

KingRep[®] 100HF

Shrinkage compensated free flowing micro concrete.

DESCRIPTION

KingRep 100HF is a single component polymer modified repair mortar. KingRep 100HF is composed of a blend of dry powders, and selected aggregates which when mixed with water produce a shrinkage compensated, self-compacting and free flowing micro-concrete suitable for small volume concrete repairs.

APPLICATIONS

Repair of all types of structural concrete elements such as walls, columns, beams and floors.

ADVANTAGES

- ☐ High initial and ultimate strength development.
- ☐ Very high flow, suitable for repair of steel congested areas.
- ☐ Shrinkage controlled polymer modified cementations repair mortar eliminates cracking.
- ☐ Easy to apply, single component, requires only addition of water.
- ☐ Extremely low permeability to water, providing excellent protection to steel reinforcements and host concrete.
- ☐ Self-compacting and self-priming, with high bond strength.
- ☐ Suitable for internal and external applications.
- ☐ Water vapour permeable.
- ☐ No primer is required.

METHOD OF USE

Substrate Preparation

All damaged and weak concrete should be cut back to reach sound concrete or to a minimum depth of application.

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. Remove all concrete form around exposed steel reinforcements by 20 mm thickness.

The perimeters of the repair area should be saw cut to a minimum depth of 10 mm. The prepared area should be cleaned thoroughly by brush and/or compressed air. A water tight formwork should be used to avoid any grout loss.

TECHNICAL PROPERTIES

Colour:	Grey
Fresh wet density:	2.2 ± 0.1 g/cm ³
Compressive strength: ASTM C109/109M	≥ 45 MPa @ 3 days ≥ 60 MPa @ 7 days ≥ 65 MPa @ 28 days
Working time:	25 – 30 min @ 20°C
Setting time : ASTM C191	
Initial	6 – 7 hr @ 25°C
Final	9 – 10 hr @ 25°C
Minimum application temperature:	5°C

Priming

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

Areas to be repaired with KingRep 100HF should be soaked with clean water for several hours before applying the repair mortar. All excess water should be removed. Provided that the substrate has been thoroughly soaked with clean water, and is damp on application of product a primer is not normally required.

For concrete highly contaminated with soluble salts, it is recommended to use KingBond 50E, an epoxy bonding agent, which prevents migration of salts such as chloride ions and sulphates to the repair patch, as well as providing bond for KingRep 100HF to host concrete.

Mixing

To ensure proper mixing, a mechanically powered mixer or drill fitted with suitable paddle should be used.

3.8 - 4.2 litre of clean water for each 25 kg bag 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 100HF should be applied in a single continuous operation, within 25 minutes of mixing. The mixed materials should be poured slowly to prevent air entrapment.

CURING

As KingRep 100HF is a cementitious based material, it should be cured in a similar method to concrete.

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Curing can be conducted by using a good concrete curing compound such as KingKure 100A or by curing wet hessian sheets covered with polyethylene sheets.

CLEANING

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

PACKAGING

KingRep 100HF is available in 25 kg bags.

THICKNESSES AND SIZE LIMITATIONS

KingRep 100HF can be applied in a single application for large repair voids at thicknesses between 10 mm and 100 mm. For large areas, KINGKRETE Technical Office should be consulted.

YIELD

Approximately 13 - 13.5 litre per 25 kg bag. (76 bags/m³).

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.