

MAGIC®

HIGH PERFORMANCE SILICA FUME GEL



RAMKA
CONSTRUCTION
CHEMICALS

MAGIC® is an advanced concrete admixture used for designing high performance concrete and multipurpose concrete mixtures. It is based on a highly pozzolanic mineral material which significantly reduces absorption and permeability of concrete, besides increasing workability.

High range water reduction and workability retention are special properties of MAGIC.

Applications

- Enables production and transportation of concrete in long distances and hot weather concreting.
- Produces High Strength Concrete (HSC) and Water-Resistant Concrete (WRC).
- Suitable for marine environments or the regions exposed to chemicals attack, e.g., southern and northern parts of Iran and saline regions.
- Docks, deck bridges, tanks, etc.
- Designs of concrete mixes for Water and Wastewater Treatment.

Approvals / Standards

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

Advantages / Benefits

- Reduces water-cement ratio
- Reduces cement content in concrete by 15 percent at the same strength.
- Increases workability and workability retention of concrete.
- Improves pumpability of concrete and reduces depreciation of concreting equipment.

- It can be used with all types of Portland cement.
- Possibility of replacement of cement type 2 by cement type 5 when applied.
- Increases the compressive strength of concrete about 30%-70%.
- Considerably reduces permeability.
- Increases the abrasion resistance of concrete.
- Reduces the potential for AAR (Alkali-Aggregate Reaction).
- Inhibits chloride ion penetration and any other destructive chemicals influence

Guideline for Use

Mixing

MAGIC can be added to concrete in two ways:

1- could be added to ready-mix concrete before placing concrete.

2- could be added to a part or whole of concrete mixing water then added to the concrete mix.

Dosage

Recommended dosage of MAGIC can be determined by trials in the site. Depending on concrete mix design (concrete type, workability, compressive strength, sizes and types of aggregates, cement content, water/cement ratio, ambient temperature and concreting conditions), a dosage between 3.0 and 6.0 percent by cement weight is recommended.

Note: when using MAGIC, water-cement ratio must be considered around 0.40.

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

Product Information

State	Slurry
Packaging	25 KG Pail
Appearance / Color	Dark 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
Specific Gravity	1.45± 0.05 g/cm ³

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.

MAGIC is not flammable.



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