

KingGrout[®] HS100

High strength cementitious precision grout.

DESCRIPTION

KingGrout HS100 is a pre-mixed, pre-packed, high strength cementitious grout. It contains cement, selected additives, well graded, and non-reactive aggregate designed to give excellent flow properties, shrinkage compensation, and high compressive strength.

APPLICATIONS

KingGrout HS100 is ideally designed for grouting areas where high temperature resistance and high early strength grout is required.

ADVANTAGES

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

STANDARDS

KingGrout HS100 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 pre-soaked with clean water for minimum of 4 hours prior to grouting.

MIXING

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

Depending on the consistency required, 4.5 litres (Fluid) or 3.75 litres (Flowable) 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).

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

TECHNICAL PROPERTIES

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| Compressive strength: ASTM C109/109M-11 | ≥ 40 MPa @ 1 day ≥ 75 MPa @ 28 days |
| Tensile strength: ASTM C190 | 2 MPa @ 3 days 4 MPa @ 28 days |
| Flexural strength: ASTM C348 | 6.5 MPa @ 3 days 12 MPa @ 28 days |
| Colour: | Grey |
| Expansion characteristics: | Up to 2% |
| Bleeding: ASTM C940 | Nil |
| Initial setting time @ 25°C: ASTM C191 | 5 hr |
| Final setting time @ 25°C: ASTM C191 | 6 hr |
| Fresh wet density: | ≈ 2.0 gm/ cm ³ |

*Notes: Typical properties @ 3.75 litres/ 25 kg @ 25°C.
Compressive strength @ 1 day is under restraint.

THICKNESSES AND SIZE LIMITATIONS

KingGrout HS100 can be applied in a single layer at thicknesses between 10 – 100 mm. For greater thicknesses, an 8 – 12 mm washed aggregate should be added at a ratio of 15 kg of washed aggregates to 25 kg of KingGrout HS100.

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 possesses good fluidity characteristics, all formworks and shutters should be water tight. This can be obtained by sealing underneath the formwork and at the joints by using appropriate mastic.

The unrestrained areas should be kept at a minimum due to the expansion nature of KingGrout HS100.

KingGrout® HS100

CURING

As KingGrout HS100 is a cementitious material, it should be cured in a similar method to concrete. Curing can be conducted using a good concrete curing compound such as KingKure 100A.

Notes:

- ☐ At low temperatures (below 5°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 application using fresh water. Hardened materials must be cleaned mechanically.

PACKAGING

KingGrout HS100 is available in 25kg bags.

YIELD

Approximately 13 – 14 litres/ 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 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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NOTE

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