

ABSTRACT

Engineered Cementitious Composites (ECC) also called as bendable concrete is an easily moulded mortar based composite reinforced with specially selected short random fibres. In this paper to develop a low cost Engineered Cementitious Composites for sustainable and resilient infrastructure, the Polyvinyl alcohol fibre is used to enhance the flexibility and cement is partially replaced by fly ash and glass powder to reduce its content. It has high aspect ratio, high ultimate tensile strength, relatively high modulus of elasticity, good chemical compatibility with Portland cement, good affinity with water and no health risks.

This thesis aims at making ECC with a mix which satisfies the strength characteristics required. Therefore various trial mixes designed and mix specimens were casted based on the mix design in the cement for about various different proportions of fly ash-glass powder. Specimens like cubes and cylinders were casted to test the compressive strength and split tensile strength. Then the results were compared.