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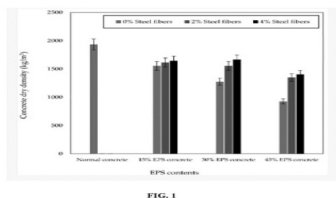
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(57) Abstract :  
 DEVELOPMENT OF LIGHT WEIGHT POLYSTYRENE CONCRETE WITH FIBERS The present invention relates to development of light weight polystyrene concrete with fibers. The demand for lightweight aggregates in concrete compositions for diverse structural and non-structural applications in contemporary building construction has increased. However, the challenge lies in achieving an appropriate strength in lightweight concrete while maintaining a lower unit weight. To enhance the bonding and structural capabilities of the proposed lightweight concrete mixes, reinforcement with 2% and 4% steel fibers by volume of the total concrete mix was incorporated. Silica fume was introduced into the mix to counteract the water hydrophobicity of EPS material and enhance the durability of lightweight concrete, added at a rate of 10% by weight of cement in all specimens. The physical and mechanical properties of the lightweight EPS-based concrete were systematically examined through experimental testing and compared against a standard concrete mix. The analysis of the results indicates that EPS-based concrete exhibits a controllable low density. Figure of abstract: FIG. 1



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