

## High Performance Non Shrink Precision Grout

**Guardian PG-1000** is a fine precision non shrink, high performance grout with extended working time.

**Guardian PG-1000** complies to ASTM C1107, Type C.

## USES & ADVANTAGES

**Guardian PG-1000** uses for the installation of anchor bolts, heavy machinery base-plates, column sole plates, bridge bearings and all areas requiring precision grouting.

### Advantages include:-

- Repair work and cavity filling.
- Flowable and self levelling.
- Able to fill intricate voids.
- Ready to use.
- High strength.
- Good dimensional stability.
- No bleeding or segregation.
- Good expansion.
- Compensates for shrinkage in both plastic and hardened state.

## PROPERTIES

|  |   |
|--|---|
| <b>Appearance:</b>   | Grey powder   |
| <b>Bulk Density:</b>   | Approx. 1.56-1.60 kg/litre  |
| <b>Yield:</b>  | Approx. 74-78 x 25 kg/bags/m <sup>3</sup> of grout depending on water content |
| <b>Bond Strength to Concrete:</b>                                      | > 2.5 N/mm <sup>2</sup> at 28 days <b>ASTM D 4541</b><br>(Concrete failure)   |
| <b>Drying Shrinkage:</b>   | < 500 micro strain  |
| 23°C C/RH 50%  | at 28 days <b>ASTM C490</b>   |
| <b>Resistivity:</b>  | < 12,000 ohm cm at 28 days  |
| Expansion of up to 1% or greater in unset material according to        | <b>ASTM C827.</b>   |
| Drying shrinkage is compensated for complying with the requirements of | <b>ASTM 1107.</b>   |
| <b>Initial</b>   | Set - 2.3-3.4 hours   |
| <b>Final</b>   | Set - 4-5.6 hours   |

## APPROXIMATE FLOW DISTANCES AT 23°C

|                               |               | Approx. Flow distance in cm. |                    |
|-------------------------------|---------------|------------------------------|--------------------|
| Grout Water cement            | Gap Depth mm. | Head Height 10 cm.           | Head Height 25 cm. |
| <b>15% by weight of grout</b> | 10            | 40 cm.                       | 140 cm.            |
|                               | 20            | 100 cm.                      | 270 cm.            |
|                               | 30            | 160 cm.                      | >310 cm.           |
|                               | 40            | 240 cm.                      | >310 cm.           |
| <b>16% by weight of grout</b> | 10            | 100 cm.                      | 270 cm.            |
|                               | 20            | 200 cm.                      | >310 cm.           |
|                               | 30            | >300 cm.                     | >310 cm.           |
|                               | 40            | >300 cm.                     | >310 cm.           |

*Flow distance will be effected by surface conditions, temperature, height of head and mixing time.*

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### SURFACE PREPARATION

Surfaces should be clean, sound and free from oil, grease, laitance and loose particles. Metal surfaces should also be clean & free from rust, oil & grease.

### MIXING

**Guardian PG-1000** should be mixed using a suitable mixer. For flowable consistency use a slow speed <400 R.P.M. hand drill and paddle. For large works use a high shear vane grout mixer. Drum mixers may not mix sufficiently.  
 Powder should be added to the pregauged clean water. For J rote of 8-10 seconds approx. 15-16% of water by weight of **Guardian PG-1000** should be used.  
 Do not add more than the maximum water content. Mix for up to 5 minutes.

### APPLICATION

Ensure the substrate is correctly prepared. No contamination and saturated with water at least 3–4 hours prior to pouring the grout. No free water should be left. During application ensure air entrained into the grout is able to escape through relief holes. Maintain continuous head when base-plate grouting. Mortar flow should not be interrupted. Formwork should not allow grout loss.  
 Ensure there is no water standing in bolt holes. If possible grout anchor bolts first then the mortar bed in a second operation. The distance between anchor bolt and substrate should be at least 3 x max. diameter of mortar aggregates approx. 10 mm. A cable or chain may be used to make sure that all cavities are filled.

### IMPORTANT NOTES

Use **Guardian PG-1000** with minimum gaps of 5 mm. and maximum depths of 125-150 mm. Temperature will affect setting time and strength gain. Normal curing practice should be maintained.

### CURING

To prevent rapid surface drying and crazing, use a suitable curing compound from Guardian CURE range Guardian CURE-SW

### CLEANING

Clean all tools with water immediately after use.

### STORAGE & SHELF LIFE

Store in dry shaded conditions. The shelf life is at least 12 months if kept dry in original packaging. High temperatures and humidity may reduce shelf life.

### PACKAGING

4 Ply. 25 kg. plastic lined bags.

### HEALTH & SAFETY

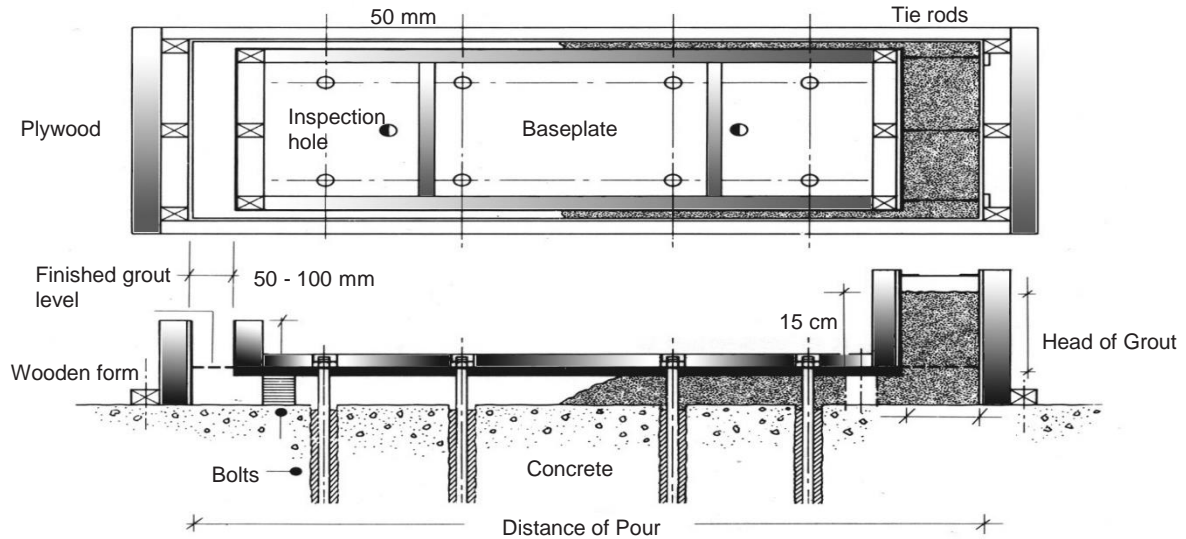
**Guardian PG-1000** is alkaline avoid contact with skin & eyes. Gloves, goggles and dust mask should be worn. Remove from skin with soapy water. Splashes in the eyes should be washed out with copious amounts of clean water and medical attention sought.  
**Guardian PG-1000** is non-flammable.

### TYPICAL CHARACTERISTICS AT 25°C UNDER LABORATORY CONDITIONS

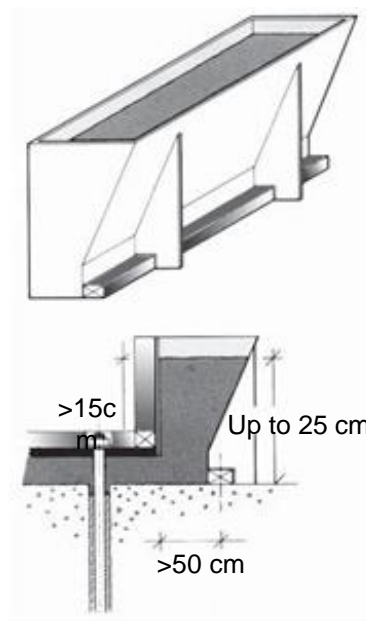
| Water Content (%) | Consistency (J rote) | Setting time@25°C (minutes)<br>ASTM C191-01a/<br>ASTM C807 |         | Bleeding<br>ASTM C940<br>ASTM C232 | Average Compressive Strengths (N/mm <sup>2</sup> ) - ASTM C109 |        |        |         |
|-------------------|----------------------|--|---------|------------------------------------|--|--------|--------|---------|
|                   |                      | Initial  | Final   |                                    | 1 day  | 3 days | 7 days | 28 days |
| 15-16             | 8-12 seconds         | 170-200  | 200-230 | 0                                  | 40-55  | 50-65  | 60-75  | 70-80   |
| 15.5              | 10 seconds           | > 175  | > 205   | 0                                  | > 42   | > 52   | > 62   | > 70    |

## High Performance Non Shrink Precision Grout

### Typical drawing for baseplate installation



#### Typical hopper details



20 mm thick plywood

50 x 75 mm timber  
bolted to substrate

## TECHNICAL SERVICE

The Guardian Coating Service Department is available to assist you in the correct use of our products and its resources are at your disposal entirely without obligation.

## QUALITY ASSURANCE (OEM)

ISO 9001: 2015 verified by TUV Nord.

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