

# KEM GROUT NS 1

**K-FIX**  
CONSTRUCTION CHEMICALS

## High Strength Free Flow Non-shrink Grout

### General Purpose Cement Grout

#### DESCRIPTION:

KEM GROUT NS 1 is a premixed powder, containing well graded aggregates, cement and speciality chemical additives to enable achievement of high early strengths. When mixed with the right quantity of water, the product turns into a free-flowing grout and unlike conventional grouts, does not shrink on setting.

#### PRODUCT FEATURES:

- Easy to use: Just add water on site. The product is pre-packed in controlled conditions for consistency in quality.
- Free flowing: Fills up all voids completely. There is no need for compaction of material in the voids.
- Non-shrinking: Occupies the filled space permanently without shrinking. It provides constant support to the load bearing areas.
- High early and final strength: Achieves high early and ultimate strength above 45 MPa at 28 days.
- Non-metallic and chloride-free: Does not contain chlorides and metals thus prevents any corrosion in the grouted foundation.

#### PRODUCT SPECIFICATIONS:

Complies with ASTM C 1107

- Appearance : Cementitious grey powder
- Chlorides : Nil
- Wet Mix Density : 2.2 kg/ℓ
- Flexural Strength at 28 days :  $\geq 6$  MPa
- W/P Ratio : 0.16 for flowable consistency
- Wet Density : 2250 kg/m<sup>3</sup> producing 12.5 ℓ of grout/25 kg bag at a flowable consistency.
- Setting Time : According to ASTM C191 at 25°C
  - Initial Set : 3 hours - 30 minutes
  - Final Set : 5 hours - 00 minute
- Typical Time for Expansion@ 25 °C : Start : 20 minutes  
Finish : 3 hours
- Free Expansion : 1 - 4%
- Pressure to Restrain Expansion : Approx .004 N/mm<sup>2</sup>  
Note: An unrestrained area should be kept to a minimum, otherwise grouting may be obscured.
- Compressive Strengths at 25° C of 50mm cubes as per ASTM C-109, cured under restraint in N/mm<sup>2</sup> :

Age (in Days)	Trowellable	Flowable	Fluid
1	29	22	15
7	56	50	40
28	81	61	55

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- Pullout Strength : KEM GROUT NS 1 was placed in a 25mm diameter hole to bond a 20mm high tensile deformed bar for a length of 250mm. The pull out force @ 20°C was 11.5 N/mm<sup>2</sup> at 7 days.
- Coefficient of Linear Thermal Expansion :  $13 \times 10^{-6} / ^\circ \text{C}$
- Direct Shear Strength : 50mm x 70mm cross section prism of NS1 were tested in direct shear across the section. The direct shear strength was found to be 5 N/mm<sup>2</sup> at 7 days @ 20° C.
- The above data is typical and could change marginally under site conditions. Site trials are recommended to ascertain exact results.

### STANDARDS:

- ASTM C - 1107
- ASTM C - 191

### AREAS OF APPLICATION:

- Machinery foundation and base plates
- Compressors and turbines
- Heavy duty grouting of pumps and motors
- Chemical and engineering plants
- Structural columns and bearing plates
- Anchor and seating bolts and pockets

### METHOD OF APPLICATION:

- Clean up the entire pocket thoroughly. Remove all loose dirt, oil, grease, water, etc.
- Determine the size of the pocket to be grouted.
- Since KEM GROUT NS 1 is a ready to use dry powder, add only water to make it a free-flowing, non-shrink grout. Typically, 160 ml of water should be added per kg of KEM GROUT NS 1, i.e. a water powder ratio of 0.16 should be maintained.



Mfd by: Chembond Chemicals Limited

Marketed by: Chembond Distribution Limited,  
Chembond Centre, EL-71, MIDC Mahape,  
Navi Mumbai - 400 710

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Website: [www.chembondconschem.com](http://www.chembondconschem.com)

The information, based on our current level of knowledge, is given in good faith. It relates to the usage of CHEMBOND products when properly stored, handled and applied. Users are advised to carry out trials prior to full scale usage. No assumptions should be made as to a product's suitability for a particular use or application. Users acknowledge this and agree to accept CHEMBOND's technical advice only as a guideline.

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#### METHOD OF APPLICATION:

- If the pocket depth is more than 5 cm, add 30% coarse aggregates by weight of KEM GROUT NS 1. The aggregates should be pre-washed, dry and 4 - 8 mm in size. For example, if 20 kg of KEM GROUT NS 1 is initially taken; add 8 kg of pre-washed, dry coarse aggregates of size 4 - 8 mm. In this case, add water such that a water powder ratio of 0.125 is maintained.
- Start placing the grout from one end of the pocket only. Do not pour from two sides. The material should be quickly poured or placed in order to avoid loss of workability.
- Strike off the exposed areas as you keep placing the material.
- Ensure that the air displaced by fluid grout is allowed to escape.
- Cure KEM GROUT NS 1 by placing wet hessian cloth or use KEM CURE AID 10 W for controlled curing.
- Do not use vibrators for compaction of the material.

#### USAGE GUIDELINES:

KEM GROUT NS 1 (in kgs)	Water (in litres)	Consistency	Yield (in litres)
25	4.25	Pourable	13.0
25	4.75	Flowable	13.7

#### PACKAGING:

25 kg moisture-resistant bags

#### STORAGE:

- In a cool and dry place away from moisture and direct sunlight
- Close opened bags immediately after use

#### SHELF LIFE:

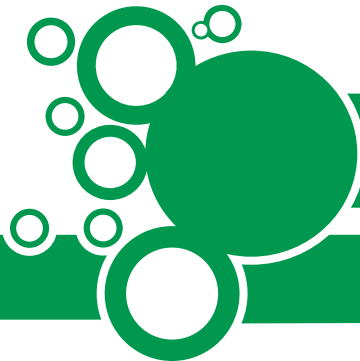
12 months from manufacture if kept in original, unopened bags and stored in dry conditions

#### SAFETY:

KEM GROUT NS1 is cementitious alkaline product. Care should be taken to avoid contact with eyes, skin, and mouth and food stuff. Any splashes on the human body must be washed with plenty of water.

#### TECHNICAL SERVICE:

Chembond has established itself in various fields on the basis of its dependable technical service. We maintain a well-equipped laboratory for research and quality assurance of all our products. Our experienced personnel are always on call and readily available for product demonstrations and product performance monitoring. For queries, call 022 6614 3305 or email to [feedback@buildsys.co.in](mailto:feedback@buildsys.co.in)



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GROUTS



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