

Description:

TechnoCem® MicroSilica is a ready to use powdered (silica fume) concrete admixture composed of silicon dioxide (SiO₂), collected from silicon metal and ferrosilicon. TechnoCem® MicroSilica reacts chemically with the calcium hydroxide in the cement paste which yields a calcium silicate hydrate gel that significantly enhances strength and durability. TechnoCem® MicroSilica fills the voids between cement particles creating a very dense, less permeable concrete. TechnoCem® MicroSilica contains no added chlorides or chemicals known to promote the corrosion of steel.

Usage:

- High-performance concrete
- Steel and foundry: Blast furnace troughs and runners, ladle linings, sliding gates, etc.
- Cement: Preheater linings, lining in the chain system, and lining of inlet and outlet zones of rotary kilns
- Glass and ceramics: Kiln furniture
- Parking ramps
- Bridge decks

Features & Benefits:

- Can be applied on damp substrates and Easy to apply by brush, roller, trowel or spray equipment.
- High ultimate compressive and flexural strength for greater structural capacity
- High early strength gain for faster turnaround time
- Low permeability for greater resistance to water and salt penetration
- Increased abrasion and chemical resistance for a longer life expectancy
- Greatly improved freeze/thaw and scaling resistance
- Improves concrete performance to reduce column size, increase production and lower transportation and erection costs

Packaging:

TechnoCem® MicroSilica supplied in 20 kg HDPE Bag.

Storage & Shelf Life:

TechnoCem® MicroSilica should be stored at room temperature (min 10°C and max 38°C), kept dry and out of direct sunlight. If these conditions are maintained and the product packaging is unopened, then a shelf life of one year can be expected.

Applications Instructions:

Due to the fineness of the TechnoCem® MicroSilica particles, the admixture needs to be thoroughly mixed and dispensed in and around the cement particles. The proper dispersion is accomplished by adding the TechnoCem® MicroSilica first in the truck mixing process.

A typical mix sequence would be:

- TechnoCem® MicroSilica
- 75% coarse aggregate, plus sand and 75% water
- Air entraining admixture (if required)
- Cement
- Any Sterling Technotrader's high range water reducer (*).
- Course aggregate 25% and 25% water

(*). Water demand will be increased when using TechnoCem® MicroSilica. Most mixes will require the use of a Sterling Technotrader's high range water reducer to maintain workability, a low water content and a low water/cement ratio Dosage can be adjusted to meet various mix design requirements or to specific job site conditions. Trial concrete or grout mixes must be carried out to determine the appropriate dosage.

Typical dosage is between 5% and 15% of cementitious powder content.

Note: TechnoCem® MicroSilica should not be used with a competitor's admixture without gaining Technical advice from your local Sterling Technotrader's representative.

Compatibility with cement and other products

- Water-reducing admixtures, High-range, water-reducing admixtures, manufactured by Sterling Technotrader (STIPL)
- Sterling Technotrader (STIPL) approved air-entraining admixtures & non-chloride accelerators.
- Sterling Technotrader (STIPL) approved retarders, slump extenders & viscosity-modifying admixtures.
- Sterling Technotrader (STIPL) -approved form-release agents
- *STIPL= Sterling Technotrader India Pvt.Ltd

Technical Data:

Consistency	Powder	Colour	Grey
Chemical Base	Cement modified with polymers, selected aggregates, admixtures, and additives.	Component (% by Weight)	Silicon metal production
Silicon dioxide (SiO ₂)	> 85%	Primary function	Pozzolanic
CI	0.09 - 0.2%	Available Alkalis	0.5 - 1.5%
Moisture Content	0.1 - 0.35%	Specific Gravity	2.2 to 2.3
Bulk Density Undensified "as produced"	192 to 320 kg/m ³	Dry bulk density (densified)	500 - 700 kg/m ³
Specific Surface (m ² /g)	15 to 30	Partical Size mean (µm)	0.15 (less than 0.1% of primary particles > 45 µm)

Health and Safety instructions:

TechnoCem® MicroSilica should only be used as directed. We always recommend that the Safety data sheet is carefully read prior to application of the material. Our recommendations for protective equipment should be strictly adhered to for your personal protection. The Safety data sheet is available upon request from your local Sterling Technotrade representative.

Use and handling of TechnoCem® MicroSilica does not represent a health risk when normal safety rules are observed. Direct contact may cause irritation of eyes. Prolonged contact may cause skin irritation. Inhalation may cause respiratory irritation resulting in coughing and shortness of breath. This product may be harmful if swallowed. Do not get in eyes and avoid prolonged skin contact. Do not take internally. Wash thoroughly with water after handling.

Additional Information: Techno Builders Solutions® By Sterling Technotrade India Pvt.Ltd -The Specialist Construction Chemicals Company® range of associated products includes high performance concrete Admixtures, Adhesives, Protective Coatings, Concrete Repairs, Industrial Flooring, Grouts & Anchors, Joint Sealants, Surface Treatments, curing compounds, repair mortars, release agents, Grinding Aids & Waterproofing.

*Separate datasheet are available on these products.

Disclaimer: The product information & application details given by the company & its agents has been provided in good faith & meant to serve only as a general guideline during usage. Users are advised to carry out tests & take trials to ensure on the suitability of products meeting their requirement prior to full scale usage of our products. Since the correct identification of the problems, quality of other materials used and the on-site workmanship are factors beyond our control, there are no expressed or implied guarantee / warranty as to the results obtained. The company does not assume any liability or consequential damage for unsatisfactory results, arising from the use of our products.

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