

PRODUCT DATA SHEET

SikaCem[®] Gunit-103

Microsilica Based Gunite Mortar

DESCRIPTION

SikaCem[®] Gunit-103 is a ready to use, one component cementitious polymer modified silica fume based micro concrete, shotcrete gunite mortar, suitable for use in hot and tropical climatic conditions.

USES

A high performance mortar for dry-spray application to concrete, stone and mortar substrates.

Suitable for new construction, repairs and maintenance work.

Typical applications include:

- Construction of power stations and penstocks.
- Tunnels and galleries.
- Bridges.
- Industrial and residential buildings.
- High strength mortar
- Levelling of large area.
- Concrete repair work.

CHARACTERISTICS / ADVANTAGES

- Ready- for-use, one-component material.
- Superior workability.
- Can be trowelled and screeded after application.
- Rapid strength development.
- Outstanding resistance to attack of frost and de-icing salts.
- Very high density.
- Highly effective carbonation inhibitor.
- Excellent adhesion to substrate.
- Coat thickness up to 150 mm in a single application.
- Extremely economical in use, only 5% rebound.
- Excellent sulphate resistance.

PRODUCT INFORMATION

Packaging	30kg paper bag	
Shelf life	12 months from date of production if stored properly in unopened original packing.	
Storage conditions	SikaCem [®] Gunit-103 must be stored in dry conditions, protected from direct sunlight.	
Maximum grain size	0- 4 mm	
Density	2.2 kg/l	
Compressive strength	According to EN 196-1	
	Age of testing	Compressive strength
	7 days	35 MPa
	28 days	55 MPa

APPLICATION INFORMATION

Mixing ratio	2.25 - 2.55 L water per one pack 30 kg powder
Consumption	The rate of coverage depends on the substrate condition and the location of the area to be sprayed (overhead or vertical) and the thickness required of the applied layer. As an approximate consumption: 22-24 kg/m ² /10 mm thickness.
Layer thickness	<ul style="list-style-type: none">▪ Minimum application thickness per coat : 10 mm▪ Maximum application thickness per coat : 150 mm

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.

IMPORTANT CONSIDERATIONS

- Avoid application in direct sun and/or strong wind or rain.
- Do not add water over recommended dosage.
- Apply only to sound, prepared substrates.
- Do not add additional water during the surface finishing as this will cause discoloration and cracking.
- Protect freshly applied material from freezing.
- Rebound, slump and overhead layer thickness will be affected by the w/c ratio, type of spraying equipment, presence of reinforcement and air pressure used to convey material to the nozzle.
- A balance should be achieved to optimise material usage by adjusting water and air pressure and number of passes to achieve thickness build up relevant to the repair size.

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 Safety Data Sheet (SDS) containing physical, ecological, toxicological and other safety-related data.

APPLICATION INSTRUCTIONS

SUBSTRATE QUALITY / PRE-TREATMENT

Concrete:

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

Steel reinforcement:

- Rust, scale, mortar, concrete, dust and other loose and deleterious material which reduces bond and contributes to corrosion shall be removed. Surfaces shall be prepared using abrasive blast cleaning or high pressure water blasting techniques to a minimum standard of SA 2 (ISO 8501-1)
- Corroded steel reinforcement should be cleaned and coated with Sikatop Armatec®-108. Refer to separate data sheet for further information.

MIXING

SikaCem® Gunit-103 is fed into the dry process spraying machine which should be of suitable size for the repair areas to reduce wastage and rebound. The amount of water added is controlled by the nozzleman at the nozzle and should be sufficient to prevent slump and dust. Rebound will be increased with unsuitably sized spraying machine, compressor, nozzle type, dry mixture and thin layers.

APPLICATION

SikaCem® Gunit-103 shall be placed onto the pre-wetted substrate between the minimum and maximum layer thickness without the formation of voids and loose rebound material.

Where layers are to be built up to prevent sagging or slumping, each layer should be allowed to stiffen before applying subsequent layers (wet on wet).

CURING TREATMENT

It is essential to cure the repair mortar immediately after application for a minimum of 3 days to ensure full cement hydration and to minimise cracking. Use polyethylene sheet taped down at the edges or other approved methods. Curing compounds shall not be used when they adversely affect subsequently applied products and systems.

CLEANING OF EQUIPMENT

Clean all tools and the application equipment with water immediately after use. Hardened/cured material can only be mechanically removed.

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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