

PRODUCT DATA SHEET

Sika MonoTop®-3200 Grid

Cementitious R3 Concrete Repair Mortar for the Sika® CarboDur® Grid System

PRODUCT DESCRIPTION

Sika MonoTop®-3200 Grid is a one-part, cementitious, low shrinkage, surfacing or finishing mortar. It is designed to be used in combination with the Sika® CarboDur®-300 Grid as part of the Sika® CarboDur® Grid System which provides an efficient strengthening system for concrete structures.

USES

A Component from the Sika® CarboDur® Grid system designed for:

- Reinforcing and strengthening concrete civil engineering structures, residential and commercial buildings.
- Restoring the load capacity of structural concrete elements and limit the crack size.
- Producing a thin layer render.
- Repairing minor concrete defects (pores and honey-combed concrete).

Please note:

The Product may only be used by experienced professionals.

PRODUCT INFORMATION

Product Declaration	Complies with the general requirements of EN 1504-3: Class R3.
Chemical Base	Cement, selected aggregates, additives and polymers.
Packaging	25 kg bag.
Shelf Life	12 months from date of production.
Storage Conditions	The Product must be stored in original, unopened and undamaged sealed packaging in dry conditions at temperatures between +5 °C and +35 °C. Protect the Product from direct sunlight. Always refer to packaging. Refer to the current Safety Data Sheet for information on safe handling and storage.
Appearance / Colour	Grey powder.

CHARACTERISTICS / ADVANTAGES

- Good surface finishing.
- Applied up to 5 mm thick in one layer on vertical and horizontal applications.
- Non-sag overhead at maximum thickness.
- Good workability.
- Hand and machine application (wet spray technique).
- Ready to mix with water.
- Does not contain chlorides or other corrosion promoting additives.
- Sulphate resistant.

APPROVALS / STANDARDS

- CE marking and declaration of performance based on EN 1504-3:2005 Products and systems for the protection and repair of concrete structures — Structural and non-structural repair.

Maximum Grain Size	D_{\max} : 1 mm	
Soluble Chloride Ion Content	$\leq 0,05 \%$	(EN 1015-17)

TECHNICAL INFORMATION

Compressive Strength	~30 MPa after 28 days at +20 °C	(EN 12190)
Modulus of Elasticity in Compression	~15 GPa	(EN 13412)
Flexural Strength	~7,5 MPa after 28 days at +20 °C	(EN 12190)
Tensile adhesion strength	$\geq 2,0$ MPa	(EN 1542)

SYSTEM INFORMATION

System Structure	Sika MonoTop®-3200 Grid	Embedding layer
	Sika® CarboDur®-300 Grid	Reinforcing grid
	Sika MonoTop®-3200 Grid	Finishing layer

APPLICATION INFORMATION

Mixing Ratio	4 litres of water for 25 kg bag		
Fresh mortar density	~1,8 kg/l		
Consumption	~1,6 kg/m ² /mm Note: Consumption data is theoretical and does not allow for any additional material due to surface porosity, surface profile, variations in level, wastage or any other variations. Apply product to a test area to calculate the exact consumption for the specific substrate conditions and proposed application equipment.		
Yield	25 kg of powder yields ~16 litres of mortar		
Layer Thickness	Application	Minimum	Maximum
	Horizontal	1 mm	5 mm
	Vertical	1 mm	5 mm
	Overhead	1 mm	5 mm
Product Temperature	Maximum	+30 °C	
	Minimum	+5 °C	
Ambient Air Temperature	Maximum	+35 °C	
	Minimum	+5 °C	
Substrate Temperature	Maximum	+35 °C	
	Minimum	+5 °C	
Pot Life	~40 minutes at +20 °C		

VALUE BASE

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.

FURTHER DOCUMENTS

- Sika® Method Statement: Concrete Repair. Ref. No. 850 32 01.
- Sika® Method Statement: Sika® CarboDur® Grid C

Concrete Strengthening System. Ref. No. 850 41 14.

LIMITATIONS

- Avoid application in direct sun and / or strong winds.
- Do not add water over recommended dosage.
- Apply only to sound, prepared substrates.
- Do not add additional water during the surface finishing as this can cause discolouration and cracking.
- Protect freshly applied material from freezing.

ECOLOGY, HEALTH AND SAFETY

User must read the most recent corresponding Safety Data Sheets (SDS) before using any products. The SDS provides information and advice on the safe handling, storage and disposal of chemical products and contains physical, ecological, toxicological and other safety-related data.

APPLICATION INSTRUCTIONS

EQUIPMENT

SUBSTRATE PREPARATION EQUIPMENT

- Mechanical handheld tools.
- High / ultra-high-pressure water blasting equipment.

MIXING EQUIPMENT

Suitable mixing container.

- Small quantities: low speed electric single or double paddle mixer (<500 rpm) with spiral, helix, hoop, basket or impeller paddle.
- Large quantities or machine application: forced action mixer.

APPLICATION EQUIPMENT

- Hand applied – Plasterer's hawk and trowel.
- Wet Spray - All-in-one mixing and spraying machine or separate spraying machine and all associated ancillary equipment to suit application volumes.

FINISHING

- Trowel (stainless steel, steel, wooden or PVC).
- Sponge.

SUBSTRATE QUALITY / PRE-TREATMENT

Concrete

- The substrate must be thoroughly clean, free from dust, loose material, surface contamination and materials which reduce adhesion or prevent suction or wetting by repair materials.
- Remove delaminated, weak, damaged and deteriorated concrete and, where necessary, sound concrete. Remove using mechanical handheld tools or high / ultra-high-pressure water blasting equipment.
- Make sure sufficient concrete is removed from around corroded reinforcement to allow cleaning, corrosion protection coating (where required) and compaction of the concrete repair mortar.
- Repair surface areas must be prepared to provide simple square or rectangular layouts to avoid shrinkage stress concentrations and cracking while the repair material cures. This can also avoid structural stress concentrations from thermal movement and loading during the service life.

MIXING

HAND APPLIED AND WET SPRAY APPLICATION

1. Pour the minimum amount of water into a suitable clean mixing container or equipment.
2. Gradually add the powder to the water while stirring slowly.
3. Mix thoroughly for at least for 3 minutes, add additional water if necessary. Note: Do not add more water than the maximum specified amount.
4. Adjust to the required consistency to achieve a

smooth consistent mix.

5. Check the consistency after every mix.

APPLICATION

Protect from frost

Protect freshly applied material from freezing and frost to prevent cracking.

Application in the direct sun or strong winds

Avoid application in direct sun, strong winds or both to reduce the risk of the Product cracking.

REPAIR MORTAR MANUAL APPLICATION

Substrate pre-wetting

Insufficient substrate saturation prior to application will cause the mortar to not gain its full mechanical properties.

1. Only apply the Product to stable, prepared substrates.
2. Thoroughly pre-wet the prepared substrate for a minimum of 2 hours before application.
3. Keep the surface wet and do not allow to dry.
4. The final pre-wetted surface must achieve a dark matt appearance (saturated surface dry).

Sagging or slumping of built up layers

Allow each layer to slightly harden and remain wet before applying subsequent layers.

1. Remove excess water from within the surface pores and cavities with a clean sponge.
2. Make a scratch coat using the repair mortar.
3. Apply the scratch coat over the complete substrate surface to form a thin layer to fill surface pores or cavities.
4. IMPORTANT: Do not apply as a "feather edge". Apply the repair mortar onto the scratch coat 'wet on wet' between the minimum and maximum layer thicknesses without the formation of voids.

REPAIR MORTAR SPRAYED APPLICATION - WET SPRAY

Substrate pre-wetting

Insufficient substrate saturation prior to application will cause the mortar to not gain its full mechanical properties.

1. Only apply the Product to stable, prepared substrates.
2. Thoroughly pre-wet the prepared substrate for a minimum of 2 hours before application.
3. Keep the surface wet and do not allow to dry.
4. The final pre-wetted surface must achieve a dark matt appearance (saturated surface dry).

Sagging or slumping of built up layers

Allow each layer to slightly harden and remain wet before applying subsequent layers.

1. Remove excess water from within the surface pores and cavities with a clean sponge.
2. Place the wet mixed repair mortar into the spraying equipment.
3. Spray the repair mortar onto the pre-wetted substrate between the minimum and maximum layer thicknesses without the formation of voids.

SURFACE FINISHING

Adding water during surface finishing

Do not add water during the surface finishing as this can cause discolouration and cracking.

1. Allow mortar to surface harden.
2. Surface finish to the required surface texture using a stainless steel, steel, PVC or wooden float.

CURING TREATMENT

- Protect fresh mortar immediately from premature drying using an appropriate curing method, such as curing compound, moist geotextile membrane or polythene sheet.
- Curing compounds must not be used when they could adversely affect subsequently applied products and systems.

CLEANING OF TOOLS

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

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.

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