

KingRep[®] 50T

One component fast setting repair mortar.

DESCRIPTION

KingRep 50T is a one component polymer modified repair mortar. KingRep 50T is composed of a blend of dry powders and selected aggregates which when mixed with water produces a self compacting, high early and ultimate strength repair mortar.

APPLICATIONS

- ☞ For all types of concrete elements where fast refurbishment is required for a quick return to service or traffic.
- ☞ Concrete pavements.
- ☞ Car parks and garages.
- ☞ Airport runways and aprons.

ADVANTAGES

- ☞ Fast setting with high early strength development which facilitates quick return to service.
- ☞ Extremely low shrinkage which reduces any potential cracking.
- ☞ Easy to apply, single component, require only addition of water.
- ☞ Extremely low permeability providing excellent protection to steel reinforcement and host concrete.
- ☞ Self compacting. High bond strength without need for a primer.
- ☞ Suitable for internal and external applications.
- ☞ Vapour permeable.
- ☞ Cost effective.

METHOD OF USE

Substrate Preparation

All damaged and deteriorated concrete should be cut back to reach sound concrete and/or to a minimum depth of at least 20 mm. Corroded steel reinforcement should be grit blasted to remove all rust traces.

In case of significant loss in the steel reinforcement cross section, the steel should be replaced. It is essential to remove all concrete form around exposed steel reinforcements by 10 mm. The perimeters of the repair area should be saw cut to give a minimum depth of 20 mm. The prepared area should be cleaned thoroughly by brush and/or compressed air. A water tight formwork should be erected to avoid any grout loss.

TECHNICAL PROPERTIES

Compressive strength: ASTM C109/109M-02	≥ 15.0 MPa @ 2 hrs ≥ 30.0 MPa @ 1 day ≥ 45.0 MPa @ 28 days
Setting time :	
Initial	≈ 20 - 35 min @ 25°C
Final	≈ 35 - 50 min @ 25°C
Vehicular traffic time:	≈ after 2 hr
Pedestrian time:	≈ after 1 hr
Mixing ratio:	3.75 litre water for 25 kg bag KingRep 50T
Drying shrinkage: ASTM C157	< 300 microstrain
Minimum application temperature:	5°C

Priming

All grit blasted steel reinforcement should be primed within 2 – 4 hours with one or two coats of zinc rich epoxy KingRep ZR.

Areas to be repaired with KingRep 50T should be soaked with clean water for several hours before applying the repair mortar to ensure damp saturated substrate. All excess water should be removed.

Provided that the substrate has been thoroughly soaked with clean water, an independent primer is not normally required.

Mixing

To ensure proper mixing, a mechanically powered mixer or drill fitted with suitable paddle should be used. 3.75 litre of clean water should be added to clean container. The powder is then added slowly to the water while mixing continuously with low speed mixer/drill (400 - 600 rpm). Mixing should be continued for 3 minutes until a uniform consistency is obtained.

PLACING AND FINISHING

KingRep 50T should be poured in a single continuous operation and within 8 - 12 minutes from mixing.

Depending on the surface texture required, the poured mortar may either smoothed by steel or wood trowel or broom finished using a suitable brush or roller when the repair mortar begins to set.

CURING

Since KingRep 50T is a cementitious base material, it should be cured in a similar manner as concrete.

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Curing can be conducted by either using concrete curing compound such as Setseal 33 or by using wet hessian sheets and polyethylene.

CLEANING

All tools shall be cleaned immediately after application using fresh water. Hardened materials must be cleaned mechanically.

PACKAGING

KingRep 50T is available in 25 kg bags.

THICKNESSES AND SIZE LIMITATIONS

KingRep 50T can be applied in a single application for sections up to 100 mm thick. Minimum thickness is 20 mm. For sections deeper than 100 mm, to reduce the heat generated from the hydration process, 8 - 12 mm well graded washed aggregate should be added at ratio of 10 kg aggregate per 25 kg bag of KingRep 50T.

KingRep 50T horizontal surface of application area should not exceed 3 m².

YIELD

Approximately 12.5 litre/25 kg bag.

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.

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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STATEMENT OF RESPONSIBILITY

The technical information and application advice given in this KingKrete Inc. publication are based on the present state of our best scientific and practical knowledge. As the information herein is of a general nature, no assumption can be made as to a product's suitability for a particular use or application and no warranty as to its accuracy, reliability or completeness either expressed or implied is given other than those required by law. The user is responsible for checking the suitability of products for their intended use.

NOTE

Field service where provided does not constitute supervisory responsibility. Suggestions made by KingKrete Inc. either orally or in writing may be followed, modified or rejected by the owner, engineer or contractor since they, and not KingKrete Inc. are responsible for carrying out procedures appropriate to a specific application.