

Studying the mix design of lica structural lightweight concrete using powdered limestone and glass pozzolan ,in order to improve the concrete mechanical properties by vernacular materials of Kerman

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Abstract

The governments determine a broad range of rights and duties including security , healthy and information access rights , the duties of protecting environment , respect safety , independence , the others' privacy , clarify the necessary standards and policies to use these rights and perform these duties . organizations resolve the existing challenges in the world including economic crises , trade facilitation , quality production , environmental problems , energy management , information technology , optimum use of water , food and healthy resources through providing standards . Standardization facilitates to approach a higher quality with lower cost ensuring the existence of a healthy competition and a clear future between the users . Moving ahead the future , the activities of the international organizations , standard formulation and national standard institutions help all of humans in worldwide and improve their lives through facilitating the modern technologies development which direct the global economics

The aim of the present article is to determine the mixing ratios of lightweight concrete, more aggregates stability and lower cement which has been used in the glass anaz pozzolan . Using the pozzolans to produce the composite cements, significantly reduces the flat cost of the cement in concrete . In the present research , concrete mix with a percentage of glass pozzolan and also stone powder, in order to reduce the pores has been used . These tests results, show that using lightweight aggregates of lica (industrial lica) can obtain a lightweight concrete in the weight range of 1400 – 1800 kg/m³ with cube compressive strength of 40 – 100 megapascal . Also , the results imply improving the concrete performance with glass pozzolan than conventional lightweight concrete.

Keywords: structural lightweight concrete , glass pozzolan , compressive strength , stone powder , lica