

# KingBond<sup>®</sup> EP100

Epoxy bonding agent for concrete.

## DESCRIPTION

KingBond EP100 is a slow cure, solvent-free epoxy resin bonding agent that is supplied in pre-weighted two component packs which when mixed together produce a medium viscosity epoxy adhesive.

KingBond EP100 can be easily spread over old concrete or cementitious substrates to permanently bond freshly casted concrete or new mortars.

## APPLICATIONS

KingBond EP100 is a permanent epoxy adhesive for bonding fresh wet concrete/cementitious material to old concrete/cementitious surfaces, which is suitable for internal and external application.

## ADVANTAGES

- ☞ High bond strength.
- ☞ Moisture tolerant; can be applied to damp surfaces.
- ☞ Slow cure, allows more time for subsequent works such as fixing steel reinforcements and erecting shutter.
- ☞ High strength.

## STANDARDS

KingBond EP100 complies with ASTM C881, Type II, Grade 2, Class C.

## METHOD OF USE

### Substrate Preparation

The Substrate should be sound, clean and free from contamination. Surface Laitance should be removed by acid etching or light grit blasting.

Oil, grease, and fat deposit should be removed by using either appropriate degreaser or steam cleaning. Weak or deteriorated concrete should be removed by scabbling, chipping or grit blasting.

### Mixing

The base and the hardener should be mixed separately before mixing together to disperse any settlement.

Carefully transfer the entire contents of the hardener container into the base component container and thoroughly mix using slow speed drill with appropriate mixing paddle for 3 minutes until uniformity is obtained. Do not attempt to mix partially nor add any thinning materials.

## TECHNICAL PROPERTIES

Colour:	Green for mixed material
Mixed density:	1.2 ± 0.1 g/cm <sup>3</sup>
Compressive yield strength: ASTM D695	≥ 50 MPa @ 7 days
Bond strength by slant shear: (old/new concrete) ASTM C882	≥ 10 MPa @ 14 days Moist cure
Water absorption: ASTM D570	≤ 0.2%
Full cure:	7 days @ 25°C 5 days @ 40°C
Typical minimum overlay time*:	2 hr @ 25°C 1 hr @ 40°C
Typical maximum overlay time*:	9 hr @ 25°C 5 hr @ 40°C
Gel time: ASTM C881	6 hr @ 25°C
Viscosity: ASTM D2393	40 ± 10 poise @ 25oC (medium viscosity)
VOC: ASTM D2369	< 50 g/ltr (complies with LEED)

*\*Minimum and maximum overlaying times depend on the ambient weathering conditions. In general the new concrete/cementitious material should be only applied over tacky layer of KingBond EP100.*

KingBond EP100 is designed to have an overlaying time of 9 hours at 25°C and 5 hours at 40°C. This should allow for subsequent works such as steel reinforcement fixation and shutter erection.

### Application

KingBond EP100 should be applied immediately after mixing using a short haired paint brush.

The material should be painted evenly across the whole surface and left until it becomes tacky (typically 2 hours at 25°C and 1 hour at 40°C) before the new concrete, screed or mortar is placed. Care should be taken to apply the new concrete, screed or mortar within the overlay time specified in Technical Properties.

Failure to do so will have an adverse result and the material will form a de-bonding plane rather than a bonding coat. Minimum application temperature is 5°C while temperatures exceeding 35°C will decrease pot life and setting time.

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## NOTES

- ☐ If temperature of the material is less than 12°C, it is needed to elevate their temperature to 25°C before the application.
- ☐ And if the ambient and the substrate temperature is less than 5°C, don't use the material.
- ☐ Also, at high temperatures (35°C and above), cooling the material is needed before the application. And try not to make the application in the middle of the day or under direct sunlight.

## CLEANING

All tools should be cleaned immediately after finishing by KINGKRETE solvent. Hardened materials should be cleaned mechanically.

## PACKAGING

KingBond EP100 is available in 1 and 5 kg packs.

## COVERAGE

3.0 – 3.5 m<sup>2</sup>/kg.

## 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 Qatar facility 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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## KingKrete-Qatar/KingBond\_EP100\_02/v2/07\_18

## 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.

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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.