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Mechanical Properties of Engineered Cementitious Composites

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Abstract : This reserach is aims to develop the new engineered cementitious composites with hybridation of steel short random fiber against polyvinyl alcohol fiber and polypropylene fiber. In this study, eight different mixes were investigated in which mixes with 2.0% of volume fraction of polyvinyl alcohol fiber and polypropylene fiber with 2.0% of volume fraction is kept as reference mixes. Steel fiber is placed in the above two mixes by 0.65%, 1.0% and 1.35% of volume fraction as a replacement of polyvinyl alcohol fiber and polypropylene fiber. Compressive, direct tensile tensile and three point flexural tests were conducted on the developed ECC mixes. Hybridation with steel fibers had a notable achievement on the direct tensile strength and flexural strength. From the results it is observed that mixes M4 and M8 performed better than the all other mixes.

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