Construction

# SikaGrout® GP

General purpose shrinkage compensated cementitious grout

## Description

SikaGrout GP is a general purpose cementitious grout that is shrinkage compensated.

SikaGrout GP is a blend of Portland cement, carefully selected and graded aggregates and admixtures.

## Uses

- General purpose grouting.
- Machine and structural base plants.
- Anchor bolts.
- Pre-cast concrete sections.
- Cavities, gaps and recesses.

## Advantages

- Shrinkage compensating properties.
- Similar appearance to concrete.
- Contains no chlorides, or corrosive ingredients.
- Can be dry packed, rammed, trowelled, poured or pumped.

## Storage and Shelf Life

Stored in the original sealed packaging in dry conditions, this product will keep for at least nine (9) months.

## Instructions for Use

### Surface Preparation

Correct and thorough surface preparation is essential to achieve the high performance qualities of SikaGrout GP.

All surfaces must be clean, sound and free from dust, ice, oils, grease and other surface contaminants such as curing membranes and form release agents etc. Bolt holes and fixing pockets should be free of dirt and debris by air blasting. For maximum bond, surfaces should be abraded or roughened, preferably by mechanical means such as needle gun, grit blasting, grinding etc.

All prepared surfaces must be saturated with water several hours prior to grouting, ensuring it is free of any surface water or puddles.

### Formwork

The formwork used must be leak proof to allow for the free flowing SikaGrout GP. The formwork should be arranged so that the grout head is maintained on the side above the level of the underside of the base plate. This will allow gravity flow to completely fill the void to be granted.

Formwork should be coated with form oil to allow easy removal of forms. Ensure adequate air holes are provided.

### Temperature Control

Temperature effects setting time and rate of increase for strength. For optimum performance maintain grout, concrete and/or steel substrates with the range of 18-25°C prior to, during, and for 48 hours after placement of the grout.

At low temperatures (below 10°C) grout setting time is extended and bleeding may occur. As a result, base plate contact may be reduced. To reduce the setting time of SikaGrout GP, accelerating admixtures such as Sika-4A or SikaRapid-2 may be added.

At high temperatures (greater than 30°C) grout setting time is reduced, affecting placement. It is recommended that grouting at high temperatures be sheltered from the heat, or be conducted early in the morning.

It is good practice to keep materials cool in high temperatures using cold water for mixing. Setting times can also be increased using a retarding admixture such as SikaTard-930.

It is suggested that the site trials be conducted to determine optimum dosage rates for recommended admixtures. For further details contact Sika's Technical Department.

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## Application

### Mixing Equipment

SikaGrout GP must be mechanically mixed using a mechanical grout mixer or a suitable drum mixer. The grout mixer will reduce the chances of the mix becoming lumpy or aerated.

Smaller quantities should be mixed in a clean drum using an electric drill and spiral mixer at a speed of approximately 500rpm.

DO NOT MIX BY HAND.

### Mixing Method

1) **Stiff grout**, add 2.9 litres of water per 20kg bag.

   **Plastic grout**, add 3.2 litres of water per 20kg bag.

   **Flowable grout**, add 4.6 litres of water per 20kg bag.

2) Add all the required water into the mixer.

3) Add all the dry material into the mixer as it operates.

4) Mix until the grout appears homogenous (3-5 minutes). Allow to stand so any entrapped air can escape. Do not add more water to increase flow of the grout is a mix has stiffened due to time delays. If grout is unworkable, discard.

Note: Do not add water in amounts that will cause bleeding or segregation. More or less water may be required depending on the temperature and other variables.

### Placement

SikaGrout GP can be place by either packing and tamping, gravity flow or by pump. It is essential that proper placing on the job site is practiced to ensure placement is completed without problems. Sufficient labour, grout and equipment must be present to ensure continuous placement.

**1) Gravity Flow**

Mixed grout should be poured on one side of the void to avoid air entrapment. Grout is best poured over short distances to ensure this. Use a suitable header box, maintaining the grout head at all times to ensure a continuous flow.

To facilitate grout compaction and top plate contact, use rodding, tamping or flexible strapping in short strokes while maintaining an adequate head of grout. Do not vibrate as this will cause segregation. Any adjacent machinery or equipment causing vibration should be shut down until initial set.

**2) Pumping**

When pumping SikaGrout GP, ensure the pump is suitable for the grout consistency and for the distance and height it is to be pumped. A positive displacement pump is recommended. Place grout by pumping into the farthest corner, filling the space gradually. Ensure that air is not entrapped under the base plate.

**3) Stiff Packaging**

Stiff packing, or hand placing, must be done with sufficient water for a stiff consistency to assure hydration and strength development of the grout. Apply by placing and tamping into the void. Wooden ramming tools are recommended as steel tools leave the surface too smooth to bond reliably to the next layer. Be careful during the packing process not to knock critical plates out of alignment.

### Placement Thickness

Recommended thickness of SikaGrout GP in one pour is 20mm to 50mm. Minimum thickness is 10mm. Any grout pour that exceeds this should be done in stages, or have stone aggregate added to it, to reduce the exothermic heat. Contact Sika's Technical Department for further information.

### Curing

Suitable curing methods such as plastic sheet, wet hessian, liquid membrane (eg. Antisol curing membranes) etc. must be used to protect the freshly applied grout from the drying effects of sun and wind. Curing must commence immediately after placement, and continue for at least 7 days. Curing is vital to the ultimate performance of the grout as it allows optimum strength development and ensures tight contact with the base plate.

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## Cleaning

Remove uncured SikaGrout GP from tools and equipment with water. Hardened material can only be removed mechanically.

## Technical Data (Typical)

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| **Form** | Grey powder | | | |
| **Density (mixed)** | 2100 kg/m³ approx. (dependent on water addition rate) | | | |
| **Potlife @ 20°C** | 30 minutes approx. | | | |
| **Application temperature** | Minimum 5°C<br>Maximum 35°C | | | |
| **Colour** | Grey (when mixed) | | | |
| **Yield @ 20°C (Plastic)** | | Stiff | Plastic | Flowable |
| | Approximate yield per 20kg bag | 11.0 litres | 11.3 litres | 11.6 litres |
| **Compressive Strength (tested at 20°C) (AS 2350.11)** | Age | | | |
| | 3 days | >25 MPa | | |
| | 7 days | >35 MPa | | |
| | 28 days | >50 MPa | | |
| **Packaging** | 20 kg paper bag | | | |

## Important Notes

- For detailed information on grouting application, specifications and guidelines, refer to Sika Grouting Systems.
- While SikaGrout GP is designed to be placed at a variety of consistencies, it is generally used at a plastic consistency.
- Store SikaGrout GP in dry conditions in unopened original packaging.
- Never apply to dry substrates.
- For high performance Plastic grout, use SikaGrout 212HP.

## Handling Precautions

- Avoid contact with the skin.
- Protective gloves and clothing are recommended when mixing or using this product.
- A full Material Safety Data Sheet is available from Sika on request.

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