

Petrography and Geochemistry of Basic Dokhan Volcanics from the Eastern Desert of Egypt and their Use as Aggregates in Concrete Mixes

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Abstract : The present paper deals with the petrography and geochemistry of the Basic Dokhan Volcanics, Eastern Desert, Egypt. The basalts from Gabal Wassif, Atalla volcanics and Gabal Esh Mellaha were tested for use as aggregates in concrete mixes. The representative twelve samples were collected from areas. These samples were examined by using a petrographic microscope to evaluate sample texture, degree of alteration and the presence of volcanic glass in the matrix. The results obtained indicate that basalt can be used successfully for preparing concrete, but some attention should be paid to the choice of the suitable types of basalt. A general improvement in concrete mix properties has been found by using basalt aggregates in the mix.

Keywords : basic Dokhan volcanics, petrography, geochemistry, petrogenesis and concrete aggregates

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