

## LM-S10 CONCRETE

High performance, multi-purpose, polymer modified, pre-packaged, concrete patching or overlay material. LM-S10 Concrete is a one component, pre-packaged, high performance, cementitious, concrete repair and construction material containing Portland cement, a redispersible polymer, 10 mm (3/8 inch) stone and other carefully selected components.

### FEATURES & BENEFITS

- Allows for easy on-site production of polymer modified concrete as required.
- Site specific production can eliminate need for concrete pump.
- Excellent compatibility to parent concrete.
- Reduced bleeding.
- Improved resistance to sulphate attack.
- Very low permeability.
- Low shrinkage.
- Moist cure for only 24 hours.
- Membrane application possible in only 48 hours after placement.\*
- Ideal for full depth repair, does not need to be extended.
- Excellent bond to parent concrete without requiring a bonding agent.
- Designed with natural normal-density non-reactive fine and coarse aggregates to eliminate potential alkali-aggregate reactivity (AAR).
- All KING products are manufactured using ISO 9001:2008 Certified Processes.

\* Moist cure for 24 hours, then allow the product to dry for 24 hours. Follow the recommendations of the membrane manufacturer. Always test the moisture content before applying a membrane.

### USES

- Partial and full depth rehabilitation of concrete slabs, in parking garages, balconies and/or bridge decks.
- Rapid drain replacement.
- Minimum application thickness of 38 mm (1½ inches).
- For overlay application please contact your KING representative.

### PROCEDURES

#### Surface Preparation:

All surfaces to be in contact with LM-S10 Concrete must be free from dust, oil, grease or any other foreign substances that may interfere with the bond of the material. Remove all delaminated or unsound concrete providing a roughened surface and a minimum of 25 mm (1 inch) clearance behind any corroded reinforcing steel. The perimeter of the repair area should be sawcut a minimum of 20 mm (¾ inch). Clean the area to be repaired with potable water, leaving the concrete saturated but free of standing water (SSD).

#### Mixing:

Place 75% of required water into a concrete drum mixer and slowly introduce entire bag of LM-S10 Concrete. Mortar style mixers and drill mixers are not recommended for this purpose. Add balance of required water slowly while mixer is running, not exceeding maximum recommended volume of water. **Maximum recommended volume of water is 2.25 litres (0.6 US gallon) per 30 kg (66 lb.) bag.** Continue mixing for 3 minutes and stop only when material has obtained a consistent homogeneous mix.

#### Placing:

Place LM-S10 Concrete only when ambient, substrate and mix temperatures are maintained between 10 and 30°C (50 and 86°F). In colder temperatures, place concrete only when the following conditions are met:

- 1) When ambient, substrate and mix temperatures are expected to be above 7°C (45°F) for minimum of 36 hours.
- 2) Insulation or heating enclosures are provided in accordance with ACI 306, "Cold Weather Concreting".

Do not place concrete when any combination of high temperature, low humidity and high wind velocity causes evaporation rates exceeding 0.10 psf/hr as determined by ACI 305, Figure 2.1.5. For slab finishing, the use of a wood float is recommended.

#### Curing:

Commence finishing immediately after LM-S10 Concrete has been placed and complete before surface of concrete has been allowed to dry. Curing is essential to optimize the physical properties of LM-S10 Concrete and minimize plastic shrinkage. LM-S10 Concrete should be cured immediately after material has reached initial set in accordance with ACI 308 "Guide to Curing Concrete". Continuously moist cure for a period of 24 hours. Alternatively, apply a water-based curing compound that complies with ASTM C 309. Curing is particularly critical in rapid moisture loss conditions such as high temperatures, high winds and low humidity.

### TECHNICAL DATA

The following data is representative of typical values achievable under laboratory conditions. Results in the field may vary.

#### MASS DENSITY

ASTM C 39 2380 kg/m<sup>3</sup> (141 lb./ft<sup>3</sup>)

#### COMPRESSIVE STRENGTH\*

##### ASTM C 39

1 Day 10 MPa (1500 psi)  
 3 Day 20 MPa (2900 psi)  
 7 Day 25 MPa (3625 psi)  
 28 Day 35 MPa (5075 psi)

#### FLEXURAL STRENGTH

##### ASTM C 78

28 Day 7.5 MPa (1088 psi)

#### AIR CONTENT

ASTM C 457 4.0 to 9.0%

#### BOND STRENGTH BY SLANT SHEAR

##### ASTM C 882

28 Day 15 MPa (2175 psi)

#### SALT-SCALING RESISTANCE

##### ASTM C 672

50 cycles 0.12 kg/m<sup>2</sup> (0.02 lb./ft<sup>2</sup>)

## LM-S10 CONCRETE

### RAPID CHLORIDE PERMEABILITY

ASTM C 1202 600 Coulombs

### YIELD

- 30 kg (66 lb.) bag contains approximately 0.014 m<sup>3</sup> (0.5 ft<sup>3</sup>).
- 1,000 kg (2,205 lb.) bulk bag contains approximately 0.45 m<sup>3</sup> (16.5 ft<sup>3</sup>).

### PACKAGING

LM-S10 Concrete is normally packed in 30 kg (66 lb.) triple lined bags or 1,000 kg (2,205 lb.) bulk bags and polywrapped 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 6 months.

### SAFETY PROCEDURES

LM-S10 Concrete contains Portland cement and polymer. Normal safetywear such as rubber gloves, dust mask and safety glasses used to handle conventional cement and polymer based products should be worn. Material Safety Data Sheets are available upon request.

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Warranty: 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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