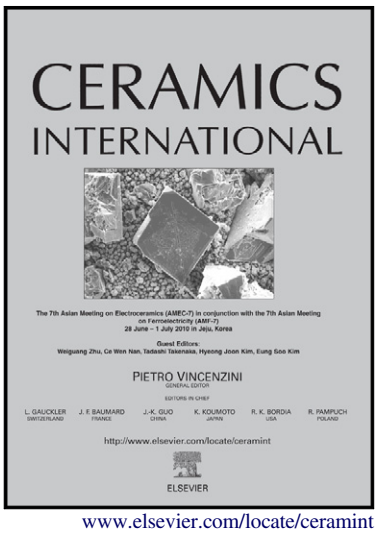

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Design of glass foams with low environmental impact

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Abstract

Glass foams obtained through the end of life fluorescent lamps recycle represent an interesting way for waste prevention and waste management developing potentially commercial products. The aim of the present project is to investigate the possibility to obtain glass foams using fluorescent lamps as glass matrix and egg shells as foaming agent replacing the conventional calcium carbonate. Moreover, the influence of the temperature and the holding time of the foaming process on the apparent density and compressive strength of the obtained materials have been also studied. The experimental work, planned using a Design of Experiment approach has demonstrated that the use of egg shells as foaming agent allows to obtain the same final properties of the glass foams produced by $CaCO_3$, with apparent density and porosity values comparable with the commercial counterparts.

Keywords

glass foams; waste glass; end of life fluorescent lamps; design of experiments.