# $ZrO_2$ foams for heat recuperatives in gas burners

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Refractories porous ceramics are particularly adequated for using as thermo diffusers, gas and liquid dispersers and others technologies. In this work, $ZrO_2$ foams with low relative density were developed through the replication method using polyurethane foams (PUF) for application as porous radiant burners. The ceramic foams were produced by impregnation of open – cell PUF with aqueous suspensions varying solid fractions (30 wt% - 50 wt%) of raw materials. Zeta potential was calculated and flow curves were performed in order to adequate suspensions for impregnation processing. A careful calcination study performed before sinterization in order to improve mechanical strength of the ceramics foams. Ceramics with dimensions of 20x20 cm were succeeded through sinterization process at 1350ºC, showing good structural stability.

Key words: ceramic foams, rheology, suspension, impregnation method.