

MAGIC®

HIGH PERFORMANCE SILICA FUME GEL



RAMKA
CONSTRUCTION
CHEMICALS

MAGIC® is a multifunctional concrete supplementary admixture that improves durability, reduces permeability and increases flowability. It combines carboxylate plasticizers with silica-fume powder; the fibre-reinforced variant also contains polypropylene fibres. The superplasticizer increases flowability, silica fume improves strength and resistance to aggressive ingress, and polypropylene fibres in the fibre-reinforced variant improve impact and abrasion resistance and help control cracking.

Applications

- Strong, low-permeability concrete
- Concrete with high abrasion resistance
- High-quality hot-weather concrete
- Long-distance concrete transport in hot weather
- Water-retaining and hydraulic structures
- Polymer mosaic, cement plaster and artificial stone
- Fire-resistant concrete
- Industrial floors
- Concrete resistant to aggressive chemicals

Approvals / Standards

- ASTM C1202
- BS EN 12390-8
- BS 1881-122

Advantages / Benefits

- Reduced concrete permeability
- Lower water-to-cement ratio
- Increased workability and slump
- Increased compressive and abrasion resistance

Guideline for Use

Fully mix all concrete constituents, add MAGIC to the finished mix and resume mixing. This method can be used at the batching plant or in the truck mixer at the project site.

Alternatively, blend MAGIC with part or all of the mixing water during concrete production before adding it to the mix.

Dosage

3 to 6% by mass of cement. Determine the exact dosage through trials. Special concrete may require a different dosage according to its required properties.

Please contact our engineering office in case of simultaneous use of more than one admixture.

- Improved pumpability
- Up to 15% lower cement content at equal strength
- Extended concrete setting time
- Reduced cracking
- Smooth exposed-concrete surfaces
- Economical mix designs and high-quality concrete

Effects

MAGIC reacts chemically within a cementitious matrix to increase the amount of calcium silicate hydrate (CSH gel) that is formed (pozzolanic reaction). The CSH gel is the bonding agent that holds the matrix of the cementitious mixture together in the hardened state. The additional CSH gel due to silica fume increases strength and decreases permeability.

Storage

Keep only in the original container in a cool, dry, well-ventilated place away from ignition sources, heat or flame. Protect from direct sunlight. For specific storage condition contact RAMKA Technical Services Department.

Basis of Data

All technical data stated in this Product Data Sheet are based on laboratory tests. Actual measured data may vary due to circumstances beyond our control.

Health and Safety

This product does not contain any hazardous substance to human health and the environment.

However, it should not be swallowed and contacted with skin and eyes. In case of contact with eyes, rinse with plenty of water immediately.

Refer to the Safety Data Sheet (MSDS).

Fire

MAGIC is not flammable.

References (continued)

Silica fume references: ASTM C1240 / INSO 13278.

Product Information

State	Thick gel
Packaging	25 kg pail
Appearance / Color	Grey
Shelf life	1 year in the original package
Storage condition	Should be protected from direct sunlight and frost. Keep pail in the temperature range between +10°C and +30°C.
Density	1.45 ± 0.05 g/cm ³ at 20°C
Chloride ion	None
Chemical base	Polycarboxylate ether and silica fume



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