

Emcekrete GP (Formerly known as NanoGrout GP) Non-Shrink Cementitious Performance Grout

Description

Emcekrete GP is a cement based, non-metallic, non-shrink, free flowing grout that maintains a fluid consistency for a longer duration.

Standards

ASTM C1107

Advantages

- Ready to use, only requires addition of water
- Flowable and self levelling
- Can fill intricate voids
- High strength
- No bleeding or segregation
- Controlled expansion

Application

Areas of application

Emcekrete GP can be used for grouting of bolt pockets, gaps between the base plate and concrete such as bridge bearings, machinery base-plates, stanchion base plates, joints between precast panels, rail and anchor bolts, etc. Can be used for filling precast joints and tie holes with adjustable consistency. Can be used for reinstating damaged structural elements by placing within the formwork.

Surface Preparation

Surfaces should be clean, sound, free from oil, grease, laitance & loose particles. Saturate concrete substrate with water at least 3 - 4 hours prior to pouring the grout. Any standing water should be removed just before placing the grout. Ensure that there is no standing water in bolt pockets. Metal surfaces should also be clean and free from rust, oil and grease.

Mixing

Emcekrete GP should be mixed using a suitable mechanical grout mixer. For small volumes it is recommended to use a drilling machine fitted with a paddle. For large works, high shear vane grout mixer is to be used. Powder should be added to the pregauged water. A free flowing and self levelling grout can be obtained at a mix ratio of 25 kg powder to 4.0 litres of water. Mix until uniform

Application

Place the mixed grout within 15 minutes to gain full advantage of the expansion. Bolt pockets should be grouted first. Stop the grout 5-10 mm below the top surface of the bolt pocket. Grouting of base plate should be carried out continuously. Ensure to have enough grout in place before starting. Start pouring the mixed grout from one side of the formwork to prevent entrapment of air. This can be achieved by pouring the grout to the shortest distance. It is advisable to use heavy duty diaphragm pump when large volumes are to be placed. During application ensure entrapped air is able to escape through relief holes. Maintain continuous head during grouting. Grout flow should not be interrupted. Check for any grout loss through the formwork or between any unsealed joints. Plug the same using **MoyaProof Plug**.

Curing

To prevent rapid surface drying and crazing, exposed surface of grout should be cured with wet burlap or moist hessian or use a suitable curing compound from JetCure range

Note:

Use **Emcekrete GP** for minimum gap of 10 mm and maximum thickness of 100 mm. For thickness above 100 mm, **Emcekrete GP** can be mixed with hard, clean, surface saturate dry (SSD), graded 10 mm aggregates in the ratio of 1:1 or 1:0.5 by weight

consistency is achieved. Chilled or cold water will give enhanced flowability. **Emcecrete GP** can also be used as dry pack mortars of various consistency by adjusting the water content of the mix.

FormWork

The formwork should be watertight. Sealant can be used to seal gaps between formwork and the concrete, as well joints in the formwork. Alternatively, dry grout powder can be used to fill the gaps between formwork and concrete. Outlets should be provided for draining of water.

depending on consistency required. Exact proportion should be determined by conducting site trials. Ambient temperature will affect setting time and strength gain. Use of chilled water will ensure better flow and retention properties.

Limitations

Emcecrete GP should not be used in the unrestrained areas as it may lead to the cracking of grout. Shoulder space between baseplate and formwork should be as minimum as possible. Grout surface on the shoulders may be sprinkled with aggregates or restrained to minimize the cracks.

Yield

13.0 ltr/25 kg bag with W/P of 0.16

Typical Properties at 25°C

Property	Test Method	Value		
Component	-	Single		
Form	-	Powder		
Colour	-	Grey		
Fresh Wet Density	-	2.20 kg/ltr +/-0.05		
Consistency	ASTM C1107	1 Day	30 N/mm ²	25 N/mm ²
		3 Days	45 N/mm ²	40 N/mm ²
		7 Days	55 N/mm ²	50 N/mm ²
		28 Days	70 N/mm ²	65 N/mm ²
Flexural Strength	BS 6319 -3	7 Days	8 N/mm ²	7 N/mm ²
		228 Days	10 N/mm ²	9 N/mm ²
Flexural Strength**	BSEN 445	9 N/mm ² at 28 Days		
Expansion (Plastic State)	ASTM C827	Upto 2.0% positive expansion		
Expansion (Hardened State)	ASTM C1090	0-0.3%		
Bleeding	ASTM C940	Nil		
Setting Time	ASTM C191-01a	Initial: > 4 hrs; Final: < 8 hrs		

*Flow: 125-145% as per ASTM C1437

**Flow: 165-185% as per ASTM C1437

Approximate Flow Distance (mm) at 25°C Grout Temperature:

Water Powder Ratio	Gap Depth mm.	Head Height 10cm.	Head Height 25cm.
14%	10	280	1200
	20	800	2500
	30	1400	2800
	40	2200	>3000
16%	10	800	2400
	20	1700	2900
	30	2800	3100
	40	>2900	>3200

Flow distance will be affected by surface conditions, temperatures, height of head and mixing time.

General Information

Package Size	25 kg bag
Shelf Life	12 months from date of manufacture when stored under warehouse conditions in original unopened packing. Extreme temperature/humidity may reduce shelf life.
Cleaning	Clean all equipments and tools with water immediately after use.

Health and Safety

PPE's	Gloves, goggles and suitable mask must be worn.
Precaution	Contact with skin, eyes, etc. must be avoided. If swallowed seek medical attention immediately.
Hazard	Regarded as non-hazardous for transportation.
Disposal	Do not reuse containers. To be disposed off as per local rules and regulations.
Additional Information	Refer MSDS. (Available on request.)

Technical Support	MC Technical Services are available on request for on site support to assist in the correct use of its products.
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NOTE:

It is the customer's responsibility to satisfy themselves by checking with the company whether information is still current at the time of use. The customer must be satisfied that the product is suitable for the use intended. All products comply with the properties shown on current data sheets. However, MC-Bauchemie does not warrant or guarantee the installation of the products as it does not have any control over installation or end use of the product. All information and particularly the recommendations relating to application and end use are given in good faith. The products are guaranteed against any manufacturing defects and are sold subject to MC- Bauchemie's standard terms and conditions of sale.