

## CICO-MS

### High Performance Silica Fume for Concrete

**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 chemically active pozzolan, which reacts with the hydrated lime generated from hydration reaction of cement and forms calcium silicate hydrate gel, thus improving the strength and impermeability of the concrete. Secondly, **CICO-MS** is ultra-fine material that, when added to concrete physically fills the voids between cement particles and provides an extremely dense and impermeable concrete.

#### FEATURES

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

#### USES

The reduced permeability of concrete produced with **CICO-MS** greatly limits the ingress of water soluble 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 pre-stressed, pre-cast, and ready mixed concrete applications.

**CICO-MS** can be used with Portland cement. 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.

#### APPLICATION

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.

**CICO-MS** is recommended for use at an addition rate of 3 to 20% 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.

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

### PACKAGING

CICO-MS is available in 20 kg bags.

### 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.

#### Important Note:

All CICO products are sold in the market after strict Quality Control in line of ISO 9001 and guaranteed against any manufacturing defect. Although the basic formulation of Company's products generally remains unchanged, production refinements arising from continuing research and evaluation program may occasionally result in marginal changes in properties. CICO aspires to ensure that any recommendation, advice, test data, specification, method statement and other information given in this product datasheet is accurate and best of company's knowledge. Since, the company (CICO TECHNOLOGIES LTD) has no control over the selection of its product, applicators, application methodology, how and where it is applied, therefore, the company cannot accept any liability directly or indirectly arising from the use of its product. It is important to any customer, user or specifier satisfies him / herself that the product is suitable for the intended purpose including health, safety and environmental aspect. Unless or otherwise agreed in writing, all products of the company are sold strictly pursuant to the terms of our standard conditions of sale which are available upon request. All information and technical assistance is given without warranty or guarantee and is subject to change without notice. All customers, users, specifiers should ensure that they examine the suitability of the product with company's latest product data sheet.

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