

# KingAdd<sup>®</sup> GP50

**Expansive and plasticizing grout admixture.**

## DESCRIPTION

KingAdd GP50 is an expansive and plasticizing admixture for cementitious grout where a low water to cement ratio and positive expansion are required.

## APPLICATIONS

KingAdd GP50 is ideally designed for use in the following applications:

- 🔧 Bed plate grouting.
- 🔧 Duct grouting.
- 🔧 Grouting tunnel lining.
- 🔧 Non-shrink infilling grouts.
- 🔧 Post tensioned cables.

## ADVANTAGES

- 🔧 Non-Shrink: Gaseous expansion system compensates for plastic shrinkage and settlement in cementitious grouts.
- 🔧 High Flow: Excellent grout fluidity at reduced water to cement ratio, for ease of placement or injection.
- 🔧 Durability: Low water to cement ratio ensures low permeability and long term performance.
- 🔧 Chloride free.
- 🔧 Iron free.

## METHOD OF USE

### Proposed mix

|                  | KingAdd GP50 | OPC   | Sand  | Water  | Yield  |
|------------------|--------------|-------|-------|--------|--------|
| <b>Mix No. 1</b> | 227 g        | 50 kg | -     | 21 ± 2 | 37 ltr |
| <b>Mix No. 2</b> | 227 g        | 50 kg | 50 kg | 23 ± 2 | 59 ltr |

*Note: For grout, mortar or concrete mixes with an aggregate cement ratio more than 1, use 4 x 227 g units of KingAdd GP50 per 100 kg of cement.*

### Mixing

To ensure proper mixing, a mechanically powered mixer or drill fitted with suitable paddle should be used for quantities up to 50 kg. High shear vane mixer is required when mixing large quantities.

The required water content should accurately measured and added into the mixer or a mixing bucket. Add the full amount of KingAdd GP50 powder at first and mix for 1 - 2 minutes. Then slowly add cement (and sand if required) and mix for 4 - 5 minutes until smooth even consistency is achieved.

## TECHNICAL PROPERTIES

|   |  |
|---|--|
| Colour:   | Brown  |
| Fresh wet density:  |  |
| Mix No. 1   | 1.9 ± 0.1 g/cm <sup>3</sup>                                |
| Mix No. 2   | 2.1 ± 0.1 g/cm <sup>3</sup>                                |
| Compressive strength:   |  |
| ASTM C109/109M-11   | @ 7 days<br>>30 MPa (without sand)<br>>35 MPa (with sand)  |
|   | @ 28 days<br>>45 MPa (without sand)<br>>50 MPa (with sand) |
| Expansion:  | Up to 5%   |
| ASTM C827/C827M-10  |  |
| Flow characteristics:   |  |
| ASTM C939-87 within 30 min from mixing. Re-mixing is needed to keep the needed flow | < 32 sec   |
| Bleeding:   | Pass, no bleeding  |
| ASTM C940   |  |
| Initial setting time:   | 4.5 - 5.5 hr   |
| ASTM C191   |  |
| Chloride content:   | Nil  |
| BS5075  |  |
| Compatibility:  | Flo-Add 1 is compatible with all types of Portland cement  |

*Note: The results were obtained when OPC (complies with ASTM C150-02a with compressive strength @ 28 days > 42.5 MPa) is used. Higher compressive strength results can be achieved when OPC > 52.5 MPa is used. Where added water needs to be adjusted based on the mentioned range. It is important to conduct trials so as to choose the best source of OPC for the needed application. Compressive strength @ 1 day is under restrain. Compressive strength @ 7 & 28 days is under wet cure.*

## PLACING AND FINISHING

Enough materials 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.

Areas to be grouted should be clean, sound and must be pre-wetted with clean water. The mixed grout should be placed directly after mixing. Working time will be within 30 minutes and remixing will be needed directly before the application to get the needed flow and expansion. Care should be taken to keep the unrestrained surface areas of the grout to a minimum.



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## CURING

Self-curing, only exposed areas should be properly cured with water.

## CLEANING

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

## PACKAGING

KingAdd GP50 is available in 0.227 and 5 kg bags.

## DOSAGE

KingAdd GP50 dosage is 227 g/50 kg of OPC.

## 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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