

KingGrout[®] PCC50

High flow non-shrink cementitious pile top fairing and void filling grout.

DESCRIPTION

KingGrout PCC50 is a cementitious, pre-mixed, pre-packed chloride and hydrogen free, high flow, pourable grout. It contains cement, selected additives, well graded and non-reactive aggregates and is designed to give excellent flow properties, shrinkage compensation, frost resistance, and high compressive strength.

APPLICATIONS

KingGrout PCC50 is designed for pile cap reprofiling and as a general void filling. KingGrout PCC50 is applied between 15 and 250 mm thick. Greater thicknesses can be achieved, depending on the gap design and the steel volume. In conditions at or below the water table, use KingGrout PCC50 in conjunction with KingGrout PCE.

ADVANTAGES

- ☐ Non-shrink grout that has dual expansion properties to compensate for shrinkage in both the plastic and hardened stages.
- ☐ Extremely dense and low permeability.
- ☐ High early strength development allowing for rapid installation.
- ☐ High flow can be poured or pumped into variable gap widths.
- ☐ Easy to apply, single component which require only addition of water.
- ☐ Hydrogen and chloride free.

METHOD OF USE

Substrate Preparation

Prepare the concrete surface using chipping hammer, grit blasting to leave a roughly textured, clean surface free from all forms of contamination. The repair locations better to be saw cut to a depth of 15- 20 mm so as to provide a square edges.

Preparation of the pile surface to which the grout will bond should be carried out before the shutter is installed. Expose fully any corroded steel in the repair area and remove all loose scale and corrosion deposits. Steel should be cleaned to a bright condition paying particular attention to the back of exposed steel bars.

Priming

All surfaces should be pre-soaked with clean water for a minimum of 4 hours prior to placing the grout. Any free water should be removed.

TECHNICAL PROPERTIES @ W/P = 0.116:

Compressive strength: BS1881, Part 116	20 MPa @ 1 day 40 MPa @ 7 days 70 MPa @ 28 days
Permeability: DIN1048, Part 5	< 10 mm
Flexural strength: BS6319, Part 3:1990	≥ 2 MPa @ 1 day ≥ 7.5 MPa @ 7 days ≥ 9.5 MPa @ 28 days
Colour:	Grey powder with aggregates
Expansion characteristics: ASTM C827-87	0.5 - 1%
Maximum aggregate size:	10 mm
Fresh wet density:	2.3 ± 0.1 gm/ cm ³
Setting time: BS4550	Initial ≈ 5 – 6 hrs. Final ≈ 7 – 8 hrs.

Mixing

To ensure proper mixing, a mechanically powered mixer or drill fitted with suitable paddle should be used. Depending on the consistency required, the addition of 2.9 liters (Flowable) or 3.0 liters (Fluid) of clean water should be added to a clean container. The 25 kg powder is then added slowly to the water while mixing continuously with a low speed mixer/drill (400 - 600 rpm). Mixing should be continued for 3 minutes until a uniform consistency is obtained.

PLACING AND FINISHING

Enough material should available to achieve a continuous fill and to complete the work.

Pouring of the mixed grout should be started from one side only to avoid air entrapment. When the grout reaches the far side formwork and starts rising up, move the pouring point slowly along the perimeter of the formwork.

Formwork:

Before fixing formwork, ensure the pile area is clean. As the mixed grout poses high fluidity characteristics, all formwork and shutters should be water tight. This can be obtained by sealing underneath the formwork and at the joints by using an appropriate mastic. The top of the formwork should be 70 mm above the top of the chipped pile.

KingGrout® PCC50

CURING

In areas where the applied KingGrout PCC50 will be receiving a waterproofing treatment, such as pile caps, it is recommended to be cured immediately after striking the formwork with wet hessian for 24 hours. And wet hessian can be supplemented with polythene taped down at the edges under harsh drying conditions.

CLEANING

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

PACKAGING

KingGrout PCC50 is available in 25 kg bags.

YIELD

Approximately, 1 bag will give 12 liters.

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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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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