

An Environmental Concrete with Algerian Concrete

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Abstract

Materials called very fine aggregate or filler may affect the performance of concrete in an either positive or a negative way. Discussions on aggregate containing very fine material are vitally important. The goal of the study was to determine how the content of filler might affect properties of concrete. The effect of applying different amounts of filler on concrete was then determined. An experimental approach developed a building product consisting mainly of limestone dust, which is considered as waste or by product material of aggregates industry. The majority of abandoned limestone powder wastes (LPW) is accumulated from the countries all over the world and causes certain serious environmental problems and health hazards. This paper presents a parametric experimental study which investigates the potential use of LPW combination for producing a low-cost and lightweight composite as a building material. The results of investigations on the suitability of using limestone dust as aggregate in lightweight aggregate concrete (LWAC) production are reported. In this way, different amounts of limestone dust were used. Some of the physical and mechanical properties of concrete mixes having high level of LPW are investigated. The obtained compressive strength, flexural strength and unit weight satisfy the relevant international standards.

Keywords

Waste, Environmental, Limestone dust, Concrete

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