CE

Construction

SikaTop® Armatec®-110 EpoCem®

Bonding Primer and Reinforcement Corrosion Protection

Product Description

SikaTop® Armatec®-110 EpoCem® is a cementitious, epoxy resin compensated three-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 of 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

Tests

Approval / 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, Flörsheim-Wicker, Germany- Determination of shear failure resistance between old and new concrete, Nr. P 2965, dated 30th September 2002.

Approved for potable water contact when used with SikaCem® – 133 Gunite

Product Data

Form

Appearance / Colour	Mixed components dark grey. Component A: white liquid Component B: colourless liquid Component C: dark grey powder
Packaging	20 kg A (1.14kg) + B (2.86kg) + C (16kg)

Storage

Storage Conditions / Shelf-Life	12 months from date of production if stored properly in undamaged original sealed packaging, in dry cooled conditions between +5°C and +25°C.

Technical Data

Chemical Base	Portland cement, epoxy resin, selected aggregates and additives
Density	A+B+C density: ~2.0 kg/l at 23°C
Thermal Expansion Coefficient	18 x 10^{-6} m/(m x °C) (EN 1770)
Carbon Dioxide Diffusion Resistance	μCO_2 ~40'000
Water Vapour Diffusion Resistance	μH_2O ~700

Mechanical / Physical Properties

20°C in lab conditions

Adhesive Bond	> 1.5 N/mm² after 28 days
Shear Strength	~16 N/mm^2 (waiting time 2 hours)
Elastic Modulus	~16,400 N/mm^2 (static)
Requirements	Requirements as per EN 1504-7

	Test Method	Results (ITT results)	Requirements
Corrosion Protection	EN 15183	Pass	Coated zones of the steels are free of corrosion and if rust creep at the ground plate edge < 1 mm.

System Information

System Structures

SikaTop® Armatec®-110 EpoCem® is part of the Sika® repair system complying with the relevant part of European Standard EN 1504 and comprising of:

- SikaTop® Armatec®-110 EpoCem®: Bonding primer and reinforcement corrosion protection
- Sika® MonoTop®-615: Light weight repair mortar
- Sika® MonoTop®-612: Structural repair mortar
- Sika® MonoTop®-620: Pore sealer and levelling mortar

Application Details

Consumption

As reinforcement corrosion protection coating:
~ 2 kg per m² and application layer (~ 1mm thick)
In total minimum 2 layer thickness (~ 2mm thick)

As a bonding primer, substrate:
> 1.5 to 2.0 kg per m² /mm dependent on substrate conditions

Substrate Quality

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.

Steel reinforcement

Rust, scale, mortar, concrete, dust and other loose and deleterious material which reduces bond or contributes to corrosion shall be removed to a minimum standard of SA2½.

Reference should also be made to BS EN1504-10:2003 for specific requirements.

Substrate Preparation

Concrete:
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:
Surfaces shall be prepared using abrasive blast cleaning techniques or high pressure water-blasting.

Application Conditions / Limitations

Substrate Temperature

+5℃ min.; +30℃ max.

Ambient Temperature

+5℃ min.; +30℃ max.

Application Instructions

Waiting Time

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:

6 hours with + 30℃
5 hours with +20℃
2 hours with +10℃
1 hour with +5℃

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+B into a suitable mixing vessel and mix for 30 seconds. While still mixing components A+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 Method / Tools	*As reinforcement corrosion protection:* Apply first layer approx. 1 mm thick, using medium hard brush or spray gun to the cleaned reinforcement. Apply 2nd layer when the first coat is hard to the fingernail (~2 - 3 hours at +20℃). *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. Freshly applied SikaTop® Armatec®-110 EpoCem® must be protection 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 N/ -412 NFG
Cleaning of Tools	Clean all tools and application equipment with water immediately after use. Hardened material can only be mechanically removed.
Potlife	~ 3 Hours at +20℃
Notes on Application / 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 over recommended dosage. - Apply only to sound, prepared substrates. - NOT recommended for use with fast setting concrete or mortars e.g. Sika® MonoTop®-211 FG / RFG

Curing Details

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

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.

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.

Health and Safety Information

For information and advice on the safe handling, storage and disposal of chemical products, users shall refer to the most recent Material Safety Data Sheet 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.

Construction

CE Labelling

The harmonised European standard EN 1504-7 “Products and systems for the protection and repair of concrete structures – Definitions, requirements, quality control and evaluation of conformity – Part 7 Reinforcement Corrosion Protection” specifies the requirements for active barrier coatings for protection of existing uncoated steel reinforcement and embedded steel in concrete structures under repair.

Reinforcement corrosion protection used as repair of concrete structures under this specification – they need to be CE-labelled as per Annex Za.2, table Za.2 conformity 2+ and fulfil the requirements of the given mandate of the Construction Product Directives (89/106/EEC).

CE	
0086	
Sika Services AG, Tüffenwies 16 **CH-8048 Zürich / Switzerland** **Factory Number** **09**	
0086-CPD-541325 EN 1504-7 Reinforcement corrosion protection product for uses other than low performance requirements	
Corrosion protection	Pass
Dangerous substances	Comply with 5.3

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