

# KingGrout<sup>®</sup> GP50

**General purpose non-shrink cementitious grout.**

## DESCRIPTION

KingGrout GP50 is pre-mixed, pre-packed chloride free cementitious 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 GP50 is ideally designed for use in the following applications:

- ☐ Machine beds.
- ☐ Stanchion bases, struts, railings, and guardrail assemblies.
- ☐ Filling of shutter tie rod openings.
- ☐ Anchoring of tie bars, and bolts.
- ☐ Pile top re-profiling.

## ADVANTAGES

- ☐ Good non-shrinkage characteristics.
- ☐ Extremely dense and low permeability.
- ☐ High early strength development allowing for rapid installation.
- ☐ High flow can be poured or pumped into variable gap widths down to 10 mm.
- ☐ Easy to apply, single component which require only addition of water.

## STANDARDS

KingGrout GP50 complies with ASTM C1107, Grade A.

## METHOD OF USE

### Substrate Preparation

- ☐ The Substrate should be sound, clean and free from contamination. Surface laitance should be removed by acid etching.
- ☐ All surfaces should be soaked with water enough to reach saturated surfaces prior to grouting.
- ☐ A water tight formwork should be erected to avoid any grout loss.

## MIXING

- ☐ To ensure proper mixing, a mechanically powered mixer or drill fitted with suitable paddle should be used.
- ☐ For a flowable consistency, the addition of 3.5 - 3.6 litre of clean water should be added to clean container. The 25 kg powder is then added slowly to the water while mixing continuously with low speed mixer/drill (400 - 600 rpm).

## TECHNICAL PROPERTIES

Compressive strength: ASTM C109/109M-11	≥ 25 MPa @ 1 day ≥ 60 MPa @ 28 days
Flexural strength: BS6319, Part 3:1990	≥ 8 MPa @ 28 days
Colour:	Grey & white
Expansion characteristics: ASTM C827/C827M-10	Up to 3%
Fresh wet density:	2.1 ± 0.05 g/cm <sup>3</sup>
Bleeding: ASTM C940	Nil
Application temperature:	4 - 50°C
Initial setting time @ 25°C: ASTM C191	4 hr
Final setting time @ 25°C: ASTM C191	8 hr
Service temperature:	-20 - 200°C

*Notes: Typical properties @ 3.6 litre/25 kg @ 25°C.  
Compressive strength @ 1 day is under restraint.  
Compressive strength and Flexural strength @ 7 & 28 days are under wet cure @ 25°C.*

Mixing time should be continued for 3 minutes until uniform consistency is obtained.

## PLACING AND FINISHING

### Under Base plate:

Enough material should be available to achieve continuous fill and to complete the work. Pouring of the mixed grout should be started from one side only to avoid air entrapment. To obtain maximum flow distance, a side shutter feed between 100 - 250 mm high should be erected and used to build the required head.

### Formwork:

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 unrestrained areas should be kept to a minimum due to the expansive nature of KingGrout GP50.

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## CURING

Since KingGrout GP50 is a cementitious based material, it should be treated in a manner similar to concrete. Curing can be conducted by either using concrete curing compound such as KingKure 80W or by using wet hessian and polyethylene.

Notes:

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

## CLEANING

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

## PACKAGING

KingGrout GP50 is available in 25 kg bags.

## THICKNESSES AND SIZE LIMITATIONS

KingGrout GP50 can be applied in a single layer at thickness between 10 - 100 mm. For greater thickness, an 8 – 12 mm washed aggregate should be added at a ratio of 15kg of washed aggregate to 25 kg of KingGrout GP50.

## YIELD

Approximately 13.5 – 14 litre/25 kg bag depending on consistency.

## 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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## GP50-R3-2601

### 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

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