KingGrout® HF100

High flow non-shrink cementitious precision grout.

DESCRIPTION

KingGrout HF100 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 HF100 is ideally designed for use in the following applications:

- Machine beds.
- Bridge bearing pads and plinths.
- Under machinery base plates, crane rails, stanchion plates etc.
- Anchoring of tie bars, bolts, and stressing cables.
- Underpinning.

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 down to 10 mm.
- Easy to apply, single component which require only addition of water.
- Hydrogen and chloride free.

STANDARDS

KingGrout HF100 complies with U.S. Corps of Engineers Specifications CRD–C621-82A and ASTM C1107, Grade C.

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.

TECHNICAL PROPERTIES

Compressive strength: ASTM C109/109M-11	≥ 18 MPa @ 3 days ≥ 58 MPa @ 28 days
Flexural strength: BS6319, Part 3:1990	≥ 2 MPa @ 1 day ≥ 9.5 MPa @ 28 days
Colour:	Grey
Expansion characteristics: ASTM C827/C827M-10	Up to 2%
Fresh wet density:	2.15 ± 0.05 g/cm³
Bleeding: ASTM C940	Nil
Height change @ hardened stage: ASTM C1090	Up to 0.3%
Initial setting time @25°C: ASTM C191	7 hr
Final setting time @25°C: ASTM C191	12 hr
Flow characteristics (efflux time): ASTM C939-87	25 – 35 sec
VOC:	< 10 g/ltr

Note: Typical properties @ 4.8 litre/25 kg @ 25°C. Compressive strength @ 1 day is under restrain. Compressive strength and Flexural strength @ 7 & 28 days are under wet cure @ 25°C.

Depending on the consistency required, the addition of 3.5 litre (trowellable), 4.5 litre (Flowable) or 4.8 litre (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.

THICKNESSES AND SIZE LIMITATIONS

KingGrout HF100 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 aggregate to 25 kg of KingGrout HF100.

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PLACING AND FINISHING

Under Base plate:

Enough material should be 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.

To obtain maximum flow distance, a side shutter feed between 100 mm to 250 mm high should be erected and used to build the required head.

Formwork:

As the mixed grout posses 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 HF100.

CURING

Since KingGrout HF100 is a cementitious 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 8ºC), warm water is recommended to achieve the early strength. And the formwork is recommended to be kept longer time.
- At high temperatures (35ºC and above), cold water (less than 20ºC) must be used for mixing.

CLEANING

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

PACKAGING

KingGrout HF100 is available in 25 kg bags.

YIELD

Approximately 13 – 13.5 litre/25 kg bag depending on consist ency.

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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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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