

عنوان مقاله:

Investigating properties of fresh and hardened self-compacting concrete made of recycled aggregates

محل انتشار:

دوفصلنامه مهندسی سازه و ژئوتکنیک، دوره 8، شماره 2 (سال: 1397)

تعداد صفحات اصل مقاله: 8

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خلاصه مقاله:

Self-compacting concrete is a new high performance concrete with high ductility and segregation resistance. In recent years, construction material manufacturers have focused their attention on lightweight concrete and have strived to use lightweight concrete, if possible, in load-bearing parts of buildings. Concrete with both self-compacting and lightweight properties is favourable in this context which is the so-called lightweight self-consolidating concrete. Given the novelty of self-compacting concrete industry and increased amount of construction materials resulting from earthquake (due to seismic hazards of Iran) and destruction of different buildings, in particular urban decay, on the other hand, feasibility study on production of self-compacting concrete with these materials is justifiable in terms of costs, environment protection and energy conservation. Accordingly, coordination between self-compacting factor and utilising these materials is important. So, in this research, the effect of recycled aggregates on mechanical properties of lightweight self-compacting concrete was investigated. Specimens were analysed using 2 mix designs with different contents (cement) by Slump, J-Ring and compressive strength tests. Results indicated that mix designs containing waste LECA have good consistency and stability. Also, mix designs containing waste scoria have high strength. Hence, in order to achieve self-compacting and lightweight properties, it seems logical to use those two waste materials.

کلمات کلیدی:

self-compacting concrete, lightweight concrete, recycled aggregates, Compressive Strength

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