

# Supaflo MS94

Concrete Additive - Mineral admixture



## DESCRIPTION

Supaflo MS94 is an ultra-fine material that physically fills the voids between cement particles resulting in an extremely dense and impermeable concrete.

Supaflo MS94 is a dry, compacted, silica fume mineral admixture formulated to produce concrete with special performance qualities. It improves the hardened characteristics of concrete in many different ways.

Supaflo MS94 is a pozzolan which reacts chemically to increase the amount of calcium silicate hydrate gel formed, thus improving the strength and impermeability of the concrete.

## APPLICATIONS

Supaflo MS94 is used in structural concrete, precast concrete, concrete blocks and other fields of concrete constructions where high quality of fresh and hardened concrete is a high demand.

By using Supaflo MS94, permeability of concrete reduced which limits the ingress of water, chlorides sulphates, and other chemicals which cause reinforcing steel corrosion and other distress in concrete.

Supaflo MS94 contains extremely fine reactive Silicon dioxide, the presence of this substance improve internal cohesion and water retention.

The concrete becomes extremely soft and easy to be pumped.  $SiO_2$  forms a chemical bond with the free lime, and the additional crystal formation produces a significantly more dense set cement matrix.

It reduces the amount of calcium hydroxide by reacting with it, producing more (C-S-H) which increase concrete strength.

## ADVANTAGES

- » High early strengths.
- » Increase durability.
- » Low permeability
- » Abrasion and erosion protection
- » Better flexural strengths at all ages
- » Excellent workability
- » Increase resistance to abrasion & erosion
- » Highly reduced chloride diffusion
- » Highly increased water tightness
- » High quality micro filler.

## TECHNICAL PROPERTIES:

Appearance:	Grey powder
Density:	2.26 mg/m <sup>3</sup>
Surface area:	15 m <sup>2</sup> /gm
Moisture:	0.31%
Average retained on #325 sieve:	8.9% (max 10%)
SiO <sub>2</sub> content:	93.45% (min 85%)
Accelerated pozzolanic activity index:	112.9% (max 105%)
Loss of ignition @ 950°C:	0.34 % (max 6%)

## COMPATIBILITY

Supaflo MS94 is compatible with all types of portland cement, blended cements, and supplementary cementitious materials such as fly ash and ground granulated blast furnace slag (GGBFS). It can be used in combination with DCP's full range of admixtures, including water-reducing, superplasticizing, and air-entraining agents.

## STANDARDS

Supaflo MS94 complies with ASTM C1240 and EN 13263:2005 standards for use in concrete applications.

## METHOD OF USE

### MIXING

Supaflo MS94 is added with the cement To concrete at the patching plant before adding water, optimum mixing time with cement is 90 seconds.

Trial mix tests should be operated to obtain adequate ratio between w/c specially at the case of adding SF. It improves the hardened characteristics of concrete in two main ways.

Supaflo MS94 concrete should be handled And treated same as conventional mixes. Standard practice and curing techniques should be initiated immediately after Placement.

## DCP Lebanon

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## DOSAGE

Supaflo MS94 is recommended for use at an addition rate of 5 to 15% by weight of cement, depending on the amount of strength increase or impermeability desired. The exact amount for strength or durability requirements should be determined.

## CLEANING

Supaflo MS94 can be washed with fresh cold water before the material hardens.

## PACKAGING

Supaflo MS94 is available in big coated moisture resistant bags of 1000 kg and 25 ton bulk silos depending on client request.

## STORAGE

Supaflo MS94 has a shelf life of 12 months from date of manufacture if stored at temperatures over 2°C. Supaflo MS94 is not affected by frost, it should be stored in dry condition

If these conditions are exceeded, contact DCP Technical Department for advice.

## CAUTIONS

### HEALTH AND SAFETY

Supaflo MS94 is unlikely to cause harmful effects when handled and stored as advised. However like other chemicals, the product should not be swallowed, inhaled or comes into contact with body and eyes.

Protective clothes should be worn when handling the product such as goggles and gloves.

For further information, refer to the Material Safety Data Sheet.

### FIRE

Supaflo MS94 is nonflammable.

### MORE FROM DON CONSTRUCTION PRODUCTS

A wide range of construction chemical products are manufactured by DCP which include:

- » Concrete admixtures.
- » Surface treatments
- » Grouts and anchors.
- » Concrete repair.
- » Flooring systems.
- » Protective coatings.
- » Sealants.
- » Waterproofing.
- » Adhesives.
- » Tile adhesives and grouts.
- » Building products.
- » Structural strengthening.

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