



KUT NS GROUT

Non Shrink Cementitious Grout

GAP – 14 - 0104

DESCRIPTION

KUT NS GROUT is a pre-packed cementitious grout requiring only the addition of clean water to produce at the job site non-shrink multi-application grout.

KUT NS GROUT can be mixed at various consistencies in varying the amount of water used to produce a flowable or trowellable consistency grout.

USES

KUT NS GROUT is formulated for a wide range of applications such as grouting of machinery base plates - structural grouting of precast elements - grouting of bridge seats - beams and columns - handrails.

ADVANTAGES

- **Non shrink** : Delivers positive expansion in plastic stage.
- **Non segregation** : Highly stable segregation free grout.
- **Workability** : Can be pumped, trowelled or poured.
- **High early strength** : Ensure rapid installation.
- **Iron free** : No metallic iron is included in the mix as it is capable to introduce future deterioration due to rust expansion.
- **Other features** : Can be blended with clean local aggregate from 6 mm to 10 mm. Consult **ASPEC Sales Dept.** for mixing proportions.
- **Chloride free** : Good early strength development without the use of chlorides.

TYPICAL PROPERTIES

- **Wet Density** : 2270 kg/m³ producing 15 litres of grout per 30 kg. bag at a flowable consistency.
- **Flowable at 25°C** : For a grout head of 250 mm with a gap of 30 mm, it delivers a flow distance of 3 meters.
- **Setting time** : according to **ASTM-C-191** at 25°C.
- Initial set : 3 hours - 30 minutes
- Final set : 5 hours - 00 minute
- **Compressive strengths** : At 25° C the Compressive strength of 50 mm as per **ASTM-C-109** cubes cured under restraint in N/mm²

Age	Trowellable	Flowable
1 Day	25	18
7 Days	52	46
28 Days	75	60

- **Youngs Modulus** : 30 KN/mm²
- **Coefficient of Thermal Expansion** :
 - $13 \times 10^{-6} / ^\circ \text{C}$.
- **Typical time for Expansion @ 20° C** :
 - Start : 20 minutes
 - Finish : 3 hours
- **Free expansion** : 1 - 4%.
- **Pressure to restrain expansion** :
Approx 0.004 N/mm².
Note : An unrestrained area should be kept to a minimum, otherwise grouting may be obscured.
- **Direct Shear Strength** : 50 mm x 70 mm cross section prism of **KUT NS GROUT** were tested in direct shear across the section. The direct shear strength was found to be 5 N/mm² at 7 days @ 20° C.

APPLICATIONS

Planning : Plan surface preparation, formwork, fixing base plate, mixing and placing equipment, manpower and quantity of grout required.

Surface Preparation : Remove oil and grease by blasting or scabbling. Clear entire area with oil free compressed air.

Formwork : Arrange pouring grout from one side only. Grout head should be sufficient for gap width and plate size. Side forms should be to height of plate and up to 50 mm from it. End form should be 50 mm from plate. Provide water outlet. Ensure forms are grout and water tight. Soak with water for at least 4 hours immediately before grouting. Release water and blow excess water away.

Mixing : Place water in mixer according to consistency required:

3 to 3.3 litres / bag water for trowellable consistency
4 to 4.4 litres / bag water to give flowable consistency



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Add gradually 30 kg bag of grout into the water stirring with slow speed drill (not exceeding 500 RPM) fitted with a paddle or use a mechanical mixer. Do not use colloidal mixer. Mix for 3 to 5 minutes after all the powder has been added to obtain a lump free grout.

Placing : Pour grout from one side only maintaining hydrostatic head with continuous supply of grout until grout comes part way up at end form. Alternatively grout can be pumped into position.

Curing : When grout is set, protect with wet rags and keep moist until form removal.

PACKAGING

KUT NS GROUT is available in 30 kg bags.

PRECAUTIONS

Mixing water : Water temperature must not exceed 35°C.

Cleaning : All equipment must be cleaned with water immediately after use.

Mixes : Mixes containing **KUT NS GROUT** must not be emptied into the drainage system.

Protection : All work must be protected from rain, frost and exposure to strong sunlight until fully cured.

Storage : Shelf life 12 months when stored in dry conditions at moderate temperature and humidity.

Fire resistance : **KUT NS GROUT** is not flammable.

PERFORMANCE STANDARDS

The applicable standards for performance and testing are:

ASTM C - 1107 Grade 'A'

ASTM C -191

ASTM-C-109

BS - 1881

HEALTH AND SAFETY

KUT NS GROUT is non-toxic but is mildly alkaline. Gloves should be worn during application. Splashes to the skin or eyes should be removed with clean water. In the event of prolonged irritation, seek medical advice.

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