

عنوان مقاله:

Evaluation of Mechanical Strength of Epoxy Polymer Concrete With Silica Powder as Filler

محل انتشار:

سومین کنفرانس بین المللی مقاوم سازی لرزه ای (سال: 1389)

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خلاصه مقاله:

Silica powder as filler was used in preparation of polymer concrete. Utilization of waste silica powder as a filler in polymer concrete is promising, it may enhances the physical properties and mechanical strength of the polymer concrete. The mechanical properties of PCs with variation of filler compositions (100, 150, 200%) and resin (10, 15, 20%) were investigated. The compressive strength of polymer concrete with silica powder as filler in comparison with cement concrete was enhanced by four folds. The casted PCs were also investigated for their compressive, flexural and tensile strengths. Samples with 15 and 20% epoxy resin and 200% filler (15% fine silica powder, 25% medium size silica powder and 60% coarse silica powder) had maximum mechanical strengths. The values of compressive, flexural and tensile strengths were 128.9, 22.5 and 16.2 MPa, respectively.

کلمات کلیدی:

Polymer concrete, filler, silica powder, compressive strength

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