

- the optimum percentage of fwga for maximum



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· The optimum percentage of FWGA for maximum compressive strength of FWGAC mixes was 20%. Addition of FWGA to Concrete mixes up to the optimum value has shown an increasing trend in compressive strength. The maximum compressive strength 57.

33 MPa, at 28 days was obtained at optimum FWGA content. With further increase of FWGA content, compressive strength has shown decreasing trend. Reduction in compressive strength may be due to the high brittleness of glass leading to cracks which result in incomplete adhesion between the FWGA and cement paste, while the poor geometry and reduced specific gravity of glass leads to a heterogeneous distribution of aggregates.

· The optimum percentage of FWGA for maximum flexural strength was 25%. Flexural strength of FWGAC mixes has shown an increasing trend up to the optimum content of FWGA and the maximum value obtained after 28 days was 6.1 MPa. The flexural strength of concrete mixes containing FWGA generally followed the compressive strength trend and the reduction in flexural strength may be due to the decrease in adhesion between the smooth surface FWGA and the cement paste.

· The increase of compressive strength of FWGAC mixes might be possibly because of two reasons, first, the pozzolanic reaction of cement with the fine glass particles which are pozzolanic in nature, and as such contributes to an improvement in the compressive strength at 28 days and second, the angular nature of the fine glass aggregates which has a greater surface area than the naturally rounded sand particles, and this increased surface area allows for greater bonding with the cement paste, resulting in a stronger concrete matrix. 4.

Conclusion A large part of the development budget is spent for the maintenance and improvement of roads and this indicates the importance and role of roads in the national economy. If a road is designed and maintained properly, then after 16 years of pavement life, its quality will be reduced to only about 40%. However, pavement degradation is accelerated after 16 years, so that after another four years, the pavement will completely collapse (Hicks et al, 1997). The life of the pavement can be increased by improving the properties of the Concrete Mix itself. The present study is concerned with improvement of Concrete Mix for the construction of pavements, slabs, deck slabs, wall panels by using waste and innovative materials such as fine waste glass aggregates which could increase the compressive and flexural strength characteristics of Concrete Mix, reduce the thickness of slab, reduce cost, enhance durability and reduces the requirement of maintenance.