

X-Mix MS920D

Densified Microsilica

Product Description

X-Mix MS920D is an industrial by product silica fume used as a supplement to cement to produce and place high performance durable concretes.

Advantages

- Increased cohesiveness of the fresh concrete
- Improved placing and pumpability
- High early strength.
- Lower permeability and improved durability
- Greater resistance to abrasion and impact than conventional concretes of similar strength grade
- Compressive strengths in excess of 70 MPa are easily achieved.
- Higher flexural strength and modulus of elasticity than conventional concretes of equal compressive strength.

Uses

X-Mix MS920D is used in concrete to meet the most demanding applications for high strength, chemical and a brains resistant, such as

- High rise construction
- Bridge construction
- Concrete slipways
- Dam spillways and hard standings
- Concrete piles and foundations

Typical Properties

Silica. SiO ₂ %	>85%
Moisture content %	<3.0
Loss on ignition . LOI	<6.0
Bulk Density kg /m ³	500-800
Activity index (7d) %	>105
Specific surface m ² /9	15-35

Specification Compliance

ASTM C1240 Standard specification for silica fume for use as a mineral admixture in hydraulic cement concrete, mortar, and grout.

BS EN 13263, Silica fume for concrete.

Packaging

Jumbo bags or banana trucks.

Instruction for use Dosage

- As an additive (generally 5 to 12% by mass of cement) to enhance strength and durability of the fresh and/or hardened concrete
- As a partial cement replacement (5 to 10% by mass of cement) to maintain the 28-day compressive strength at lower cement content while reducing the heat of hydration, and improving durability.
- As a viscosity modifier (2 to 5% by mass of cement) to reduce bleed and to eliminate segregation in SCC mixes.

Batching and Mixing

X-Mix MS920D can be batched to concrete in powder or slurry form.

- When making concrete with microsilica, the material batching sequence must be controlled. The materials, especially the fine cementitious powders, need to be fed into the mixer at a slower rate for better mixing efficiency with the aggregate materials.
- In powder form, X-Mix MS920D should always be treated and batched as any other cementitious material. It should be accurately weighed and slowly fed into the mixing vessel at the same time as the cement. It should never be feed dry or as a slurry into the mixing vessel without aggregate and water already in it. as balling could occur.
- One batching sequence that has successfully been used with dry bulk microsilica is concurrently adding the course aggregate, fine aggregate, a minimum of 75% of the batch water and admixture. Next add the cement with microsilica. Follow this with the remaining batch water and admixture.
- In slurry form, A high speed disperser should be used to prepare the slurry in advance of adding it to concrete . A 50/50 by weight mix of water and X-Mix MS920D is a suitable concentration. Add the slurry to the concrete plant with the dosing water.

Curing

Concrete made with microsilica concrete must be cured in accordance with good concrete practice.

Shelf Life

>24 months when kept in its original unopened bags in a dry place and must be protected from direct sunlight and frost.

Health and Safety

This product is for industrial use only by trained operatives. It is potentially hazardous if not used correctly. Please refer to the Material Safety Data Sheet (MSDS) prior to the purchase and use of this product. The MSDS can be obtained via our website www.ncc.com.

Authorized Technical Specialist

Please note that only NCC X-Calibur Authorized Technical Specialists ('ATs') are permitted to change any of the information in this data sheet or to provide written recommendations concerning the use of this product. Visit www.ncc.com for a full list of NCC X-Calibur ATs.

Datasheet Validity

NCC X-Calibur makes modifications to its product datasheets on a continuous basis. Please check the datasheet update section on www.ncc.com to ensure you have the latest version.

Warranties

NCC X-Calibur supplies products that comply with the properties shown on the current datasheets. In the unlikely event that products supplied are proved not to comply with these properties, then we will replace the non-compliant product or refund the purchase price. NCC X-Calibur does not warrant or guarantee the installation of the products as it does not have control over the installation or end use of the products. Any suspected defects must be reported to NCC X-Calibur in writing within five working days of being detected. NCC X-Calibur Construction Chemicals **makes no warranty as to merchantability or fitness for a particular purpose and this warranty is in lieu of all other warranties express or implied.** NCC X-Calibur Construction Chemicals shall not be liable for damages of any sort including remote or consequential damages, down time, or delay.

Edition: 2026