



Study the physical properties of refractory mortar contains kaolin-metakolin-fire brick powder-SiC

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Abstract :The research aims to use one of the raw materials available in Iraq, namely kaolin Duekhla, which is available in the western desert in Iraq, and to know and diagnose the effect of some additives on the physical properties such as open porosity, bulk density and linear shrinkage of firing. The samples are composed of a mixture of basic material and some additives. The main mixture consists of 70% kaolin and 30% metakaolin. The first type of additives is commercial powder silicon carbide(SiC), and the second type of additives is the fiery brick obtained from the waste of lining of the kilns where it was converted into powder. The samples were prepared according to the specified ratios with addition Up to 40% (some samples containing sic only, and others contain fire brick powder only and other samples containing both together.The samples were sintered at 1100 °Cand 1500°C. The properties studied were open porosity, bulk density and linear firing shrinkage.

Keywords:refractory mortar, kaolin, metakolin, fire brick powder, SiC.

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