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FABRICATION AND CHARACTERIZATION OF POROUS SILICA CERAMICS BY DIRECT FOAM & SACRIFICIAL TEMPLATE METHOD

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ABSTRACT

This research work comprises of fabricating highly porous silica ceramics by two different fabrication routes such as Direct Foaming Method and Sacrificial Template Method (saw dust is used as porgen). The as-fabricated porous ceramics were characterized for physical, structural and mechanical properties for their end use as thermal insulators in various applications. In this investigation, the results shows that the porosity of porous silica ceramics by direct foaming method and sacrificial template method as 86% and 78% respectively. Compressive strength which was found from universal testing machine (UTM) is 25 x 10^{-2} MPa & 14 x 10^{-2} MPa for silica ceramics by direct foaming method and sacrificial template method respectively.

KEYWORDS: Compressive Strength, Porgen, Porosity, UTM