

Data Fact Sheet

SILOX-Silica Fume



SILOX-Silica Fume

DENSIFIED SILICA FUME

DESCRIPTION

Silox Silica Fume is an ultrafine powder material with high-purity amorphous silicon dioxide (SiO₂) as its main component. It is mainly produced through the recovery of flue gas from electric furnaces in the metallurgical industry—such as during the production of ferrosilicon and industrial silicon, with a specific surface area of up to 15–25 m²/g.

SPECIFICATIONS

Chemical Requirements	ASTM	Typical
Silicon Dioxide (SiO ₂) %	85.0% Minimum	92%
Moisture Content %	3.0% Maximum	0.50%
Loss on Ignition (LOI) %	6.0% Maximum	3.80%
Calcium Oxide (CaO)	≤ 1%	0.21 %
Magnesium Oxide (MgO)	≤ 1%	0.29 %
Aluminum Oxide (Al ₂ O ₃)	≤ 1%	0.30 %
Iron Oxide (Fe ₂ O ₃)	≤ 1%	0.45 %
Activity Index with Portland cement (28 day)	105.0% Minimum	115%
Specific Surface	15 m ² /g Minimum	22.0m ² /g
oversize percent retained on 45-µm (325 sieve)	10.0% Maximum	1.95%
Alkalies as Na ₂ O	< 1.5 %	1.1 %



Properties & advantages

- Increased compressive strength
- Improved freeze-thaw resistance
- Increased modulus of elasticity
- Increased impact resistance
- Increased abrasion resistance
- Increased flexural strength
- Reduced ion chloride penetration
- Increased resistance to sulfate attack
- Increased resistance to alkali
- Increased pumpability & workability
- Reduced concrete bleeding
- Decreased matrix permeability



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PROPERTIES

- STATE: Amorphous - Sub-micron powder
- Color: Gray
- Specific Gravity: 2.25
- Solubility: Insoluble
- Bulk Density - Densified: (650 to 750 kg/m³)

Dosage & mixing

Recommended dosage for use in concrete and wet shotcrete applications: 5% to 15% in addition by weight of cement.

APPROVALS / STANDARDS

conforms to EN 13263 1:2005 table 4. and complies with ASTM C1240

Packaging:

Silox Silica Fume is typically packaged in 1000-600 kg bulk bags.

Handling & storage:

Silox Silica Fume is stored and handled similar to cement or fly ash. In bulk, it may be stored in a silo. Packaged silica fume must be stored in a dry area indoors.

Limited warranty & liability:

Our products are of good quality and free of defects under normal usage when the product purchased is used within its shelf life and according to the respective technical data sheets and other written material issued by Excellent Products Inc. for the products which are in effect at the time of purchase.



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