Construction

SikaCem®-Gunite-133
SikaCrete®-Gunite-103

One component Gunite applied repair mortars

Description

SikaCem-Gunite-133 and SikaCrete-Gunite-103 are cement based one component repair mortars that cure to produce water resistant, high strength mortars with excellent adhesion and greatly reduced water and carbon dioxide permeability. They are for mechanical application by dry shot guniting and contain no set accelerators.

SikaCem-Gunite-133 is polymer modified.

SikaCem-Gunite-103 is non polymer modified.

Uses

For all mechanically applied concrete repair work using dry process guniting:

- Large repairs to reinforced concrete where there is corrosion of the reinforcement eg. Bridges, viaducts, reservoirs, concrete walls, slab soffits, etc. (The reinforcement being protected by SikaTop-110 EC).
- Concrete repairs which require fast strength gain; offshore structures such as piers, quay walls, etc.
- Concrete repairs in thick layers with only one shot.

Advantages

- Excellent adhesion to old concrete.
- Very fast strength gain without using accelerators.
- One component, ready to use, prebagged repair mortar.
- High build-ups possible in one application
  - for vertical surface almost unlimited
  - for overhead surfaces 100 to 150 mm.
- Negligible rebound.
- Minimum dust formation for both spraying and machine feeding.

Storage and Shelf Life

Minimum shelf life approximately 12 months.

Store under controlled conditions in original packaging

(min. 5°C, max. 35°C temperature range).

Instructions for Use

High quality, long term repairs can only be achieved if they are conscientiously undertaken by experienced applicators, giving adequate attention to detailed to surface preparation, priming of steel, application and curing, etc.

Surface Preparation

Precise and efficient surface preparation is essential to achieve the high adhesive qualities of gunite.

All concrete, mortar and stone substrates must be sound, clean and free from oils, grease and surface contaminants. All loose materials and surface laitance must be removed. Grit or grit/water blasting or scabbling is recommended.

Just prior to application pre-wet and wash down the substrate with water and air pressure from the spraying machine, blowing off any excess surface water with oil free pressurised air before guniting.

Priming (reinforcement)

Small amount of reinforcement. 24 hours before gunite application, apply 2 coats of brush applied SikaTop-110 EC to the prepared steel (refer to the SikaTop-110 EC data sheet).

Large amount of reinforcement. 24 hours before gunite application, apply 2 coats of SikaTop-110 EC by spray equipment to the prepared steel (refer to the SikaTop-110 EC data sheet).

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Application	SikaCrete-Gunite-103 and SikaCem-Gunite-133 are applied by any kind of dry spraying machine. In the dry shot process the nozzleman determines the water content of the mix and therefore the quality of the sprayed mortar. Both SikaCem-Gunite-133 and SikaCrete-Gunite-103 have been formulated such that they can only be sprayed in the proper water cement ratio range of 0.35 to 0.40. A lower water/cement ratio results in too much dust and a higher water/cement ratio gives a flowing mortar that will slump off the substrate. For applications to vertical surfaces there is almost no limit to the layer thickness achievable. Overhead repairs should not be sprayed in layers thicker than 100 to 150 mm. After spraying immediately screed off and trowel.
Curing	Suitable curing methods such as plastic sheet, wet hessian, liquid membrane (eg. Sikagard-680S) etc. must be used to protect the freshly applied gunite from the drying effects of sun and wind.
Cleaning	Remove non-hardened gunite from tools and equipment with water. Hardened material can only be removed mechanically.
Technical Data (Typical)	The information contained here is true and accurate to the best of Sika's knowledge. However, in the dry shot process the nozzleman determines the water/cement ratio and therefore the quality of sprayed concrete so that the data quoted herein are subject to variation, depending on the quality of workmanship and other conditions of use beyond our control.

	SikaCem-Gunite-133	SikaCrete-Gunite-103
Mixed Colour	Concrete Grey	Concrete Grey
Density – loose material	1.7kg/litre approx.	1.7kg/litre approx.
Density – sprayed material	2.2kg/litre approx.	2.2kg/litre approx.
Compressive strength @ 24 hours	10-12 MPa	12-15 MPa
Compressive strength @ 7 days	30-35 MPa	35-40 MPa
Compressive strength @ 28 days	40-45 MPa	45-55 MPa
Flexural strength @ 7 days	8 MPa	12 MPa
Flexural strength @ 28 days	10 MPa	13 MPa
Adhesive strength	>3 MPa (dependant on substrate condition)	>3 MPa
Modulus of Elasticity (Young's)	24 GPa	32 GPa
Minimum application temperature	5°C	5°C
Packaging	20 kg bag	20 kg bag
Consumption	2.0 kg of Gunite per litre or 2.0 kg of Gunite per sq.m per mm of thickness	

Important Notes

- Store SikaCem-Gunite-133 and SikaCrete-Gunite-103 in dry conditions.
- Apply only to clean sound substrates.
- Never apply to dry substrates.
- Always ensure adequate curing of freshly placed gunite.
- A fairing coat of Sika MonoTop-620 may be required to provide a smoother, finer grade of surface finish.

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Handling Precautions

- Avoid contact with skin.
- Protective gloves and clothing are recommended when using this product.
- A full material safety data sheet is available from Sika on request.

Important Notification

The information, and, in particular, the recommendations relating to the application and end-use of Sika's 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 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 proprietary rights of third parties must be observed. All orders are accepted subject of our terms and conditions of sale. Users should always refer to the most recent issue of the Technical Data Sheet for the product concerned, copies of which will be supplied on request.

PLEASE CONSULT OUR TECHNICAL DEPARTMENT FOR FURTHER INFORMATION.