

## BONDGROUT GP

(GENERAL PURPOSE NON-SHRINK STRUCTURAL GROUT)

Page 1 / 7.

**BondGrout GP** is a ready-mixed, non-shrink, nonmetallic, flowable, high-strength structural grout. BondGrout GP contains a balanced blend of washed and graded silica sands, Portland cement flow improvement compounds, and a shrinkage compensating system which produces a volume stable structural grout.

### USES

BondGrout GP is used where non-shrink, high-strength, structural, durable grout is required such as: precise machine bases, pump and equipment bases, structural columns, machine tools, compressors, and anchor bolts.  
Primary Applications

- Pumps
- Fans
- Motors
- Compressors
- Generators
- Machine bases of all types
- Anchor Bolts
- Column base plates

### ADVANTAGES

- One step grout; ready to use.
- Controlled expansion. Expansion occurs both in the plastic and in early hardened stage.
- High early strength.
- Contains no added chlorides, iron or gypsum. Will not rust, bleed or harm metal on contact.
- Densification increases weatherability and decreases permeability.

Chemically Engineered Products

## BONDGROUT GP

(GENERAL PURPOSE NON-SHRINK STRUCTURAL GROUT)

Page 2 / 7

### SURFACE PREPARATION

The prepared surface should be free from laitance, dust, oil and grease. Concrete surface must be structurally sound clean and free of loose or deteriorated concrete particles, dust, dirt, oil, paint, curing compound and other contaminants that could impair adhesion. Smooth substrates must be abraded to ensure proper bonding. Shim and anchor the support elements to prevent movement.

Saturate prepared area with potable water for 12 to 24 hours before application.

Remove excess water from holes and voids. Use oil free compressed air to blow out bolt holes and pockets are necessary. Ensure that the form work is secure and watertight to prevent movement and leakage during the placing and curing of grout. The area should be free of excessive vibration. Shut down adjacent machinery until the grout has hardened.

### MIXING

Use only fresh and clean potable water. Water contents required for one bag 25 kg of BondGrout GP grout:

Plastic	ASTM C-230	100%	3.9 ltr
Flowable	ASTM C-230	100%	4.2 ltr
Fluid	CRD-621	25-30 sec.	5.0 ltr

**BondGrout GP** must be mixed mechanically, using a slow speed electric drill fitted with mixing paddle. Larger quantities may require conventional power mixers. Measure the required quantity of clean water. Pour approx. 2/3 of the measured quantity of water into the container/mixer then add BondGrout GP slowly while mixing.

## BondGrout GP

(GENERAL PURPOSE NON-SHRINK STRUCTURAL GROUT)

Page 3/7

Add the remaining water and mix until a smooth, uniform homogenous consistency is achieved.

Mix batch for a minimum of 5 minute and place immediately. Do not attempt to retemper with the mixed BondGrout GP by the later addition of water.

A 25 – 30 second flow is obtained with approximately 18% by weight of water, depending on the temperature. This amount of about 5 lt. of water per 0.0157 cubic meter of **BondGrout GP** i.e. 25 kg bag.

For stiffer mixes, reduce water requirement. It is recommended to grout with stiffest **BondGrout GP** mix possible, and to never grout with BondGrout GP when the flow is less than 20 seconds.

### APPLICATION

Apply continuously and rapidly from one side. This will reduce the tendency to entrap air. To avoid entrapped air pockets, pour or pump **BondGrout GP** on a slanted form surface only. Grout must fill the entire void and be placed at a level above the bottom of plate to ensure complete face to face contact between the grout and the plate.

Allow for the necessary weep holes to release the entrapped air between the grout mass and base plate chambers. Apply **BondGrout GP** when the flow is over 20 seconds. If placing this product in hot weather, use of cold water or with ice will increase the working time.

Use Chains, rods or tamping to compact grout and remove voids. Do not remove forms or cut back grout before initial set is achieved.

**CURING:** Proper curing of the exposed grout shoulders is very important. Cover all exposed grout with wet burlap and/or polythene sheets immediately after application. Keep the area moist for a minimum of 48 hours or as long as possible and if desired after final set continue wet curve.

### Large Scale Repairs & Renovations:

**BondGrout GP** may also be used in large scale repairs that can be shuttered, e.g.: retaining walls, column extensions, large honeycombs etc.

## BondGrout GP

(GENERAL PURPOSE NON-SHRINK STRUCTURAL GROUT)

Page 4 / 7

**PRIMING:** Apply the epoxy bonding agent like **EPOXYBOND** new-old concrete on the pre-treated dry concrete surface at approx. 3m<sup>2</sup>/kg coverage. The epoxy-bonding agent ensures excellent adhesion to the substrate; a monolithic bond provides and acts as a barrier against migration of chlorides and other salts.

Within the specified open time of epoxy bonding agent, **BondGrout GP** should be placed. Place a formwork with the necessary release agent and ensure it is secure and water tight to eliminate any movement and leakage while placing the grout.

**MIXING:** Use clean washed silt free aggregate of 8-10 mm diameter in above specified ratio. Mix water and **BondGrout GP** with aggregate until a smooth uniform homogenous consistency is achieved. The mixture is then poured or pumped into the framework ensuring no entrapment of air.

**CURING:** Immediate curing after placement of the grout is necessary. Cure the grout using Hessian cloth with continuous sprinkling.

### PERFORMANCE STANDARDS

**BondGrout GP** meets the volume change and exceeds the compressive strength of CRD-621 and ASTM C-1107 Grade C.

**Gravel:** Grouting 76 mm cavities or more, add up to 50% by weight washed clean pea gravel of size 8-10 mm to **BondGrout GP**. Water mixing ratio remains the same.

### COVERAGE

One 25 kg bag with yield approx. 15.73 liters, which is 0.0157 cubic meters. Approx. 64 bags of **BondGrout GP** per one cubic Meter.

## BondGrout GP

(GENERAL PURPOSE NON-SHRINK STRUCTURAL GROUT)

Page 5 / 7

### TYPICAL PROPERTIES

#### Setting Time:

Initial Set                                3 hrs 5 mins.

Final Set                                    4 hrs 47 mins.

#### Compressive Strength:

##### BS EN 196 1994 Cls 4.6.2:

1 day            @ 46.6 N/nm<sup>2</sup>

7 days          @ 54.2 N/nm<sup>2</sup>

28 days        @ 70.8 N/nm<sup>2</sup>

#### Flexural Strength

##### BS EN 196 1994 Cls 4.6.2:

7 Days        @ 8.9 N/nm<sup>2</sup>

28 Days      @ 12.3 N/nm<sup>2</sup>

Wet Density:                                2230 kg/m<sup>3</sup>

#### Modulus of Elasticity in Compression (PSI):

ASTM C 469 : 1994: CL.5                6200000

### PACKING & STORAGE

#### Storage

BondGrout GP has a shelf life of 12 months when stored in cool and dry conditions in unopened bags.

#### Packing

BondGrout GP is supplied in 25 kg paper bags.

#### Yield

One 25 kg bag will yield approx. 15.73 liters, which is 0.0157 cubic meters.

## BondGrout GP

(GENERAL PURPOSE NON-SHRINK STRUCTURAL GROUT)

Page 6/ 7

### HEALTH & SAFETY

**BondGrout GP** is a 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

### CLEANING

BondGrout GP should be cleaned from tools, equipment, etc. with clean water immediately after use.

### ACI STANDARDS

BondGrout GP is cement based, and is recommended that the following ACI practices be followed:

- ACI 304 - for measurement, mixing, transportation and application of concrete.
- ACI 305- for hot weather application.
- ACI 306- for cold weather application.
- ACI 308- for curing concrete.

Do not add plasticizer, cement, sand, or accelerator to **BondGrout GP**. Use only clean water for mixing. Use 8-10 mm pea gravel when grouting exceeds 75 mm thickness. Prior to application of grout, soak surface with clean water. At the time of application of grout, the substrate should be damp but free of standing water.

Avoid mixing more grout than can be applied in 15 minutes and avoid application when temperatures are or will be below 4°C in the next 24 hours. On large jobs, rapid and continuous mixing and application are necessary. Excessive vibration due to nearby equipment should be avoided during application.

## BondGrout GP

(GENERAL PURPOSE NON-SHRINK STRUCTURAL GROUT)

Page 7/7

### HANDLING

**BondGrout GP** is a non-flammable and non-toxic in nature. Avoid contact with eyes and skin as it may cause irritation due to its alkaline nature. Splashes of BondGrout GP should be washed off immediately with clean water. Wear necessary gloves and dust mask.

### PRECAUTIONS

- Do not add any admixture or fluidifiers.
- Proper curing is required.
- Employ cold weather or hot weather grouting practices as the temperature dictates.
- Store materials in a dry place.
- Do not allow to freeze until 4000 psi (27.6 Mps) is attained.
- Do not use as a topping.
- Do not use material at temperatures that may cause premature freezing.
- Rate of strength gain is significantly affected at temperature extremes.

Whilst the information and/or specification given are to the best of our knowledge true and accurate, no warranty is given or implied in connection with any recommendations or suggestions made by us, our representatives, agents or distributors as the conditions of use and any labour involved are beyond our control.

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