



ISO 9001:2000

# CICO – MS

## Silica Fume High Performance Mineral Admixture

**DESCRIPTION** : **CICO MS** is a dry, compacted, silica fume high performance mineral admixture formulated to produce concrete with special performance qualities. It improves the hardened characteristics of concrete in two ways. Firstly **CICO MS** is a pozzolan which reacts chemically within the concrete to increase the amount of calcium silicate hydrate gel formed, thus improving the strength and impermeability of the concrete. Secondly, **CICO MS** is a ultra-fine material that, when added to concrete physically fills the voids between cement particles. An extremely dense and impermeable concrete results.

**ADVANTAGES** :

- \* **CICO MS** aids in the production of concrete with the following special qualities:
- \* Dramatically improved durability
- \* Uniformly high compressive strength
- \* Resistant to chemical attack
- \* Abrasion and erosion protection
- \* Better flexural strengths at all ages
- \* Low permeability
- \* Excellent freeze/thaw resistance

**WHERE TO USE** :

The reduced permeability of concrete produced with **CICO MS** greatly limits the ingress of water chlorides, sulfates, and aggressive chemical known for promoting reinforcing steel corrosion and other distresses in concrete. This makes **CICO MS** an ideal product for use in basement structures, parking decks, bridge decks marine structures and any construction that requires the protection provided by impermeable concrete. Because of its pozzolanic and void filling properties, the addition of **CICO MS** to conventional concrete also provides ultra high compressive strength. This allows design flexibility, resulting in reduced member size, increased span lengths, and improved overall structural economics.

As a result of the preceding advantages, **CICO MS** will improve performance in prestressed, precast, and ready mixed concrete applications.

**CICO MS** can be used with portland cements. When air entrainment is desired, a **CICO** air-entraining admixture is recommended. It is also recommended that **CICO MS** be used in combination with a high range water-reducing admixture, such as **CICO PLAST SUPER**.

**RATE OF ADDITION** : **CICO MS** is recommended for use at an addition rate of 7 to 10% 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 by trial batches using project materials. The above addition rate applies to most concrete mixes using average concrete ingredients.

**DIRECTIONS FOR USE** : It is recommended that **CICO MS** be used with a **CICO** high-range water reducer in order to provide maximum workability while maintaining the desired low water/cement ratio.

**NOTE:** For directions on the proper use of **CICO MS** in specific applications, contact local **CICO** representative.

**RATE OF HARDENING** : Setting time of concrete is influenced by the chemical and physical composition of the basic ingredients of the concrete, temperature of the concrete, climatic conditions, and the use of chemical admixtures. Trial mixes should be made with job materials to determine the dosage required for a specified setting time.

**PACKING** : **CICO MS** is available in **25 kg H.D.P.E. bags**.

**PRODUCT INFORMATION** Although the basic formulation of our products generally remains unchanged. Production refinements arising from continuing research and evaluation program may occasionally results in marginal changes in properties.

**TECHNICAL SERVICE:**

- \* **CICO** maintains a technical division with highly qualified Technical Personnel to investigate and advise on subjects related to concrete and The Construction Industry. The Division will advice on the correct use and selection of right products at the right place.
- \* **CICO** undertakes Consultancy Service for diagnosis and rehabilitation of distressed structures.
- \* **CICO** undertakes jobs as a package for total waterproofing system with guarantee.

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