KingRep ® MM50

Low viscosity MMA crack sealer.

DESCRIPTION

KingRep MM50 is a 100% reactive ultra-low viscous, two-component methyl methacrylate resin specially designed for use as a penetrating crack sealer or to fortify extremely porous concrete substrates. The very low viscosity and low surface tension of KingRep MM50 allows it to easily penetrate and fill deep cracks in existing concrete. The mixed product is poured directly into the cracks or fed by gravity injection directly into the crack whereby the capillary action draws the product deep into the substrate and both fills and heals the crack restoring strength and performance.

APPLICATIONS

KingRep MM50 is designed for crack sealing and filling in multiple types of concrete structures such as:

- Parking garages.
- Factory and industrial floors.
- Concrete bridge decks.
- Aircraft runways, hangars and aprons.
- Precast concrete elements.
- Premature cracking in new concrete.
- PQC pavement.

ADVANTAGES

- Very low viscosity, for excellent absorption into concrete.
- Fast cure time, for rapid recoat and return to service.
- Fills and bonds cracks.
- Easy application.
- Low VOC content.
- Protects against water penetration.
- May be used over a wide temperature range.

METHOD OF USE

Surface Preparation

The substrate should be sound, clean and free from dirt, wax, curing agents and any contamination. Surface laitance should be removed by grit blasting or water jetting. KingRep MM50 should not be installed on fresh concrete until maximum shrinkage has occurred (at least 30 days after placement).

Mixing

KingRep MM50 consists of two components, a resin and powder hardener. The quantity of hardener has to be adjusted to the substrate temperature (see table).

TECHNICAL PROPERTIES @ 25°C:

Colour:	Clear
Density:	0.99 ± 0.02 g/cm^3
Viscosity Brookfield:	10 Cps @ 23°C
Shore D Hardness ASTM D2240	> 80
Tensile strength: ASTM D638	55 ± 5 MPa
Elongation at break: ASTM D638	5 ± 1%
Compressive strength @ 24 hrs: ASTM C3986	86 ± 5 MPa
Flexural strength:	82 ± 5 MPa
Water absorption: ASTM D570	0.75 - 0.8%/ 24 hr
VOC:	< 50 g/ltr (comply with LEED)

At temperatures below 5°C, KingRep MM50 Accelerator need to be used, consult KINGKRETE Technical department for the proper amount of accelerator to be used.

POT LIFE/ HARDENING

The potlife time and curing of KingRep MM50 are dependent on temperature and the quantity of hardener.

Temperature (°C)*	Hardener (%pbw)**	Pot Life (min)***	Hardening time (min)
5 - 10	5.0	≈ 15	≈ 60
10 - 15	4.0	≈ 12 - 16	≈ 45 - 50
15 - 20	3.0	≈ 15 - 20	≈ 45 - 50
20 - 25	2.0	≈ 15 - 20	≈ 45 - 50
25 - 30	1.0	≈ 20 - 25	≈ 45 - 50
30 - 40	1.0	≈ 5 - 10	≈ 30 - 35
+40	1.0	≈ 5 - 10	≈ 25 - 30

Notes:
** Temperature statements refer to resin-, floor- and air-temperature.*
***Do not use less than 1% hardener percentage, unless it is confirmed at site.*
**** The indication of the approximate pot life always refers to the lower temperature.*

APPLICATION

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General Installation Instructions for Crack Sealing
Cracks must be clean and dry. Clean out cracks with oil-free compressed air. A hot lance may be used and provides excellent preparation however maximum substrate temperature at application must be observed.

KingRep MM50 should be fed directly into the cracks one by one along their entire length until completely full and rejection of more product.
Varying techniques can be applied for an acceptable result.

Agricultural syringes can be loaded and used to dispense directly into small cracks, the mixed product can be poured directly into larger cracks from an acceptable container. Creating a temporary dam from low quality sealant along the sides of the crack can assist with direct pouring. The caulking is later removed.

Overflows onto the surface are sometimes inevitable and will only result in fortifying the area adjacent the crack.

General Installation Instructions for surface Treatment
If the pavement surface is to be sealed, it should be lightly (brush blast) shot blasted to remove laitance and expose surface cracks.

Inspect the underside of elevated decks for evidence of full depth cracking that may require additional treatment to prevent draining of the resin.

Cracks greater than 3 mm width should be repaired individually prior to application of flood coat. Fill cracks larger than 3 mm with loose sand and pour small quantity of mixed KingRep MM50 into the crack and spread with a paint brush, allow curing before applying flood coat.

KingRep MM50 is spread evenly on the surface as a flood coat with a squeegee or rollers and allowed to absorb completely into the concrete substrate. Do not allow to form puddles.
Notes
Always prepare the proper amount of materials to be applied to the working area.
Freshly applied KingRep MM50 must be protected from damp, condensation and water for at least 1 hour.

CLEANING

All tools should be cleaned immediately using KINGKRETE Solvent, lacquer thinner or MEK. Hardened material must be cleaned mechanically.

PACKAGING

KingRep MM50 is available in 19 litre pails.

COVERAGE

Approximately 2.0 – 2.5 m^2/ltr per coat. However, coverage may vary depending on the surface porosity, size, and quantity of cracks present in the area being treated. Two coats may be necessary for very porous surfaces.

STORAGE

Shelf life is 1 year when stored under cover, out of direct sunlight and protected from extremes of temperature. Failure to comply with the recommended storage conditions may result in premature deterioration of the product or packaging. For specific storage advice consult KingKrete's Technical Services Department.

HEALTH AND SAFETY

As with all chemical products, care should be taken during use and storage to avoid contact with eyes, mouth, skin and foodstuffs. Treat splashes to eyes and skin immediately. If accidentally ingested, seek medical attention. Reseal containers after use. Use in well ventilated areas and avoid inhalation.

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NOTE

Field service, where provided, does not constitute supervisory responsibility. For additional information contact your local KingKrete representative. KingKrete Inc. reserves the right to have the true cause of any difficulty determined by accepted test methods.

QUALITY AND CARE

All products originating from KingKrete's manufacturing facilities are manufactured under a management system independently certified to conform to the requirements of the quality standard ISO 9001.

* Properties listed are based on laboratory-controlled tests.

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