

The Effect of Air Entraining Agents on Compressive Strength

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Abstract : Freeze-thaw cycles are one of the greatest threats to concrete durability. Lately, protection against this threat excites scientists's attention. Air-entraining admixtures have been widely used to produce freeze-thaw resistant at concretes. The use of air-entraining agents (AEAs) enhances not only freeze-thaw endurance but also the properties of fresh concrete such as segregation, bleeding and flow ability. This paper examines the effects of air-entraining on compressive strength of concrete. Air-entraining is used between 0.05% and 0.4% by weight of cement. One control and four fiber reinforced concrete mixes are prepared and three specimens are tested for each mix. It is concluded from the test results that when air entraining is increased the compressive strength of concrete reduces for all mixes with AEAs.

Keywords : concrete, air-entraining, compressive strength, mechanical properties

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