

Influence of construction practices on concrete durability

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Abstract: Data have been developed on the effects of curing period length, type of curing water, aggregate washing, and the degree of consolidation on corrosion resistance characteristics of concrete. The effects of curing period and consolidation on the sulfate resistance of concrete have also been evaluated. Results show that concretes cured for 28 days performed 4.4 times better in terms of corrosion of reinforcement and showed 59 percent strength reduction and 40 percent weight loss improvements to sulfate resistance compared to concretes cured for 7 days. The beneficial effect of aggregate washing is, on average, about 15 to 20 percent for the aggregates tested in this study. Degree of consolidation has a significant effect on concrete durability.