

Influence of Milled Waste Glass to Clay Ceramic Foam Properties Made by Direct Foaming Route

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Abstract : The goal of this work is to develop sustainable and durable ceramic cellular structures using widely available natural resources- clay and milled waste glass. Present paper describes method of obtaining clay ceramic foam (CCF) with addition of milled waste glass in 5, 7 and 10 wt% by direct foaming with high speed mixer-disperser (HSMD). For more efficient clay and waste glass milling and mixing, the high velocity disintegrator was used. The CCF with 5, 7, and 10 wt% were obtained at 900, 950, 1000 and 1050 °C firing temperature and they have demonstrated mechanical compressive strength for all 12 samples ranging from 3.8 to 14.3 MPa and porosity 76-65%. Obtained CCF has compressive strength 14.3 MPa and porosity 65.3%.

Keywords : ceramic foam, waste glass, clay foam, glass foam, open cell, direct foaming

Conference Title : ICEMT 2016 : International Conference on Engineering Materials and Technology

Conference Location : Amsterdam, Netherlands

Conference Dates : May 12-13, 2016