

Investigation of Quarry Fine Effects on Cement Plaster

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Abstract: *The necessity to find alternatives to sand as fine aggregates in the production of plaster has increased due to the diminishing sources of natural sand and the requirement to reduce the cost of cement plaster. One of these components is quarry dust, a by-product of the crushing operation during quarrying activities. Granite fines, also known as rock dust or quarry dust, are a byproduct of crushing granite boulders. The goal of the current work is to replace sand with quarry dust and improve the mixture of cementitious materials and quarry fines. The basic characteristics of quarry dust and the compressive strength of quarry dust concrete have been attempted to be studied. The compressive strength of cast cement mortar cubes was estimated. For plastering, cement mortar in the ratios of 1:3, 1:4, 1:5, and 1:6 is created, and water absorption in the quarry fines is measured as a percentage. The workability of quarry dust is comparable to that of traditional fine aggregate (sand), and it contains nearly identical components to those found in EDAX. In the current work, the behaviour of cement mortar paste has been experimentally investigated. A range of cement mortar properties, including workability and compressive strength tests after 3 and 7 days of curing, have been the subject of experimental research.*

Keywords: Quarry dust, Cement plaster, Compressive strength, EDAX, SEM

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