

Influence of Different Preparation Procedures on the Properties of Polymer Impregnated Concrete

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Polymer Impregnated Concrete (PIC) is one of the oldest known polymer cement composites and is prepared by impregnation of precast concrete mortars by a mixture of monomer–initiators and the monomer subsequently polymerized by heat or microwaves. In this work, the PICs were prepared by four different methods using Methyl methacrylate (MMA) as monomer and 2, 2'-Azobisisobutyronitrile (AIBN) as initiator. The resultant polymer cement composites were evaluated by measuring their porosity and compressive strength. When the properties and microstructure of these composites were compared with those of conventional concrete mortar it was observed that the PICs were superior in strength and contained lesser number of pores and voids. The latter was confirmed from the studies conducted through a Scanning Electron Microscope.