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(57) Abstract :

The present invention is directed to a fly ash based geopolymers concrete mix which comprises (i) binder, ii) activator solution in an amount in a range from 6 weight % to 7 weight %; iii) polycarboxylate based nano-engineered superplasticizer in an amount in a range from 0.1 weight % to 0.15 weight %, iv) sand and aggregates in an amount in a range from 70 weight % to 75 weight %;v) superplasticizer in an amount in a range from 0.1 weight % to 0.15 weight %, vi) polypropylene fibers or polyester fibers or its mixture in an amount in a range from 0.01 weight % to 0.02 weight %, and vii) added water in an amount in a range from 3.0 weight % to 4.0 weight %. The binder comprises, a low calcium fly ash in an amount in a range from 9 weight % to 11 weight % and Ground Granulated Blast Furnace Slag (GGBS) in an amount in a range from 6 weight % to 8 weight %. The present invention also discloses a process for preparation of said concrete mix and a process for laying pavement quality concrete layer using the geopolymers concrete mix.

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