

## **EFFECT OF ADMIXTURES ON THE STRENGTH PROPERTIES OF SILICA FUME CONCRETE PRODUCED WITH HYBRID FIBRES**

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### **Abstract**

Silica fume concrete (SFC) produced with hybrid Fibres is a relatively new and advanced material of construction. In a typical SFC with hybrid Fibres mixture consist of absence of course aggregate replaced by fine sand in conventional concrete .The Portland cement plays the role of fine aggregate and the silica fume that of the cement SFC has no large aggregate and contains small steel Fibres that provides additional strength and in some cases can replace traditional reinforcement. The strength and ductility characteristics of SFC may be improved by using hybrid Fibres. The different combinations of hybrid Fibres like (steel + galvanized iron), (steel + polypropylene), (steel +waste coiled steel Fibres), (steel + HDPEF) can improve the characteristics properties of SFC. Different combinations of admixtures used are Super Plasticizer + Air Entraining Agent + Accelerator (SP+AEA+ACC) and Super Plasticizer + Air Entraining Agent + Water Proofing Compound (SP+AEA+WPC). In this paper, the experimental investigation has been made to study effect of combination of admixtures on the strength properties of SFC using Hybrid Fibres like Compressive Strength, Tensile Strength, Flexural Strength and Impact Strength. Results are compared with strength properties of SFC without Fibres and SFC with mono-fibres.

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**Keywords :** Silica Fume Concrete(SFC), Steel Fibres(SF), Galvanized Iron Fibres (GIF), Waste Coiled Steel Fibres(WCSF), High Density Polyethelene Fybers(HDPEF), Polyprolplyne Fibres(PPF), Mono-fibres, Hybrid Fibres, Compressive strength, Tensile Strenght, Flexural strength , Impact strength.