

Durability of fiber reinforced lightweight aggregate concrete

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Summary

Although Light Weight Aggregate Concrete (LWAC) usually suffers from low ductility and it can be considered as a brittle material, the demand for LWAC in many application of recent construction is increasing owing to this fact that lower density of structural material leads to lower dead load of structures and as a consequence lower earthquake forces. Hence, improving the ductility is the key point to popularize the application of LWAC and fibers can be used for improving LWAC ductility. Durability of fiber reinforced lightweight aggregate concrete is a key parameter for proportioning mixture in severe marine conditions such as Persian Gulf region. In this paper the effect of fiber on the durability of lightweight aggregate concrete is investigated with gas permeability, electrical resistivity and drying shrinkage.

Keyword: durability, fiber, lightweight aggregate concrete, LWAC, electrical resistivity, gas permeability, drying shrinkage