

PRODUCT DATA SHEET

Sika Ergodur®-500 Pro

Epoxy resin based primer in accordance to ZTV-ING for concrete decks on bridges and engineering structures, part of the waterproofing system in combination with mastic asphalt.

DESCRIPTION

2-component, epoxy resin based, reactive polymer primer for the methods defined in ZTV-ING 6-1 and ZTV-ING 6-3.

USES

Sika Ergodur-500 Pro is used for the priming of concrete decks in engineering structures such as bridges and multi-storey parking structures and as a component of the waterproofing system. It is also used as a sealing coat or by adding fine graded aggregates (Sika Sieblinie KR N) - as a surface filling- and levelling mortar.

CHARACTERISTICS / ADVANTAGES

- Tested product, externally monitored production
- Can be used on green - only 7 days old - concrete
- Excellent adhesion
- Hardens at low temperatures down to 8°C
- Heat resistant for installation of heat-welded bitumen sheets

APPROVALS / CERTIFICATES

- Test report no. P 4636, KIWA Polymer-Institute according to ZTV-ING 6-1, Test and Installation specifications TL/TP-BEL-EP.
- Compatibility test according to ZTV-ING 6-1, no. P 11514-1a: Sika Ergodur-500 Pro with SikaShield Ergobit Pro.
- Compatibility test according to ZTV-ING 6-3, Sika Ergodur-500 Pro with Sikalastic-851 and Sikalastic-822

In accordance to ZTV-ING 6-1 and 6-3, the following application instruction manuals are available as a part of the waterproofing system:

- Sika Ergodur-500 Pro Primer with SikaShield Ergobit Pro welded bitumen sheets
- Sika Ergodur-500 Pro Primer with Sikalastic-851 (spray application)
- Sika Ergodur-500 Pro Primer with Sikalastic-822 (manual application)

Sika Ergodur-500 Pro is also included in the German Highway Research Institute (BAST) in their "List of certified materials and systems".

PRODUCT INFORMATION

Composition	Solvent-free epoxy resin
Packaging	30 kg units (24kg component A and 6kg component B) 5000 kg bulk containers upon request (4 x 1000kg component A and 1 x 1000kg component B) Sika Sieblinie KR N: 25kg bag
Shelf life	18 months from date of production
Storage conditions	In undamaged, unopened, original sealed packaging in cool and dry conditions, not lower than + 8°C. The material must not be used if the resin component crystallizes i.e. due to inadequate storage or transport at low temperatures; as curing problems can occur. Such crystallization can be reversed by heating the material in a water bath at 60°C.

Colour	Red brown
Density	Binder <u>approx. 1.1kg/l</u>
	Filling- /levelling mortar <u>approx. 2.0 kg/l</u>
Solid content by mass	approx. 100%
Solid content by volume	approx. 100%
Viscosity	Components A + B mixed viscosity: approx. 850 mPas

TECHNICAL INFORMATION

Temperature resistance	Naked flame test passed (simulation of welding operation with a 7-flame burner).
Chemical resistance	Sika Ergodur-500 Pro is resistant to water, de-icing salt solutions and mineral fuels and lubricants and many other substances that are aggressive to concrete.

APPLICATION INFORMATION

Mixing ratio	Component A : Component B = 4 : 1 (parts by weight) By using 1000kg IBC-Containers the mixing ratio by weight must be guaranteed. This may be done by weight scale or by using mashine mixing.			
Consumption	Primer: ▪ approx. 300 - 500 g/m ² of binder per application			
	Levelling layer: ▪ approx. 1.9 kg/m ² per mm layer thickness (Mixed in a ratio of 1 : 3 with suitable aggregate filler)			
	Consumption is dependent on the substrate (e.g. profile and porosity etc.).			
Ambient air temperature	Minimum + 8°C Maximum + 45°C			
Relative air humidity	Maximum 85%			
Dew point	During application and hardening, the substrate temperature must be min. +3°C above dew point.			
	Protect from condensation before, during and after application until cured.			
Substrate temperature	Minimum + 8°C Maximum + 40°C			
Substrate moisture content	Concrete bridges: Substrate moisture content according to ZTV-ING 6-1 and 6-3 "Hot air blower" or "Hairdryer" test. For other structures: < 4% moisture by weight (measured with a CM meter) if specific ZTV-ING requirement are not applicable.			
Pot Life	Ambient temperature	+10°C	+20°C	+30°C
	Sika Ergodur-500 Pro	approx. 40 minutes	approx. 30 minutes	approx. 15 minutes
	Surface filler (filled 1:3)	approx. 50 minutes	approx. 35 minutes	approx. 20 minutes

Waiting time to overcoating	Substrate temperature	+ 10°C	+ 20°C	+ 30°C
Before any access		approx. 24 hours	approx. 20 hours	approx. 14 hours
Before sealing the broadcast primer		As soon as the setting conditions of this layer allow	As soon as the setting conditions of this layer allow	As soon as the setting conditions of this layer allow
Until installation of the sheet waterproofing		min. 72 hours	min. 24 hours	min. 16 hours

BASIS OF PRODUCT DATA

All technical data stated in this Data Sheet are based on laboratory tests. Actual measured data may vary due to circumstances beyond our control.

ECOLOGY, HEALTH AND SAFETY

APPLICATION INSTRUCTIONS

SUBSTRATE QUALITY

The substrate must comply with the requirements of ZTV-ING 6-1 and 6-3; its preparation and condition are described in the section "Substrate preparation".

SUBSTRATE PREPARATION

The adhesion of the Sika Ergodur-500 Pro on the cementitious substrates is formed by a mechanical connection over the surface profile (roughness) and a good penetration into the substrate.

High strength concrete, vacuum formed surfaces and other extremely smooth and very dense concrete substrates need more intensive mechanical preparation.

After surface preparation the embedded aggregates in the concrete must still be visible. In some cases a sample area should be prepared. Therefore abrasive substrate preparation (e.g. blastcleaning) is always required.

All concrete surfaces or concrete replacement / repair mortars to be coated must be sound, dry and free from any cement laitance, loose or friable particles, oils and grease, or any other dirt and contaminants.

Prepare the substrate by blastcleaning (grit or shot blasting), suitable mechanical scabbling / grinding / milling etc. This is also essential on PCC I mortars.

The average surface pull-off strength of the substrate must be minimum 1.5 N/mm². For the moisture content of concrete bridges the regulations of the ZTV ING are applicable.

On other engineering structures ensure that the concrete moisture content is less than 4% by weight (measured with a suitable CM meter).

MIXING

Binder:

Sika Ergodur-500 Pro is supplied in 2 components (component A = resin and component B = hardener) pre-batched in the correct mixing ratio (except for bulk packaging which must be dosed on site).

Prior to application, thoroughly mix components A + B together in the specified mixing ratio. To prevent the liquid splashing or spilling from the mixing container, mix the components briefly with a continuously adjustable electric mixer at low speed.

Then slowly increase the speed to maximum 300 rpm to mix the materials thoroughly. The minimum mixing time is 3 minutes until a fully homogeneous mix is obtained. Decant the mixed material into a clean container and mix briefly again as described above.

2-component epoxy resins generate heat when reacting (exothermic reaction). After mixing both components together the material must not remain in the mixing container longer than the stated pot life and must be used immediately as stated in the application instructions, otherwise heat and smoke may develop and in extreme cases this could even cause a fire.

When using premixed sand/aggregate mixes only use the complete content of each bag as the aggregates tend to settle and separate during transport and storage.

Filling ratio for levelling - / surface filling mortar:

1 part by weight mixed Sika Ergodur-500 Pro:
+ 3-4 parts by weight aggregate (e.g. Sika Aggregate KR N); tested premixed aggregates in 25 kg bags)

Hints on filling ratio:

The possible filling ratio of the Sika Ergodur-500 Pro depends on the temperature. The ratios given here refer to a material-, substrate- and ambient temperature of 20°C. Higher or lower temperatures will lead to a different filling ratio.

Mixing Equipment:

Sika Ergodur-500 Pro binder is mixed with an electric mixer at max. 300 rpm.

CLEANING OF EQUIPMENT

With Sika Thinner C

PRODUCT DATA SHEET

Sika Ergodur®-500 Pro
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LOCAL RESTRICTIONS

Note that as a result of specific local regulations the declared data and recommended uses for this product may vary from country to country. Consult the local Product Data Sheet for the exact product data and uses.

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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