

CEMTEC NS GROUT PC70

Cementitious Grout For Precast Unit



DESCRIPTION

CEMTEC NS GROUT PC70 is a ready to use non-shrink, chloride-free cementitious grout specifically designed to permanently closed voids and gaps between the precast concrete units. **CEMTEC NS GROUT PC70** is a cement based pumpable mortar, blended from cements, selected aggregates and admixtures. It is highly flowable in nature and can be easily placed, eliminating the need for compaction and vibration.

RECOMMENDED USES

- For structural grouting of gaps in precast units and high strength pointing.
- Filling of Shutter tie rods hole opening
- Closing around pipes in concrete tanks and pools
- Bedding under industrial equipment and machinery mounting plates

ADVANTAGES

- High strength and durability
- Non-shrink providing full structural support.
- Flowable and self-leveling
- Appearance like concrete
- Does not contain any added chloride ions.
- Can be pumped or poured into the formwork.
- Flowable and Plastic consistency
- Self-compacting in nature, which eliminates the need of compaction and vibration.

TECHNICAL INFORMATION

The following results were developed under laboratory conditions at 77°F (25 °C)

Properties	Result
Color	Grey Powder
Compressive Strength ASTM C109, EN 12190 At a water powder ratio 0.125	1 day 37 MPa 3 days 50 MPa 7 days 58 MPa 28 days 65 MPa
Flexural Strength ASTM C580	28 days 12 MPa
Tensile Strength ASTM C496	28 days 12 MPa
Water content per bag	3.125 liters – 3.40 liters
Minimum Application Thickness	10 mm

Dry Density	1930
Setting Time ASTM C191	Initial: 3hrs 10 min Final: 4hrs 45 min
Yield	25 kg of CEMTEC NS GROUT PC70 will yield about 0.014 m ³ of flowable grout when mixed with 3.125 liters of potable water.

SPECIFICATION/COMPLIANCES

- **CEMTEC NS GROUT PC70** meets the performance requirements of ASTM C-1107
- **CEMTEC NS GROUT PC70** shows positive expansion when tested the mortar in accordance with ASTM Specification C1090, Standard Test Method for Measuring Changes in Height of Cylindrical Specimens from Hydraulic Cement Grout, at a flowable consistency.

APPEARANCE

CEMTEC NS GROUT PC70 is a cement-based powder incorporated with precise size of aggregate designed to be mixed with water. After mixing and placing, the color may initially appear much darker than the surrounding concrete. While this color will lighten up substantially as the grout cures and dries out, the grout may always appear somewhat darker than the surrounding concrete.

DIRECTIONS FOR USE

The contractor and engineer are suggested to consult and review the CMCI "Application Instruction -Cementitious Grouting. The document offers instructions detailing the general installation of CMCI manufactured cement-based grout products. The information given here is offered in particular support to the mixing and placing of **CEMTEC NS GROUT PC70**. This information should be used in conjunction with the Application Instructions guide.

Consistency	Estimated Water Content
Flowable	3.125- 3.40 Liter per 25 Kg
Plastic	3.125- 3.40 Liter per 25 Kg

(Do not add excess water that will cause bleeding or segregation). More or less water may be required to achieve flow or the desired placing consistency, depending on temperature and other variables. Do not add sand or cement to the grout since this action will change its precision grouting characteristics.

Surface Preparation

To obtain optimum adhesion remove by grit blast or grinding any loose friable substrates to provide a clean, open faced cavity. Ensure the substrate is free from oil, paint and other contaminants that would prevent good adhesion. Pre-soak substrate with water.

Formwork

Determine the work schedule and method of placing **CEMTEC NS GROUT PC70**, then prepare rigid and tight formwork to prevent loss of material. The formwork should have properly sealed faces to ensure that no water is absorbed from grout. Care should be taken to ensure that formwork is watertight and constructed in line with normal concreting practice. The unrestrained surface of the grout should be kept as per design.

Mixing

While mixing **CEMTEC NS GROUT PC70** care should be taken to ensure that it is thoroughly mixed and placed as per the manufacturer's instructions. It is essential that a mechanically powered mixer is used. Damp down the inside of the mixer with water prior to mixing the initial batch of **CEMTEC NS GROUT PC70**. Mixer should be damp but free from standing water. Machine mixing capacity and labor availability should be adequate for carrying out the placing operation continuously. Measure 3.125- 3.40 liters of potable quality water and pour three-quarters into the mixer, while the machine in operation. Add one full 25-kg bag of **CEMTEC NS GROUT PC70** and mix for one minute before adding the rest of water. Mix for further 2 to 3 minutes until a smooth even consistency is obtained. Note that powder must always be added to water and not vice-versa.

Placing

It is essential to place the mixed material quickly in order to gain the full benefit of fluidity and of the expansion process. If placing this product in hot weather, use of cold water that will increase the working time. Standard grouting pumping practice should be followed for pumping **CEMTEC NS GROUT PC70**.

After mixing, the grout should be pumped into the joints and leveled with a steel trowel. If the joint is opened from both sides, place a board as stopper on other opening of the joint.

Quality Statement

CMCI manufactures its products at their manufacturing facility in Saudi Arabia as per the Quality Procedures certified to conform with quality Management System described in ISO 9000 series

CMCI provides a comprehensive technical support system for its full range of high performance construction products CMCI also offers full technical field support to consultants, Architects, contractors, applicators and End Users.

The Technical Specification information and recommendations given are based on the current technical knowledge and the user or his representative is recommended to check the suitability of the product CMCI reserves the right to amend the technical characteristic of the product as part of ongoing research and development. As the work execution is beyond the direct and continuous control of CMCI no guaranty and or responsibility is assumed on the performance of work completion executed with use of our products.

Remove the board once the grout is set and use a trowel to finish the joint.

The grout can be applied using a rotor stator pump or worm pump capable of mixing this particle size, using 25 mm ID hosing. The pump and pipeline must be 'grouted' with a rich cement slurry or mortar, discharging the 'grout' as waste. Pumping should be commenced immediately after 'grouting' in this way. Pump the grout carefully into the joints and ensure that the joint is thoroughly filled with the material to obtain a structurally functional joint.

For the placing on congested reinforcement bars, a piece of steel tube with a pointed tip should be attached to the hose to allow the ease of application.

Finishing

The grout should be tooled or cut back whilst wet to the required profile by the use of hand trowels or a standard pointing tool. Ensure all material is removed from the substrate face whilst still wet

Curing and sealing

As with all cementitious products, proper curing procedures are important to ensure the durability and quality of the structure. To prevent surface cracking, cure with high solids curing compound such as **KUREKOTE 75** as described in the general grouting Application Instruction guide. Curing compound must be ordered separately.

STORAGE

CEMTEC NS GROUT PC70 has as Shelf life of 1 year from the date of production in original unopened package.

CLEAN-UP

Clean tools and equipment with water before the material hardens.

PRECAUTIONS / LIMITATIONS

- Do not add any admixture or fluidifiers
- Should not be used when temperature is below 3°C and falling
- Do not use material at temperatures that may cause premature freezing
- Proper curing is required.
- Employ cold weather or hot weather grouting practices as the temperature dictates.
- Do not allow to freeze until 4,000 psi (27.6 MPa) attained
- **CEMTEC NS GROUT PC70** is non-flammable

TDS/TSS/260321-A

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