

### MS THIXOKING

Silica fume enhanced pre-packaged architectural shotcrete material for wet process applications.

MS Thixoking is a pre-blended, pre-packaged wet process architectural shotcrete material containing hydraulic cements, air-entraining admixture, blended aggregates and other carefully selected components. MS Thixoking has excellent thixotropic properties offering exceptional workability for architectural and artistic work.

#### FEATURES & BENEFITS

- Improved working time with excellent thixotropy to allow artists to carve and shape exhibits or other complex shapes.
- Air-entrainment provides superior resistance to freeze-thaw cycling.
- Improved pumpability and shootability.
- Improved adhesive and cohesive plastic properties.
- Significantly reduced rebound, resulting in lower material usage.
- Improved ability to build greater thicknesses in a single pass in both vertical and overhead orientations.
- Low dust levels.
- All King products are manufactured using ISO 9001:2000 Certified Processes.

#### USES

- Zoos, water parks or other architectural exhibits (replicas of rockscapes, tropical trees, exotic animals, old vestiges, historical monuments, etc.).

#### PROCEDURES

##### Surface Preparation (Repair or Rehabilitation):

All surfaces to be in contact with MS Thixoking must be free from dust, oil, grease or any other foreign substances that may interfere with the bond of the material. When used on concrete, clean the area to be repaired with potable water, leaving it saturated but free of standing water (SSD).

##### Mixing:

Place 75 % of required water into mixer and slowly introduce entire bag of MS Thixoking while the mixer is running. Allow MS Thixoking to mix for a minimum of five minutes. Slowly add balance of required water until desired slump has been obtained, not exceeding maximum recommended volume of water. **Maximum recommended volume of water is 6.9 litres (1.8 US gallon) per 30 kg (66 lb.) bag.** Continue mixing and stop only after material has reached a consistent, homogeneous mix.

##### Application:

Apply MS Thixoking in accordance with the ACI 506 "Guide to Shotcrete" publication.

##### Curing:

Curing is essential to optimize physical properties of the shotcrete and minimize plastic shrinkage. It is particularly critical in rapid moisture loss conditions such as high temperatures, high winds and low humidity. Some protection for initial curing is required to prevent plastic shrinkage cracking or surface crazing therefore, keep the repaired area moist and/or cover with polyethylene sheeting for approximately 24 hours.

#### TECHNICAL DATA

The following data is representative of typical values achievable using proper application techniques as outlined in the ACI 506 "Guide to Shotcrete" publication. The data was obtained during project field tests and in-house shotcrete studies.

#### COMPRESSIVE STRENGTH

##### ASTM C 109

7 Day	9 MPa (1300 psi)
28 Day	12.5MPa (1810 psi)

#### SPLITTING TENSILE STRENGTH

##### ASTM C 496

1.5 MPa (215 psi)

#### WET DENSITY

##### ASTM C 38

1900 kg/m<sup>3</sup>

#### AIR CONTENT

##### ASTM C 457

7 ± 2 %

#### FREEZE-THAW RESISTANCE

##### ASTM C 666

100 %  
(Excellent durability factor)

#### OPTIMUM PERFORMANCE

- MS Thixoking should not be applied when ambient, substrate and material temperatures are below 5°C (40°F) or above 35°C (95°F).
- For adverse temperatures, follow ACI recommendations for Cold/Hot Weather Concreting.
- Performance of in-place shotcrete relies heavily upon application techniques. To ensure optimum quality of in-place shotcrete, the material, equipment and key personnel should be pre-qualified prior to project start-up.

#### YIELD

30 kg (66 lb.) bag contains approximately 0.019 m<sup>3</sup> (0.67 ft<sup>3</sup>).

#### PACKAGING

MS Thixoking is normally packaged in 30 kg (66 lb.) triple lined bags and poly wrapped on wooden pallets. All KING products can be custom packaged to suit specific job requirements.

#### STORAGE AND SHELF LIFE

Material should be stored in a dry covered area protected from the elements. Unopened bags have a shelf life of 12 months.

#### SAFETY PROCEDURES

MS Thixoking contains hydraulic cements. Normal safety-wear such as rubber gloves, dust mask and safety glasses used to handle conventional cement based products should be worn. Material Safety Data Sheets are available upon request.

**MS THIXOKING**

This product is designed to meet the performance specifications outlined in this product data sheet. If the product is used in conditions for which it was not intended, or applied in a manner contrary to the written recommendations contained in the product data sheet, the product may not reach such performance specifications. The foregoing is in lieu of any other warranties, representations or conditions, expressed or implied, including, but not limited to, implied warranties or conditions of merchantable quality or fitness for particular purposes, and those arising by statute or otherwise in law or from a course of dealing or usage of trade.

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