BUILDING TRUST

PRODUCT DATA SHEET

Sika® Microcrete®-217 MYF

POWDER POWER-PACK FOR PRODUCING HIGH PERFORMANCE MICRO-CONCRETE

DESCRIPTION

Sika® Microcrete®-217 MYF contains all the necessary active ingredients to produce a free flowing, shrinkage compensated, high performance micro-concrete when mixed with clean, hard, 5–10 mm concrete aggregates and water.

USES

Sika® Microcrete®-217 MYF is suitable for producing high performance micro-concrete for deep repairs to all concrete structures such as:

- Highway bridges and culverts
- Whafts and jetties
- Tunnels and mines
- Dams and reservoirs
- Car parks and basements
- Power stations
- Sewerage and water treatment structures
- Anywhere where localised deep repair is required
- Anywhere additional thickness is required (column and beam jacketing, etc.)

CHARACTERISTICS / ADVANTAGES

- Easy to mix and apply
- Good flow characteristics
- Rapid strength development
- High ultimate strengths
- Impact resistant
- Non-corrosive
- Non-toxic
- Iron and chloride free
- Dense and non-shrink (2 step expansion)
  - Gaseous expansion in plastic stage
  - Crystalline expansion in hardened stage
- Extended working time
- Good pumping properties

All properties must be checked with trials using selected additional aggregates

PRODUCT INFORMATION

Packaging	25 kg bag
Appearance / Colour	Grey powder
Shelf Life	6 months from date of production
Storage Conditions	Store in original, unopened and undamaged packaging in dry conditions at temperatures between +5 °C and +30 °C. Protect from direct sunlight, rain and water.
Maximum Grain Size	1.2 mm

TECHNICAL INFORMATION

Compressive Strength	**Flowable Workability** (without adding extra aggregates)

	24 hours	> 25 N/mm²	(ASTM C109)
	7 days	> 50 N/mm²	
	28 days	> 65 N/mm²	
Expansion	≤ 1.5 %		(modified ASTM C940)
Bleeding	0 % at 24 hours		
Reaction to Fire	Classified A1 - will not contribute in any state of the fire including the full developed fire		(EN 13501-1)

APPLICATION INFORMATION

Mixing Ratio	Flowable consistency	4.0–4.4 L water per 25 kg of Sika® Microcrete®-217 MYF + 16.7 kg aggregates
	Pourable consistancy	4.0–4.4 L water per 25 kg of Sika® Microcrete®-217 MYF + 25 kg aggregates
	Note: The aggregates shall be pre-wetted to saturated-surface-dry conditions (SSD) before mixing with Sika® Microcrete®-217 MYF.	
Fresh Mortar Density	2.35–2.45 kg/l (depending on workability and volume of added aggregate)	
Layer Thickness	50 mm min. / 150 mm max. per pour	
Flowability	1–3 seconds (LBox) Site trials are recommended to determine the flowability of Sika® Microcrete®-217 MYF when added with the actual aggregates used at site. If required, the quantity of aggregates shall be adjusted (reduced) to meet the flowability requirement.	
Ambient Air Temperature	+10 °C min. / +30 °C max.	
Substrate Temperature	+10 °C min. / +30 °C max.	
Setting Time	3–5 hours	

APPLICATION INSTRUCTIONS

SUBSTRATE QUALITY / PRE-TREATMENT

The substrate should be prepared by suitable mechanical preparation techniques such as high pressure water, breakers, grit blasting, scabblers, etc. All absorbent surfaces must be well saturated with clean water, but be free of any surface water or puddles immediately prior to the application of produced micro-concrete.

Concrete, mortar and stone
Surfaces must be sound, clean, free from frost, oils, grease, all loosely adhering particles and other surface contaminants.

Metal surfaces (iron and steel)
Surfaces should be clean, free from scale, rust, oil and grease.

MIXING

Place about 80–90 % of the premeasured clean water into a clean mixer and gradually add the whole bag of Sika® Microcrete®-217 MYF into it while continously mixing. Add the remaining water and additional clean 5–10 mm aggregates until the desired consistency is obtained.
Mix for 2–3 minutes with forced action mixer until homogeneous.

APPLICATION

Small localised repairs
Small volume mixing (1 Sika® Microcrete®-217 MYF + aggregates) may carried out with a suitable low-speed (500 rpm) drill and mixing paddle. After mixing, stir lightly with a spatula for a few seconds to release any entrapped air. The micro-concrete is then poured immediately into the prepared formwork.

Large repairs
When carrying out large scale repairs or column / beam jacketing, ensure sufficient pressure head is maintaintained for uninterrupted concrete flow. Formwork must be firmly placed and kept watertight. When placing micro-concrete over large area, it is important to maintain a continuous flow throughout the process. Work sequence and equipment must be properly organised to ensure an uninterrupted flow of grout. In large areas, micro-concrete may be mixed and pumped using heavy duty screw feed and piston pumps. Equipment suitability should be tested and checked prior to actual grouting works.

CURING TREATMENT

Formwork must be remain in place for at least 3 days. Upon removal of the formwork, cure the exposed surfaces immediately with Antisol®-E curing compound or use other approved curing methods.

CLEANING OF TOOLS

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

IMPORTANT CONSIDERATIONS

At temperature +20 °C and below, setting time and strength development will be slower.
Non-shrink grout contains additives which expand either during the plastic stage or the hardening stage to compensate for the shrinkage of the cementitious matrix. However, this 'non-shrink' property will be effective only if the material is not subjected to water loss.
This is confirmed by a note in the ASTM C 1107 Standard Specification for packaged dry, hydraulic cement grout (non-shrinkable), which clarifies the behaviour of the non-shrink grout when subjected to some drying:
"Note 1: Since all conditions of use cannot be anticipated, this specification requires non-shrink grout to exhibit no shrinkage when tested in a laboratory-controlled moist-cured environment, and requires only the reporting of the observed height change, usually shrinkage, when test specimens are subject to some degree of drying."

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.

Sika Kimia Sdn. Bhd.
Lot 689, Nilai Industrial Estate, 71800
Nilai
Negeri Sembilan D.K., Malaysia
Phone: +606-7991762
Fax: +606-7991980
e-mail: info@my.sika.com