

**FRESH CONCRETE PROPERTIES:**

Due to its very fine nature and greater surface area, **SILICAFUME** will increase the water demand. The use of a Superplasticiser to compensate for the higher water demand is universally recommended. Superplasticisers have a greater effects in **SILICAFUME** concrete than in normal concrete because of the larger total surface area. It is possible now to dose high dosage of Superplasticisers for very low water : cement ratios concrete without bleeding and segregation problems encountered with normal OPC concrete. It enables us to produce very flowable concrete without segregation and very high strength concrete (50 to 120 Mpa). **SILICAFUME** also lubricates the concrete and increases pumpability. **(Please ask BUILDTech for a suitable Superplasticiser).**

**ADDITIONAL FEATURES**

Because of the pozzolanic and microfiller effect of **SILICAFUME**, its use in concrete can improve many of its properties opening up a wide range of applications ; viz

**CORROSION RESISTANCE**

The reduced permeability of **SILICAFUME** concrete provides protection against intrusion of chloride ions thereby increasing **SILICAFUME** concrete has much higher electrical resistivity compared to OPC concrete thus slowing down the corrosion rate. The combined effect generally increases structure's life by 5-10 times. **SILICAFUME** concrete is therefore suitable for structures exposed to salt water, de-icing salt, i.e. harbour structures, ports, bridges, docks, on-shores, constructions situated in areas with chlorides in the ground water, soil and in the air.

**Sulphate resistance** **SILICAFUME** concrete has low penetrability and high chemical resistance that provides a higher degree of protection against sulphates than low C<sub>3</sub>A sulphates resisting cements or other cementitious binder systems.

**Abrasion resistance** **SILICAFUME** concrete is widely used in industrial structures exposed to an array of aggressive chemicals. In the alimentary industry the exposure comes from fat acids and other acids, detergents etc. In the chemical industry there is an exposure from mineral acids, phosphates, nitrates, petrochemicals etc. **SILICAFUME** concrete is therefore invaluable in the industrial and agricultural sector.

**TECHNICAL SUPPORT**

**BUILDTech PRODUCTS** are fully equipped to provide technical support related to most aspects of the use of concrete in construction.

**DOSAGE**

Trial mixes are essential. However, the dosage of **BUILD FUME** is in the range of 8% to 10% by weight of cement, depending upon site requirements.

**BUILDTech** has tied up with leading producers of **SILICAFUME** conforming to ASTM C - 1240

Chemical and Physical Composition		
SiO <sub>2</sub>	%	85 - 98
CaO	%	0.2 - 0.7
Al <sub>2</sub> O <sub>3</sub>	%	0.4 - 0.9
Fe <sub>2</sub> O <sub>3</sub>	%	1 - 2
Bulk density	kg/m <sup>3</sup>	650 - 700
Surface Area	m <sup>2</sup> /g	26
Accelerated Pozzolanic	%	95
activity(7days)		
Moisture content	%	1.14
Loss on Ignition (LOI)	%	2.80