



成都英维玻璃纤维有限公司

CHENGDU YINGWEI FIBERGLASS CO., LTD

## SILICA FUME

## SERIES

### SILICA FUME

Silica fume is a ready-to-use powdered microsilica (silica fume) concrete admixture. This product reacts chemically with the calcium hydroxide in the cement paste which yields a calcium silicate hydrate gel that significantly enhances strength and durability. The super fine microsilica fills the voids between cement particles creating a very dense, less permeable concrete.

### SILICA FUME

#### I .BENEFITS AND USES

The benefits from Silica fume, as result of two peculiar processes: Physical contribution: Micro-filling, extremely fine particles filling spaces between cement grains. Chemical contribution: Highly effective Pozzolanic Reactivity with Calcium Hydroxide released in the hydration process of cement to form Additional Calcium-Silicate-Hydrate(C-S-H). Resulting in high strengths and durability performing concretes for hydraulic structures, viaducts, tunnels industrial flooring, airport runways, precast industry. any concrete exposed to severe ambient aggressions. Silica fume is also an excellent additive for concrete repair dry mortars and shotcrete.

#### II .PHYSICAL CHARACTERISTICS

|                        |                                     |
|------------------------|-------------------------------------|
| Particle size:         | residue 45 um <5%                   |
| Specific surface area: | 23 m/g                              |
| Density:               | 480-700 kg/m <sup>3</sup>           |
| Color:                 | Grey                                |
| R.H.:                  | <1.0%                               |
| pH:                    | Not applicable (insoluble in water) |

SILICA FUME PICTURES



# PRODUCT DATA

## PROPERTIES

|                               |                               |
|-------------------------------|-------------------------------|
| State                         | Amorphous - Sub-micron powder |
| Color                         | Gray to medium gray powder    |
| Specific Gravity              | 2.10 to 2.40                  |
| Solubility                    | Insoluble                     |
| Bulk Density - Densified      | 600 to 700 kg/m <sup>3</sup>  |
| Bulk Density - Half-Densified | 300 to 400 kg/m <sup>3</sup>  |
| Bulk Density - Undensified    | 180 to 300 kg/m <sup>3</sup>  |

## SPECIFICATIONS

|                                                |                              |                         |
|------------------------------------------------|------------------------------|-------------------------|
|                                                | Minimum 95%                  | (Product Number): BKP95 |
| Silicon Dioxide (SiO <sub>2</sub> ) %          | 95±2%                        | (Product Number): BKP92 |
| Moisture Content %                             | Maximum 3.0 %                |                         |
| Loss on Ignition (LOI) %                       | Maximum 6.0 %                |                         |
| Oversize percent retained on 45-µm (325 sieve) | Maximum 10.0 %               |                         |
| 7 day Pozzolaric strength activity index       | Minimum 105 %                |                         |
| Specific Surface                               | Minimum 15 m <sup>2</sup> /g |                         |
| <b>Application</b>                             | <b>Dosage Level %</b>        |                         |
| Pumping Aid                                    | 2--3                         |                         |
| Normal Concrete                                | 4--7                         |                         |
| Self Compacting Concrete                       | 4--10                        |                         |
| High Strength                                  | 7--10                        |                         |
| Underwater                                     | 12--15                       |                         |
| Shotcrete                                      | 8--12                        |                         |
|                                                |                              |                         |

\*The silica fume percentage is always given as dry weight of the cementitious material

## PACKAGING/STORAGE

20 Kg bags on 1200 Kg pallets

500 Kg Big Bags stackable on pallet

1000-1100 Kg Big Bags stackable on pallet Bulk in tank

The product in the original packaging, stored in dry and protected area, is guaranteed for six months. It is recommended to store the product at temperatures between + 5°C and + 35°C.

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