

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 abrasions resistant, such as

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

Typical Properties

Silica. SiO₂ %	>85%
Moisture content %	<3.0
Loss on ignition . LOI	<6.0
Bulk Density kg/m³	500-800
Activity index (7d) %	>105
Specific surface m²/g	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

Paper bags 25kg
Jumbo bags 500kg

Instruction for use Dosage

- As an additive (generally 8 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 coarse 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.

