

PRODUCT DATA SHEET

Sika[®] Microcrete[®]-218

SELF-COMPACTING CONCRETE FOR FORMWORK REPAIRS

DESCRIPTION

Sika[®] Microcrete[®]-218 is a pre-bagged self-compacting concrete. It has very good flow properties and has been specifically developed to reduce heat generation. As such, large volume repairs may be performed without addition of aggregates.

Sika[®] Microcrete[®]-218 contains blended cement, graded aggregates and additives which give rise to controlled expansion in both the plastic and hardened states.

USES

Sika[®] Microcrete[®]-218 is suitable for structural repairs to bridges, columns, etc. It is also conducive for use in the following repair works where single placing is in excess of 50 mm thickness:

- Bridge columns and beams
- Concrete piling
- Dams
- Grouting applications

Sika[®] Microcrete[®]-218 can be applied by gravity pour.

CHARACTERISTICS / ADVANTAGES

- Pre-bagged at the factory / consistent quality
- Easy to mix and apply
- Good flow characteristics
- Suitable for large repairs
- Non-toxic and non-corrosive
- Impact and vibration resistant
- Placing thickness up to 300 mm

PRODUCT INFORMATION

Packaging	25 kg bag
Appearance / Colour	Concrete grey powder
Shelf Life	6 months from the date of production
Storage Conditions	Store properly in original, unopened and undamaged sealed packaging in dry conditions at temperatures between +10 °C and +30 °C. Keep away from direct sunlight, rain and water.
Maximum Grain Size	6 mm

TECHNICAL INFORMATION

Compressive Strength	at 7 days	~55 N/mm ²	(EN12190:1999)
	at 28 days	~75 N/mm ²	
Modulus of Elasticity in Compression	at 28 days	~35000 N/mm ²	(EN 13412:2006)
Tensile Strength in Flexure	at 28 days	~8 N/mm ²	(EN12190:1999)
Tensile Adhesion Strength	at 28 days	> 2 N/mm ²	(EN1542:1999)
Capillary Absorption		~0.07 kg/m ² .h ^{0.5}	(EN 13057:2002)
Chloride Ion Diffusion Resistance	at 28 days	< 1 000 coulombs	(ASTM C1202)

APPLICATION INFORMATION

Mixing Ratio	3.0–3.2 L of water per 25 kg bag		
Fresh Mortar Density	~2.2 kg/l		
Flowability	Flow Spread	> 650 mm	(EFNARC)
	L-Box	> 80%	
Ambient Air Temperature	Above +20 °C		
Substrate Temperature	Above +20 °C		
Pot Life	30 minutes min. (at +30 °C)		

APPLICATION INSTRUCTIONS

SUBSTRATE QUALITY / PRE-TREATMENT

Concrete surfaces should be clean, free from oil, grease, laitance and loosely adhering particles. A few hours prior to grouting or repair work, the substrate must be properly saturated by filling the formwork with clean water. Drain away the water prior to starting work.

Metal surface (iron and steel) should be free from scale, rust, oil and grease. For marine structures, it is recommended that the steel bars be protected with SikaTop® Armatec®-110 EpoCem® (refer to Product Data Sheet for details).

Saw cut the extremities for the repair to at least 10 mm depth to prevent feather edging. Exposed re-bars should have clearance of at least 30 mm.

The formwork must be constructed to be leak proof, as Sika® Microcrete®-218 is a free flowing material. However, it should include outlets to drain out water used for pre-soaking the substrate. Adequate air release shall be installed. If repair is carried out at the soffits, provision for air venting through the substrate must be provided.

MIXING

Sika® Microcrete®-218 should be mechanically mixed in a clean container using a heavy-duty drill and paddle or a forced-action mixer. Collomix mixer with mixing paddle MK or any other equivalent Forced-Action mixed is recommended. According to the mixing ratio place first the water into the clean mixing container and add Sika® Microcrete®-218 slowly while mixing. Ensure a minimum mixing time of 3 minutes. During mixing, the mortar will initially have a visibly stiff ap-

pearance, but upon continuous stirring, it will become free-flowing. Hence, do not add more water than the recommended maximum mixing ratio. The speed of the mixer should not exceed 500 rpm to minimise air entrainment.

APPLICATION

After mixing, stir lightly with a spatula for a few seconds to release any entrapped air. Pour the free flowing mortar immediately into the prepared formwork. Place the mortar within 40 minutes after mixing. Pour the mixed material to the lowest point in the formwork. Care shall be taken not to entrap any air during the repair operation as this may affect the bonding properties of the repair. When placing Sika® Microcrete®-218 over a large area, it is important to maintain continuous flow throughout. Work sequence must be properly organised to ensure uninterrupted flow.

CURING TREATMENT

Exposed surfaces should be kept to a minimum and cured with appropriate curing methods as soon as the mortar has hardened. The formwork can be stripped after at least 3 days. Upon removal of the formwork, cure the repaired areas immediately with Antisol® E curing compound if no further treatment is required or Antisol® A curing compound if a protective coating is to be applied (consult our Technical Service Department) – refer to the respective Product Data Sheet for application rate and method.

CLEANING OF TOOLS

Clean all tools and application equipment with water immediately after use. Hardened or cured material can

only be mechanically removed.

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.

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.

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.

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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