



GLASS FIBRE INSULATED WITH SELF COMPACTING CONCRETE



A PROJECT REPORT

Submitted by

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in partial fulfilment for the award of the degree

of

BACHELOR OF ENGINEERING

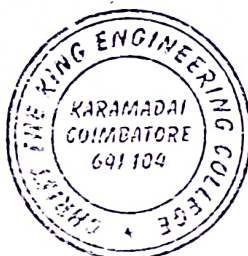
IN


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**CHRIST THE KING ENGINEERING COLLEGE
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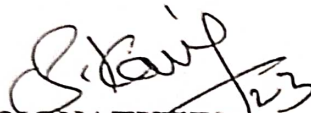
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BONFIDE CERTIFICATE

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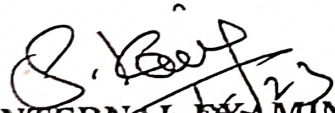
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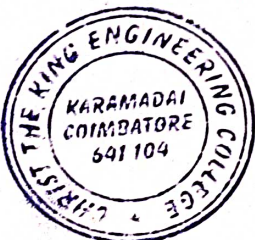
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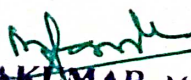
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INTERNAL EXAMINAR


EXTERNAL EXAMINAR



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ABSTRACT

This project work describes about glass fibre insulated with self compacting concrete. Self compacting concrete is a high performance concrete that can flow under its own weight to completely fill the form work and self consolidates without any mechanical vibration.

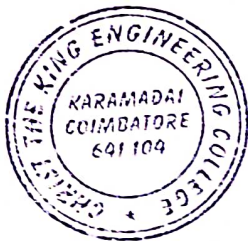
In general concrete is strong in compression and weak in tensional property. In this research to increase the tensile property of concrete glass fibres added with dosage of 1 kg per m³ of concrete.


Various applications of glass fibre shown in the study, the experimental test results indicate the tremendous potential of glass fibre as an alternative construction material.

To enhance the durability of materials, a new generation of glass fibres directed to the improvement process. Glass fibre can be used wherever a light, strong, fire resistant, weather resistant, attractive, impermeable material as needed.

KEYWORDS:

1. Tremendous potential
2. Imperable Material
3. Durability
4. Tensional property
5. Self consolidates




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CONCLUSION

With the addition of different volume of glass fiber from 0.02% to 0.04% and with 1% of super plasticizer & 0.8% of VMA by the weight of cement, the structural behavior of Glass Fiber Self Compacting Concrete have been investigated. The following conclusions were drawn with reference to the results obtained in this investigation.

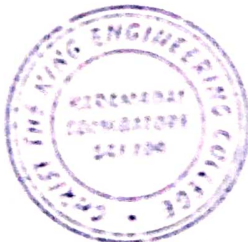
Workability of concrete decreases respectively by the increase in volume of fibers. Even though the values get reduced, all the concrete mix we obtained are workable.


The maximum compressive strength of 33.92 N/mm² was obtaining at addition of fibers 0.03% of concrete. The percentage improvement of the compressive strength over the reference concrete is 5.66 %

The maximum split tensile strength of 2.64 N/mm² was obtaining at addition of fibers 0.03% of concrete. The percentage improvement of the split tensile strength over the reference concrete is 3.94 %

The maximum flexural strength of 8.0 N/mm² was obtaining at addition of fibers 0.03% of concrete. The percentage improvement of the flexural strength over the reference concrete is 11.12 %

After this experimental investigation, We have to conclude that incorporation of glass fibers by 0.03% of concrete has increased the strengths at 28 days by 5.66 % in compression, 3.94 % in tension, and 11.12 % in flexure. Finally we had concluded that addition of glass fibers by 0.03% of concrete should optimum and incorporation of glass fibers should increase the flexural strength than the compressive and tensile strength.




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