

## PRODUCT DATA SHEET

## Sikacrete® Gunit-103

## Machine applied repair mortar

## DESCRIPTION

Sikacrete® Gunit-103 is a cementitious one component repair mortar containing microsilica and super plasticisers to enhance application and performance properties. Sikacrete® Gunit-103 does not contain set accelerators and is gun applied using the dry spray process.

## USES

Sikacrete® Gunit-103 is an ideal product for use in all general applications where large volume repair work is to be carried out using the mechanically applied dry spray system. Typical uses for Sikacrete® Gunit-103 are:

- Large volume repairs to reinforced concrete structures.
- Concrete repairs requiring high early strength.
- Thick layer concrete repair work to large areas such as slab soffits.
- Tunnel linings and repair.
- Retaining structures for ground stabilisation.

## CHARACTERISTICS / ADVANTAGES

- One component mortar - ready for use.
- Rapid strength development without use of accelerators.
- Layer thicknesses up to 150mm in vertical applications and 100mm in overhead applications are possible in one application, depending on steel reinforcing congestion and application technique.
- Drying shrinkage approx. 600 microstrain at 28 days.
- Improved sulphate resistance.
- High density, excellent compaction.
- Low rebound, minimum waste, minimum dust.
- Good adhesion to existing concrete.
- Greatly reduced labour, scaffolding and formwork costs.
- Increased speed and efficiency of repair work.
- Can be trowelled and screeded after application.
- Application can be stopped or started at any time.
- Ideal for use in conditions where access is difficult.
- Manufactured to give a consistent and assured level of performance.

## PRODUCT INFORMATION

Chemical Base	Cementitious powder
Packaging	25 kg bag - minimum order 1 tonne.
Appearance / Colour	Grey powder
Shelf Life	Six (6) months from date of manufacture when stored as stated.
Storage Conditions	Store in unopened original packaging in cool dry conditions below +25°C.
Density	Dry powder = 1.7 kg/litre. Sprayed mix = 2.2 kg/litre.
Maximum Grain Size	3 mm

## TECHNICAL INFORMATION

Compressive Strength	> 60 MPa at 28 days
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<b>Modulus of Elasticity in Compression</b>	32,000 MPa approx.
<b>Tensile Adhesion Strength</b>	2-3 MPa approx. (depending on condition of substrate)

## APPLICATION INFORMATION

<b>Mixing Ratio</b>	Water/Cement ratio: Approx. 0.35 - 0.40
<b>Yield</b>	25 kg of powder = approx. 11.5 litres of sprayed material
<b>Layer Thickness</b>	Minimum thickness/coat: 10 mm
<b>Ambient Air Temperature</b>	Application temperature: Not below + 5°C

## BASIS OF PRODUCT DATA

All technical data stated in this Product Data Sheet are based on laboratory tests. Actual measured data may vary due to circumstances beyond our control.

## LIMITATIONS

- Any rebound material that falls to the floor during the spray process should not be reused.
- As with all concrete and mortars, it is essential to protect Sikacrete® Gunit-103 from water evaporation during the crucial early age curing period. We recommend the use of Sika Antisol curing membranes for this purpose. Refer to the Sika Antisol Data Sheet for further information.
- In vertical applications layer thicknesses of Sikacrete® Gunit-103 are only limited by heat of hydration and subsequent thermal contraction. Areas and layer thickness, both vertical and overhead should follow good concrete practice in this respect.
- A fairing coat of Sika MonoTop®-723 N may be used to achieve a smooth, finer grade of surface finish, if required.

## ECOLOGY, HEALTH AND SAFETY

For information and advice on the safe handling, storage and disposal of chemical products, users shall refer to the most recent Material Safety Data Sheet (MSDS) containing physical, ecological, toxicological and other safety-related data.

## APPLICATION INSTRUCTIONS

### EQUIPMENT

Sikacrete® Gunit-103 can be applied through most types of conventional dry spray equipment (rotor capacity up to 2.0 litres, hose diameter 25/40 or 32/52, nozzle diameter 25/15 or 32/18, 27).

### SUBSTRATE QUALITY / PRE-TREATMENT

- All concrete, mortar and stone substrates must be sound, clean and free from oils, grease, dust and other surface contaminants. All loose material and surface laitance must be removed preferably by grit blasting or scabbling.
- The prepared substrate should be thoroughly soaked with clean water until uniformly saturated. Immedi-

ately before the application of Sikacrete® Gunit-103 remove excess water from the substrate surface, to achieve a "saturated surface dry" condition.

- Corroded steel reinforcement should be cleaned and coated with Sika MonoTop®-910 N. Refer to separate data sheet for further information.

### MIXING

Sikacrete® Gunit-103 has been formulated to ensure that spraying can only be achieved when using the correct water/cement ratio of 0.35 - 0.40. Too little water will result in excessive amounts of dust, whereas too much water will cause excessive slumping and non-adhesion of the mortar.

### APPLICATION

- Sikacrete® Gunit-103 can be applied through most types of conventional dry spray equipment (rotor capacity up to 2.0 litres, hose diameter 25/40 or 32/52, nozzle diameter 25/15 or 32/18, 27).
- Tip the dry Sikacrete® Gunit-103 mortar straight into the hopper of the machine. The required water is added at the nozzle.
- Application should be carried out by an experienced 'nozzle man' to ensure that satisfactory results are achieved.
- Immediately after application the mortar can be screeded and trowelled to the desired finish.

## CLEANING OF TOOLS

Remove non-hardened Sikacrete® Gunit-103 from tools and equipment with water. Hardened material can only be removed mechanically. To clean the dry spray machine simply blow through with compressed air.

## LOCAL RESTRICTIONS

Please note that as a result of specific local regulations the performance of this product may vary from country to country. Please consult the local Product Data Sheet for the exact description of the application fields.

## LEGAL NOTES

The information, and, in particular, the recommendations relating to the application and end-use of Sika products, are given in good faith based on Sika's current knowledge and experience of the products when properly stored, handled and applied under normal conditions in accordance with Sika's recommendations. In practice, the differences in materials, substrates and actual site conditions are such that no warranty in respect of merchantability or of fitness for a particular purpose, nor any liability arising out of any legal relationship whatsoever, can be inferred either from this information, or from any written recommendations, or from any other advice offered. The user of the product must test the product's suitability for the intended application and purpose. Sika reserves the right to change the properties of its products. The proprietary rights of third parties must be observed. All orders are accepted subject to our current terms of sale and delivery. Users must always refer to the most recent issue of the local Product Data Sheet for the product concerned, copies of which will be supplied on request. It may be necessary to adapt the above disclaimer to specific local laws and regulations. Any changes to this disclaimer may only be implemented with permission of Sika® Corporate Legal in Baar.

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