

# Development of accelerating admixture and recovery of aggregates from demolished concrete

**PI:** Dr. Jeeshan Khan

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## Abstract

The recycled concrete aggregates obtained from demolition waste contains substantial amount of old cement paste and mortar incorporating calcium and aluminium ions. Treatment of this waste concrete with mild active solution can remove cement paste and dissolve elemental ions (e.g. calcium and aluminium) into the solution. Solution containing these ions and other substances from waste concrete can act as accelerating admixture and provide early setting and initial strength by accelerating the hydration of cement. The remaining coarse and fine aggregates contain low quantity of old cement and mortar after washing. These aggregates obtained after washing would be improved properties and can be used in new concrete without strength compromise and compatibility.

## Objective

- Development of accelerating admixture from demolished concrete
- Performance evaluation and optimization of accelerating admixture in cement paste/mortar
- Recovery of aggregates from demolished concrete

