

PRODUCT DATA SHEET

Sika® Patch-5

FAST SETTING AND HARDENING 1 COMPONENT, FIBRE REINFORCED, POURABLE (SCC) STRUCTURAL MORTAR FOR PATCH FLOORING AND CONCRETE ELEMENTS REPAIRS.



DESCRIPTION

Sika® Patch-5 is a cementitious one component, fast setting and hardening with SCC (self compacting concrete) consistency for patch flooring and concrete elements repairs.

The consistency can be adjusted reducing the amount of water, in order to make the product suitable for sloping applications.

USES

- Suitable for restoration work (Principle 3, method 3.1 & 3.2 of EN 1504-9:2008). Repair of spalling and damaged concrete in buildings, bridges, infrastructure and superstructure works.
- Suitable for structural strengthening (Principle 4, Method 4.4 of 1504-9:2008). Increasing the bearing capacity of the concrete structure by adding mortar;
- Suitable for preserving or restoring passivity (Principle 7, Method 7.1 & 7.2 of 1504-9:2008). Increasing cover with additional merlar or concrete or replacing contaminated or carbonated concrete;
- Sika® Patch-5 can be used for patch repair of interior and exterior industrial concrete floors, roadways joints, manhole and generally for repair of concrete elements where fast curing and high abrasion resistance are required and where disruption of service needs to be minimized.

CHARACTERISTICS / ADVANTAGES

- Fast curing and hardening.
- SCC consistency with Sika® Viscocrete® technology.
- Very easy to mix
- Very high abrasion resistance, in class AR0,5 with BCA method.
- Very good workability
- Very low shrinkage behaviour
- Adaptable consistency

SUSTAINABILITY

- Conformity with LEED v4 MRc 2 (Option 1): Building Product Disclosure and Optimization – Environmental Product Declarations

APPROVALS / CERTIFICATES

- Sika® Patch-5 fulfills the performance requirements of class R4 of EN 1504-3:2005; DoP nr. 28092242; certified by Factory Production Control Body: 0546; certificate 18774 and provided with the CE-mark.
- Sika® Patch-5 fulfills the performance requirements of class CT-C70-F7-AR0,5 of EN 13813:2002; DoP nr. 65918587; provided with CE mark.

PRODUCT INFORMATION

Composition	Fibre reinforced cementitious mortar, with silicafume.
Packaging	Pre-batched bags of 25 kg
Appearance / Colour	Cementitious powder, dark grey.
Shelf life	12 months from date of production
Storage conditions	The package must be stored properly in original, sealed packing, complying with all usual cement product storage requirements.
Density	Apparent dry density: 1.39 ± 0.05 kg/L Fresh mortar density: ~ 2,23 kg/L (UNI 8995)
Maximum Grain Size	D _{max} = 4.5 mm
Soluble Chloride Ion Content	≤ 0.05% (EN 1015-17)

TECHNICAL INFORMATION

Compressive Strength	Class R4	(EN 1504-3)		
	Class C70	(EN 13813)		
	~ 70 MPa	(EN 12190)		
		(UNI 196-1)		
		At + 5°C	At + 10°C	At + 20°C
	1 h	-	-	~ 14 MPa
	2 h	~ 4 MPa	~ 19 MPa	~ 30 MPa
	4 h	~ 26 MPa	~ 30 MPa	~ 45 MPa
24 h	~ 45 MPa	~ 47 MPa	~ 48 MPa	
7 days	-	-	~ 60 MPa	
Modulus of Elasticity in Compression	~ 32.6 GPa	(EN 13412)		
Tensile Strength in Flexure	Class F7	(EN 13813)		
	~ 9.6 MPa	(UNI 196-1)		
Tensile Adhesion Strength	~ 2.5 MPa	(EN 1542)		
Abrasion Resistance	AR0,5 (~ 33 µm)	(EN 13892-4)		
Thermal Compatibility	Freeze-thaw (50 cycles) > 2 MPa	(EN 13687-1)		
Reaction to Fire	Euroclass A1	(EN 13501-1)		
Capillary Absorption	~ 0.48 kg m ⁻² h ^{-0.5}	(EN 13057)		
Chloride Ion Ingress	~ 0,055%	(EN 13396)		
Carbonation Resistance	Pass	(EN 13295)		

APPLICATION INFORMATION

Mixing Ratio	12 ÷ 14% of water is needed (3.0 L ÷ 3.5 L per 25 Kg bag). For sloping applications, it is possible to reduce the amount of water up to 10% (2.5 L per 25 Kg bag).
Consumption	~ 2.0 kg of powder for 1L of mixture
Layer Thickness	Min. 15 mm / max. 50 mm.

Consistency ~ 280 mm (W/P 13%) (EN 1015-3)

~ 89 cm*	Initial	Abrams cone	(EN 206)
~ 85 cm*	After 20 min.	Abrams cone	

* Test made at +20°C with W/P 13%

Product Temperature + 5°C min / + 30°C max

Ambient Air Temperature + 5°C min / + 30°C max

Substrate Temperature + 5°C min / + 30°C max

Pot Life	Temperatures	Time
	+ 10°C	~ 30 minutes
	+ 20°C	~ 20 minutes
	+ 30°C	~ 20 minutes

APPLICATION INSTRUCTIONS

SUBSTRATE QUALITY / PRE-TREATMENT

Prepare the floor by removing loose particles, dirt, oil and grease, etc. in order to obtain a clean and sound substrate. The floor surfaces need to be grinded before the application of the Sika® Patch-5. Prewet the surface, the surface shall not be allowed to dry before application of the concrete repair mortar. The surface shall achieve a dark matt appearance without glistening and surface pores and pits shall not contain water. The substrate must be prepared by suitable mechanical preparation techniques, such as high-pressure water cleaning or sandblasting. Cleaning methods free from vibration are preferable. The aggregates must be clearly visible on the surface of the prepared area. The edges of the area affected by the intervention will have to be cut perpendicular (90 degrees) up to a minimum depth of 5 mm. Dampen the surface up to saturation. The surface shall achieve a dark matt appearance without glistening and surface pores and pits shall not contain water.

MIXING

Gradually pour the powder in the mixing water. Mix thoroughly for 3 minutes at least to get a completely homogeneous mortar. The mixing should be carried out with a drill at low speed or with mixer for mortars preferably with vertical axis, taking care not to entrap air in the mix. Use a whole pack of Sika® Patch-5 for the mix; avoid partial mixing, which could cause a non homogenous particle size distribution of the product.

APPLICATION

Pour directly on the wet mat substrate or inside the formwork prepared for the casting. No compacting is needed due to self compacting concrete consistency. Just pour the material and guide it to fill entirely the gap. Using more than one mixer at the same time allows to work always fresh on fresh, reducing joints.

CLEANING OF EQUIPMENT

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

IMPORTANT CONSIDERATIONS

- In case of floors castings that may exceed 50 mm in thickness, please consult our technical service.
- Mixing must always be performed with mechanical means: hand mixing does not allow to obtain the optimum workability.
- Do not add water to the mortar after the mixing.
- Keep moist and protected the surface of the applied mortar for 24 hours at least after its application.
- In case of floor casting, especially outdoors, avoid too rapid drying of the product in the early days of curing.
- Protect the applied product from direct sunlight and wind in the early hours of curing and hardening of the product.
- Do not cast floors in bad weather conditions, which could last in the early stages of curing, such as imminent rain or frost, strong winds, direct sunlight, etc.

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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