

**EFFECT OF FILLER TYPE ON THE DURABILITY OF SULFUR-SAND
COMPOSITES IN THE ARABIAN GULF COUNTRIES.**

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Abstract: Sulfur-sand composite (SSC) is such an innovated building product that can be produced by mixing sand and filler with sulfur at a temperature above the melting point of sulfur (119 degree C). The product has several industrial construction applications such as plastering walls and overlaying of chemical plants. This paper presents the findings of an experimental study in which the effect of the type of filler was investigated on the durability of SSC in wet/dry cycles, acidic and alkaline environments, and in temperature cycles. Such tests were executed to simulate the existing conditions in the Arabian Gulf countries, and indicated that the chemical and mineralogical composition of filler has a significant effect on the performance of SSC in corrosive environments and the presence of some undesirable minerals in the filler can cause durability problems.