

Recurring as a Means of Partial Strength Recovery of Concrete Subjected to Elevated Temperatures

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Abstract : Concrete is found to undergo degradation when subjected to elevated temperatures and loose substantial amount of its strength. The loss of strength in concrete is mainly attributed to decomposition of C-S-H and release of physically and chemically bound water, which begins when the exposure temperature exceeds 100°C. When such a concrete comes in contact with moisture, the cement paste is found rehydrate and considerable amount of strength lost is found to recover. This paper presents results of an experimental program carried out to investigate the effect of recurring on strength gain of OPC concrete specimens subjected to elevated temperatures from 200°C to 800°C, which were subjected to retention time of two hours and four hours at the designated temperature. Strength recoveries for concrete subjected to 7 designated elevated temperatures are compared. It is found that the efficacy of recurring as a measure of strength recovery reduces with increase in exposure temperature.

Keywords : elevated temperature, recurring, strength recovery, compressive strength

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