

# KEM GROUT NS 2

## Non-shrink, Free Flow, High Strength Cement Grout

Ref. GA/CG-V2-0813

### Description

KEM Grout NS 2 is supplied as a ready to use powder requiring only the addition of water to produce a free flowing grout.

It is a unique product designed to give positive expansion in the plastic and hardened states, producing a low porosity high durability material.

It is carefully designed very fine blend of portland cements modified with silica fume, water reducing agents and expansive agents. The product is formulated to produce controlled expansion in the plastic state with low water mixing requirement to minimize segregation delivering high early strength and long lasting durability.

### Uses

- It is used for general purpose grouting of narrow concrete cracks or gaps between concrete and metal structures.
- It is recommended to filling gaps between metal electrical lighting poles base plates and the concrete supporting foundation.
- It is used for cable duct grouting in post tensioned concrete members..
- It is used for sealing / filling narrow concrete cracks, grouting machine base plates, stanchion bases and crane rails.
- It is an excellent grout for all horizontal ducts or concrete in situ opened channels installation of pipe lines, cables, ducts, plastic conduits etc.

### Advantages

- **Fresh Product:** Locally manufactured always fresh product.
- **Constant Quality:** Factory controlled pre-packed material eliminates site batching variations.

- **Pumpability:** Can be pumped long distance into narrow gaps. No segregation or bleeding.
- **High Early Strength:** Ensures rapid installation and early operation of plant.
- **Iron Free:** No metallic iron to cause staining or deterioration due to rust expansion.
- **Chloride Free :** Good early strength development without the use of chlorides.

### Typical properties

**Compressive Strengths: BS 1881**, Part 116, Cubes cured under restraint

Age (Days)	Compressive Strength (N/mm <sup>2</sup> ) @ 25°C Flowable
1	20
3	40
7	50
28	65

**Flexural Strength: BS – 4551** at 20°C 8.5 N/mm<sup>2</sup> at 28 days.

**Wet Density: BS 1881** – 2000 kg./m<sup>3</sup> giving a yield of 16 ltrs. / 25 kg. bag at flowable pumpable consistency.

Flow – gap widths are normally from 10 to 40 mm but the grout will flow into smaller gaps and can be pumped into small gaps i.e. between prestressing tendons in cable ducts.

**Expansion Characteristics:** An initial expansion of 1 to 2 % when measured according to **ASTM C 827** overcomes plastic settlement in the unset material. Expansion in the hardened state when measured according to **ASTM C 1090– 88** complying with **ASTM C 1107 – 91** compensates for drying shrinkage.

**Time for Expansion:** Initial expansion in the plastic state starts after 15 minutes and is completed by initial set. Expansion in the hardened state is complete after 3 days. Temperatures above 25°C may slightly reduce these times.

### Standards

It is tested using the appropriate section of **BS – 1881**



ASTM C – 827 – 78

BS – 4551

BS 5075 – Part 2

ASTM C – 1107 Grade C.

It meets requirement of **CP 110 Part 1 – 1972 Section 6.12** for prestressing duct grouts.

### Direction for use

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

**Pumping:** Any standard grout pump may be used. These include diaphragm, piston and gear pump. Ensure a constant supply of grout to the pump.

**Mixing:** Place required water in mixer according to consistency required (3.5 - 4 litre to give flowable consistency). Gradually add 25 kg. of KEM Grout NS 2 and stir with slow speed electrical drill fitted with mixing paddle or mechanical mixer. Do not use colloidal mixer. Mix for 2 to 5 minutes after all 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 the grout comes part way up in end form. Alternatively grout can be pumped into position. When grout is set, cure exposed surfaces with a curing membrane after trimming to agreed profile.

### Packaging

It is available in 25 kg. bag

### Coverage

25 kg. bag will yield approximately 12.5 ltrs. of pumpable free flow consistency grout.

Allowance should be considered for wastage in filling uneven surfaces or in grouting concrete cracks or sealing gaps

### Storage & Shelf Life

**Storage:** Stored in dry conditions at moderate temperature and humidity.

**Shelf life:** 12 months

### Health & safety

It 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,

### Technical Service

Chembond has established itself in various fields on the basis of its dependable technical service. For this purpose, we maintain a well equipped laboratory for research & quality assurance of all products. Our experienced personnel are always on call and would always be available for product demonstrations and product performance monitoring.

### Safety Precautions

**Cleaning:** All equipment must be cleaned with water immediately after use. Mixes containing this product must not be emptied into drainage system.

**Protection:** All work must be protected from rain and frost until fully hardened.

**Fire Resistance:** It is not flammable.

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