

# KingGrout<sup>®</sup> PC50

**Non-shrink cementitious grout for precast concrete units.**

## DESCRIPTION

KingGrout PC50 is a non-shrink, chloride-free cementitious grout specially designed to fill the voids and gaps between the precast concrete elements. KingGrout PC50 consists of cement, selected well graded and non-reactive aggregates and special additives and designed to give excellent flow properties, shrinkage compensation, frost resistance, and high compressive strength.

## APPLICATIONS

- ☐ Filling the gaps and voids between precast concrete units.
- ☐ Filling cracks, holes and groves in concrete substrates.
- ☐ Filling of shutter tie rod openings.

## ADVANTAGES

- ☐ Shrinkage controlled mortar, reduces the risk of cracking due to shrinkage and ensure full contact with host concrete.
- ☐ Easy to apply, single component, requires only addition of water.
- ☐ Low permeability to water, providing excellent protection to steel reinforcements and host concrete.
- ☐ Cost effective.

## METHOD OF USE

### Joint Surface Preparation

Surfaces must be clean and free from dust, grease, oils and all other contaminants. The width of the joint must be at least 15 mm. If the joint is open from the both side, use a stopper board on one of the sides.

Primer is not required because dampening the substitute with clean water is recommended before applying Flo- Grout PC100.

## MIXING

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

4.0 - 4.5 liters 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 time should be continued for 3 minutes until uniform consistency is obtained.

## TECHNICAL PROPERTIES @ 25<sup>o</sup> C:

Compressive strength: ASTM C109/109M-02	≥ 40 MPa @ 7 days ≥ 50 MPa @ 28 days
Pre-hardening volume change: ASTM C940	Up to 3%
Fresh wet density:	2.0 ± 0.1 g/ cm <sup>3</sup>
Bleeding: ASTM C940	Nil
VOC: ASTM D2369	< 5 g/ ltr

*Typical properties @ 4.0 litre/25 kg bag.  
Compressive strength specimens should be kept under restraint for the first 24 hours.*

## PLACING AND FINISHING

After mixing, the mortar is pumped into the joints and leveled with a steel trowel. If the joint is opened on the both sides, place a stopper board on one side of the joint.

Remove the stopper board once sufficient amount of time has elapsed depending on the working conditions and use a trowel to finish the joint.

The mortar can be applied using a normal screw pump. Pump the mortar carefully into the joints to ensure that the joint is thoroughly filled with the material and obtain a structurally functional joint.

For the application behind reinforcement bars, a piece of steel tube with a pointed tip is attached to the hose to allow the ease of application.

*Important:* Do not vibrate the mortar in the vertical joints.

## CURING

As KingGrout PC50 is a cementitious material, it should be cured in a similar method to concrete. Curing can be conducted by using KingKure 100A or by wet hessian sheets covered with polyethylene sheets.

Notes:

- ☐ At low temperatures (below 8°C), warm water is recommended to achieve the early strength. And the stopper board should be kept for a longer time.
- ☐ At high temperatures (35°C and above), cold water (less than 20°C) must be used for mixing.

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## CLEANING

All tools should be cleaned immediately after finishing by clean water. Hardened materials can be cleaned mechanically.

## PACKAGING

KingGrout PC50 is available in 25 kg bags.

## YIELD

Approximately 14 - 15 litre per 25 kg bag (69 bag/m<sup>3</sup>).

## 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/KingGrout\_PC50\_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.

### 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.