



EUCO GROUT GP

High Strength, Non-Shrink, Cementitious Construction Grout

DESCRIPTION

Euco Grout GP is a premixed cementitious non-shrink cementitious grout which when mixed with water gives free flowing grout of excellent workability and performance. It contains special hydraulic setting binders, selected aggregates, and expansion control additives. It is used for grouting of machinery and equipment's.

Specification: Meets the requirements of ASTM-C-1107 & CRD-C-621-83.

PRIMARY APPLICATIONS

- Heavy machineries & equipment's foundations
- Repair of pre-cast concrete
- Bridge bearing pad & structural columns in pre-cast crane rail construction grouting
- Prefabricated unit joints and cable grouting
- Boiler foundation & turbine generator bearing plates
- Cavities, gaps, recesses and anchorage
- Floor repairs and topping

FEATURES/BENEFITS

- Non shrink property of the grout provides maximum contact with bearing surface
- High early strength & excellent bonding strength to concrete
- High flowability helps in grouting of larger base plates
- No bleeding and segregation which controls the flow & strength development of the grout
- Meets CRD-C-621 and excellent for dynamic and static loading conditions
- High early strength and durability characteristics for rapid result
- Free of chlorides which prevents corrosion of foundation bolts & base plates
- Dry pack to flowable consistency
- Pour or pump as high flow
- Easy to grout machine base plates up to 70 mm & deeper than 80mm thickness can be made using additional 10mm passing washed aggregate

TECHNICAL INFORMATION

Material properties tested under laboratory conditions @ 25°C,50% RH

| Property | Test Method | Values at 25° C | |
|---------------------------------|--------------|--------------------|----------------------------|
| Density | - | Single | |
| Appearance | - | Grey | |
| Fresh Wet Density | BSEN 12350-6 | 2.20 ± 0.05 Kg/Ltr | |
| Setting Time | - | Initial | > 5 hours |
| | | Final | > 10 hours |
| Compressive Strength | ASTM C109 | 1 Day | 27.0 N/mm ² |
| | | 7 days | > 45.0 N/mm ² |
| | | 28 Days | > 60.0 N/mm ² |
| Flexural Strength | ASTM C580 | 28 days | 9 – 10.5 N/mm ² |
| Tensile Strength | ASTM C307 | 28 days | 5 - 6.0 N/mm ² |
| Expansion, Restrained Condition | - | + 0.15 to + 0.40 % | |

Values presented are typical and not necessarily referenced to create specifications.

PACKAGING

EUCO GROUT GP is packaged in a 25 Kg Paper Bag.

SHELF LIFE

1 Year in original, unopened container when stored in dry conditions. High relative humidity will reduce the shelf life.

COVERAGE/YIELD

25kg bag will yield 13.10 liters volume.
76.33 bags required to fill 1 m³.

DIRECTIONS FOR USE

Surface Preparation:

Concrete Surface: Completely remove all loose, delaminated and weak concrete, oil, grease, laitance and other contaminants. Prepare concrete using acceptable mechanical means to obtain clean, sound and rough concrete surfaces exposing coarse aggregate.

Metal Surface: Where bond-to-metal surfaces is not required, coat with a bond breaker such as paste wax or duct tape. Where bond to metal surfaces is required, the surface shall be clean, free of oil, grease, rust and other contaminants. Provide 6mm to 12mm air relief holes where baseplate configuration and high spots will entrap air.

Priming: Prior to placement, the roughened concrete surfaces must be pre-soaked with clean potable water for a minimum of 8 hours. Concrete shall be saturated, but free of standing water.

Formwork:

1. Formwork shall be constructed of rigid non-absorbent materials, securely anchored, caulked, liquid tight and strong enough to resist forces developed during grout placement.
2. Formwork shall be constructed so that the grout is placed across the shortest distance whenever possible. The clearance between formwork and the baseplate shall be sufficient to allow for the head box with the clearance on the remaining sides being from 25 to 50mm.
3. Height of the formwork shall extend a minimum of 25mm above the bottom of the baseplate, grout forms shall have 25mm chamfer strips on all vertical corners and top edges of grout shoulders.
4. All formworks shall be coated with a bond breaker such as two coats of paste wax, with care being taken not to contaminate the grouting surface where bond is required. Form release oils is not acceptable.
5. All baseplates shall be set to final alignment prior to grouting. Shims and wedges that are to be removed shall be covered with a bond breaker such as paste wax or duct tape. When shims and wedges are to remain in place, their distance from the plate edges shall be a minimum of 50mm. A minimum radius of 50mm on all shims and wedge corners should be provided.

Mixing: Provide an adequate number of mortar mixers (stationary barrel with moving paddles) in good operating condition for uninterrupted placement. Do not exceed one half the maximum capacity of the mortar mixer. Concrete or cement mixers are not recommended, except for when extending grout with coarse aggregate.

For maximum strength, use the minimum amount of water for placement. For Flowable Consistency, add 3 litres of water per 25kg dry grout. Adjust the consistency, if necessary, but do not exceed 3.75 litres or a quantity which will cause aggregate segregation. For Ramming purposes, add 2.5 litres of water and adjust consistency such that the grout does not crumble when squeezed into a ball by hand.

Do not mix more material than can be placed within the working time of the grout (approximately 30 minutes). Do not re-temper the mix by adding additional water. Transport the mixed material by wheelbarrow or buckets, taking care not to allow material to segregate. For pours requiring aggregate extensions, add clean, damp coarse aggregate before final water adjustment.

Application: Euco Grout GP may be dry packed or poured into place.

Dry Pack: Dry pack placement should be limited to small plates that have sufficient access and clearance.

- A dry pack consistency is achieved when the mixed grout can be squeezed into a ball by hand without crumbling. Only enough water should come to the surface to moisten the hands.
- Use a ram with a square-cut end and hammer to evenly compact the grout against solidly braced backing boards, combing each layer (approximately 12mm thick) to the previously placed layer over its entire surface.
- Each placed layer shall be visually inspected for placement uniformity.
- Striking force should be sufficient for compaction of the grout without affecting plate alignment.
- Placement shall be continuous until grouting is complete.

Pouring:

- A headbox or similar device is required for a continuous pour to avoid air pockets under the baseplate. All grouting shall take place from one side to the other, always maintaining contact with the bottom of the plate, thereby maximising the effective bearing area (EBA).
- When pouring through grout holes, placement shall proceed continuously with a headbox until the grout has risen in the next hole. Maintain head pressure at the initial hole so that grout always stays in contact with the bottom of the baseplate. Commence grouting at the next hole with an additional headbox. Continue the process, alternating headboxes until grouting is complete.
- Care must be taken during grouting to keep the headbox at least half full of material to ensure even grout flow. If necessary to assist the flow, a plunger may be used. This procedure shall continue until the grout rises above the bottom edge of the baseplate on the opposite side.
- Throughout the pour, forms shall be constantly checked for leaks. All leaks shall be sealed immediately.

Large Pours / Micro Concrete: In large pours or non-structural concrete repair application, add 1 x 12,5kg bag of Pro-Struct 53MC aggregate to 1 x 25kg bag of Euco 530-NS (yields 18 litres). The materials must be dry mixed prior to the addition of water as detailed in the mixing section. Should an alternative source of 6mm stone be suggested, a sample must be submitted to a local testing authority prior to its use to determine its characteristics and performance.

Finishing and Curing:

Finishing: Cut grout back from bottom of baseplate to the foundation at approximately 45° angle or flush with baseplate as directed by the engineer. Formwork can be removed for cutback when the grout offers stiff resistance or when cut with a steel trowel, stands up without support. Finish exposed grout surfaces. Grout shall not be allowed to remain above the bottom edge of the baseplate.

Curing: Grout shall be wet cured for a minimum of three days or coated with an approved curing compound after a minimum of 24 hours wet cure. Grout shall be protected from excessive evaporation with wet rags prior to set. The grout shall be protected from wind, rain, freezing and vibration until a minimum compressive strength of 6.9MPa is achieved.

Special Conditions:

1. Do not hand-mix Euco Grout GP
2. Never exceed the maximum water content of 3.75 litres.

3. Low temperatures delay the set, increase working time and delay the strength development of cement-based products. The procedure below will compensate for these conditions:
 - Materials shall be conditioned as necessary so that the mixed grout is between 4°C and 27°C. Store grout in an indoor or a tarped and heated area where required.
 - All surfaces in contact with grout must be pre-conditioned and maintained at a temperature between 4°C and 32°C for at least 24 hours.
 - Heating shall be accomplished by indirect exposure. Heated enclosures must be windproof and weatherproof. Combustion heaters must be vented and shall not be permitted to heat and dry the concrete locally. Caution: Exhaust gases may contaminate or cause carbonation within the enclosed environment.
 - Grout temperature shall be maintained above 4°C until the grout reaches 6.9MPa or the required strength. Gradually reduce temperature of grout to ambient temperature to avoid thermal shock.
4. High temperatures accelerate the set, decrease the working time and accelerate the strength development of cement-based products. The procedure below will compensate for these conditions:
 - Materials shall be conditioned as necessary so that the mixed grout is between 10°C and 35°C. Store grout in a shaded area out of direct sunlight.
 - All surfaces in contact with grout shall be pre-conditioned and maintained below 35°C for a minimum of 24 hours. Pre-soaking of surfaces, mixing equipment and wheelbarrows with cold iced water will facilitate cooling of surfaces.
 - Mix grout using cold or iced water. Do not put ice directly in with grout during mixing.
 - Provide shading during grout placement and where feasible, place grout when temperatures are decreasing at night or early morning. Provide protection from excessive wind to reduce rapid drying and evaporation of water from exposed grout surfaces.
 - Begin wet cure immediately after grout takes initial set and continuously wet cure all exposed grout surfaces using wet rags or burlap. Place plastic sheeting over material used for wet cure to ensure continuous wet cure. Monitor condition of material used to wet cure to ensure drying does not occur.
 - After a minimum of 24 hours continuous wet cure, continue wet cure for an additional 48 hours or coat all exposed grout surfaces with an approved curing compound.

CLEAN-UP

Clean tools and equipment with solvent before the material hardens.

PRECAUTIONS / LIMITATIONS

- For large pours, the grouting operation shall be done in steps with a high head or by a grouting pump to avoid air entrapment.
- Do not add extra water in any circumstances.
- Ensure that the shutter is leak proof.
- Pour the mix only from one end under the gravity of 150mm to 8 200mm head.
- For greater depth (more than 75 mm), fill clean, pre-washed, crushed 10 mm down aggregates (40% by weight of powder).

In all cases, consult the Safety Data Sheet before use.

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