

KingGrout® HT400

High flow heat resistant cementitious precision grout.

DESCRIPTION

KingGrout HT400 is a pre-mixed, pre-packed, high strength and heat resistant (up to 400°C) 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 HT400 is ideally designed for grouting areas where high temperature resistance and high early strength grout is required.

ADVANTAGES

- ☒ Non-shrink grout.
- ☒ Suitable for use in hot areas.
- ☒ 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 requires only addition of water.
- ☒ Chloride free.

STANDARDS

- ☒ KingGrout HT400 complies with U.S. Corps of Engineers Specifications CRD-C588-79 and CRD - C621 in term of workability.
- ☒ 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 litre (Fluid) or 3.75 litre (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

Compressive strength: ASTM C109/109M-11	≥ 40 MPa @ 1 day ≥ 75 MPa @ 28 days
Tensile strength: BS6319, Part 7:1983	4 MPa @ 28 days
Flexural strength: BS6319, Part 3:1990	12 MPa @ 28 days
Colour:	Grey
Expansion characteristics: ASTM C827/C827M-10	Up to 2%
Bleeding: ASTM C940	Nil
Initial setting time @25oC: ASTM C191	7 hr
Final setting time @25oC: ASTM C191	11 hr
Fresh wet density:	≈ 2.0 g/cm ³

Notes: Typical properties @ 3.75 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.

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 mm to 250 mm high should be erected and used to build the required head.

Formwork:

As the mixed grout possesses high 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 HT400.

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.

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CURING

As KingGrout HT400 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 or by using wet hessian sheets covered with polyethylene sheets.

CLEANING

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

PACKAGING

KingGrout HT400 is available in 25 kg bags.

THICKNESSES AND SIZE LIMITATIONS

KingGrout HT400 can be applied in a single layer at thicknesses between 10 – 100 mm. For greater thicknesses, a 8 – 12 mm washed aggregate should be added at a ratio of 15 kg of washed aggregates to 25 kg of KingGrout HT400.

YIELD

Approximately 13 – 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 Middle East facility are manufactured under a management system independently certified to conform to the requirements of the quality standards ISO 9001, ISO 14001 and ISO 45001.

* 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.

NOTE

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