

# PRODUCT DATA SHEET

## SikaTop® Armatec®-110 EpoCem®

### BONDING PRIMER AND REINFORCEMENT CORROSION PROTECTION

#### DESCRIPTION

SikaTop® Armatec®-110 EpoCem® is a cementitious, epoxy resin compensated 3-component coating material with corrosion inhibitor, used as bonding primer and reinforcement corrosion protection.

SikaTop® Armatec®-110 EpoCem® meets the requirement of EN 1504-7.

#### USES

- Suitable for control of anodic areas (Principle 11, method 11.1 EN 1504-9)
- Suitable in concrete repair as corrosion protection for reinforcement.
- Suitable as a bonding primer on concrete and mortar

#### CHARACTERISTICS / ADVANTAGES

- Contains EpoCem® technology - improved bonding agent
- Extended open times for repair mortars
- Compatible with most Sika MonoTop® repair mortars
- Excellent adhesion to concrete and steel
- Contains corrosion inhibitor
- Certified for application under dynamic load conditions
- Good resistance to water and chloride penetration
- High shear strength
- Long pot life
- Easy to mix
- Can be brushed on or applied using spray gun

#### APPROVALS / STANDARDS

- CE Requirement:
- BAM, Federal Institute for material research and Testing, Berlin, Germany – initial type Test report in accordance with EN 1504-7, Nr. BAM VI.1 / 14574-2, dated 13th may 2009.
- BAM, Federal Institute for material research and Testing, Berlin, Germany – Application under live dynamic loading- Nr. VII.1 / 126904/1, dated 1st of July 2008
- Polymer Institute, Florsheim-Wicker, Germany- Determination of shear failure resistance between old and new concrete, Nr. P 2965, dated 30th September 2002.

#### PRODUCT INFORMATION

<b>Chemical Base</b>	Portland cement, epoxy resin, selected aggregates and additives
<b>Packaging</b>	20 kg: A (1.14 kg) + B (2.86 kg) + C (16 kg)
<b>Appearance / Colour</b>	Mixed components dark grey. Component A: white liquid Component B: colourless liquid Component C: dark grey powder

<b>Shelf Life</b>	12 months
<b>Storage Conditions</b>	Store properly in undamaged original sealed packaging, in dry cool conditions between +5 °C and +25 °C.
<b>Density</b>	A+B+C density: ~2.0 kg/l at 23 °C

## TECHNICAL INFORMATION

<b>Tensile Adhesion Strength</b>	≥ 1.5 N/mm <sup>2</sup> (MPa) (after 28 days)	(EN 1542)
<b>Shear Adhesion Strength</b>	Pass	(EN 15184)
<b>Coefficient of Thermal Expansion</b>	~18 x 10 <sup>-6</sup> 1/K	(EN 1770)
<b>Diffusion Resistance to Water Vapour</b>	μH <sub>2</sub> O ~500	
<b>Diffusion resistance to carbon dioxide</b>	μCO <sub>2</sub> ~7300	
<b>Corrosion Test</b>	Pass	(EN 15183)

## SYSTEM INFORMATION

<b>System Structure</b>	SikaTop® Armatec®-110 EpoCem® is part of the Sika® repair system complying with the relevant part of European Standard EN 1504 and comprising of:	
	Bonding Primer / Reinforcement	SikaTop® Armatec®-110 EpoCem®
	Corrosion Protection	
	Light Weight Repair Mortar	Sika MonoTop®-352 series
	Structural Repair Mortar	Sika MonoTop®-412 series
	Pore Sealer and Levelling Mortar	Sika MonoTop®-723 N

## APPLICATION INFORMATION

<b>Consumption</b>	As reinforcement corrosion protection coating: ~ 2 kg per m <sup>2</sup> and application layer (~1 mm thick) In total minimum 2 layer thickness (~2 mm thick)			
	As a bonding primer, substrate: > 1.5 to 2.0 kg per m <sup>2</sup> /mm dependent on substrate conditions			
<b>Ambient Air Temperature</b>	+5 °C minimum; +30 °C maximum			
<b>Substrate Temperature</b>	+5 °C minimum; +30 °C maximum			
<b>Pot Life</b>	~ 3 hours (at +20 °C)			
<b>Waiting Time / Overcoating</b>	Maximum waiting time before application of repair mortar Sika repair mortars and non-fast setting concrete can be applied on SikaTop® Armatec®-110 EpoCem® within a maximum time of:			
	<b>+5 °C</b>	<b>+10 °C</b>	<b>+20 °C</b>	<b>+30 °C</b>
	1 hour	2 hours	5 hours	6 hours

## APPLICATION INSTRUCTIONS

### SUBSTRATE QUALITY / PRE-TREATMENT

#### Concrete:

The concrete shall be free from dust, loose material, surface contamination and materials which reduce bond or prevent suction or wetting by repair materials. Delaminated, weak, damaged and deteriorated concrete and where necessary sound concrete shall be removed by suitable means. The surface shall be thoroughly pre-wetted and 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.

#### Steel reinforcement:

Rust, scale, mortar, concrete, dust and other loose and deleterious material which reduces bond or contributes to corrosion shall be removed and reinforcement cleaned to SA 2 in accordance with ISO 8501-1. Surfaces shall be prepared using abrasive blast cleaning techniques or high pressure water-blasting.

## MIXING

SikaTop® Armatec®-110 EpoCem® can be mixed with a low speed (< 250 rpm) electric drill mixer.

Shake components A and B thoroughly before opening. Pour liquid components A and B into a suitable mixing vessel and mix for 30 seconds. While still mixing components A and B slowly add powder component C. Mix the three components together for a minimum 3 minutes, minimising addition of air. Leave to stand for 5–10 minutes until mixed coating material exhibits a brush-able, weakly dripping consistency. DO NOT ADD WATER

## APPLICATION

As reinforcement corrosion protection:

Apply first layer approx. 1 mm thick, using medium hard brush or spray gun to the cleaned reinforcement. Apply 2<sup>nd</sup> layer when the first coat is hard to the fingernail (~2–3 hours at +20 °C). Apply subsequent repair mortars wet on dry (so not to wipe off the protection layer).

As a bonding primer:

Apply using medium hard brush or spray gun to prepared substrate. To achieve good bond, SikaTop® Armatec®-110 EpoCem® must be applied well into the substrate, filling all pores (minimum layer thickness 0.5 mm). Apply subsequent repair mortars wet on wet. Freshly applied SikaTop® Armatec®-110 EpoCem® must be protected against contamination and rain until application of the repair mortar.

Application under dynamic loading:

SikaTop® Armatec®-110 EpoCem® has been tested with the following Sika repair mortars and is certified for dynamic loading applications. Refer to separate sheets for further information.

Dry Spray Process:

Corrosion Protection:	SikaTop® Armatec®-110 EpoCem®
Repair and overlay:	SikaCem®-Gunite 133

Wet Spray Process:

Corrosion Protection and/or Bonding Primer:	SikaTop® Armatec®-110 EpoCem®
Repair and Overlay:	Sika MonoTop®-412 series

## CURING TREATMENT

Protect the fresh mortar from rain while the material has not yet set.

## CLEANING OF TOOLS

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

## LIMITATIONS

- Refer to the Method Statement for Concrete Repair

using Sika MonoTop® system for more information regarding substrate preparation or refer to the recommendations provided in EN 1504-10

- Avoid application in direct sun and/or strong wind and/or rain.
- Do not add water.
- Apply only to sound, prepared substrates.
- NOT recommended for use with fast setting concrete or mortars e.g. Sika MonoTop®-211 FG / RFG

## 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. 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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