

Sikadur®-330

2-part epoxy impregnation resin

Product Description

Sikadur®-330 is a two part, thixotropic epoxy based impregnating resin / adhesive.

Uses

- Impregnation resin for SikaWrap® fabric reinforcement for the dry application method
- Primer resin for the wet application system
- Structural adhesive for bonding Sika CarboDur® plates into slits

Characteristics / Advantages

- Easy mix and application by trowel and impregnation roller
- Manufactured for manual saturation methods
- Excellent application behaviour to vertical and overhead surfaces
- Good adhesion to many substrates
- High mechanical properties
- No separate primer required

Tests

Approval / Standards

Conforms to the requirements of:

- Avis Technique N° 3/10-669 (annule et remplace N° 3/07-502) Sika CarboDur®, SikaWrap®
 - Road and Bridges Research Institute (Poland): IBDiM No AT/2008-03-336/1
- Testing according to EN 1504-4

Product Data

Form

Appearance / Colours

Resin part. A: paste
Hardener part B: paste
Colour:
Part A: white
Part B: grey
Part A+B mixed: light grey

Packaging

Standard:
5 kg (A+B) pre-dosed units
Industrial:
Part A: 24 kg pails
Part B: 6 kg pails



Storage

Storage Conditions / Shelf life 24 months from date of production if stored properly in original unopened, sealed and undamaged packaging in dry conditions at temperatures between +5°C and +30°C. Protect from direct sunlight.

Technical Data

Chemical Base Epoxy resin.

Density 1.30 kg/l \pm 0.1 kg/l (parts A+B mixed) (at +23°C)

Viscosity Shear rate: 50 /s

Temperature	Viscosity
+10°C	~ 10'000 mPas
+23°C	~ 6'000 mPas
+35°C	~ 5'000 mPas

Thermal Expansion Coefficient 4.5×10^{-5} per °C (-10°C to +40°C)

Thermal Stability Heat Deflection Temperature (HDT) (ASTM D648)

Curing	Temperature	HDT
7 days	+10°C	+36°C
7 days	+23°C	+47°C
7 days	+35°C	+53°C
7 days, +10°C plus 7 days, +23°C	-	+43°C

Service Temperature -40°C to +45°C

Mechanical / Physical Properties

Tensile Strength 30 N/mm² (7 days at +23°C) (DIN EN ISO 527-3)

Bond Strength Concrete fracture (> 4 N/mm²) on sandblasted substrate: (DIN EN ISO 4624)

E-Modulus Flexural: 3800 N/mm² (7 days at +23°C) (DIN EN 1465)

Tensile: 4500 N/mm² (7 days at +23°C) (DIN EN ISO 527-3)

Elongation at Break 0.9% (7 days at +23°C) (DIN EN ISO 527-3)

Resistance

Chemical Resistance The product is not suitable for chemical exposure.

Thermal Resistance Continuous exposure +45°C.

System Information

System Structure Substrate primer - Sikadur[®]-330.
Impregnating / laminating resin - Sikadur[®]-330.
Structural strengthening fabric - SikaWrap[®] type to suit requirements.


Application Details

Consumption	See the "Technical Information Manual for SikaWrap® manual dry application" Ref 850 41 02. Guide: 0.7 - 1.5 kg/m ²
Substrate Quality	The substrate must be sound and of sufficient tensile strength to provide a minimum pull off strength of 1.0 N/mm ² or as per the requirements of the design specification. See also the " Technical Information Manual for SikaWrap® manual dry application" Ref 850 41 02.
Substrate Preparation	See the " Technical Information Manual for SikaWrap® manual dry application" Ref 850 41 02.

Application Conditions / Limitations

Substrate Temperature	+10°C min. / +35°C max.
Ambient Temperature	+10°C min. / +35°C max.
Substrate Moisture Content	≤ 4% pbw. Test method: Sika-Tramex meter.
Dew Point	Beware of condensation! Substrate temperature during application must be at least 3°C above dew point.

Application Instructions

Mixing	Part A : part B = 4 : 1 by weight When using bulk material the exact mixing ratio must be safeguarded by accurately weighing and dosing each component.
Mixing Time	 <p>Pre-batched units: Mix parts A+B together for at least 3 minutes with a mixing spindle attached to a slow speed electric drill (max. 300 rpm) until the material becomes smooth in consistency and a uniform grey colour. Avoid aeration while mixing. Then, pour the whole mix into a clean container and stir again for approx. 1 more minute at low speed to keep air entrapment at a minimum. Mix only that quantity which can be used within its potlife.</p> <p>Bulk packing, not pre-batched: First, stir each part thoroughly. Add the parts in the correct proportions into a suitable mixing pail and stir correctly using an electric low speed mixer as above for pre-batched units.</p>
Application Method / Tools	See the " Technical Information Manual for SikaWrap® manual dry application" Ref 850 41 02.
Cleaning of Tools	Clean all equipment immediately with Sika® Thinner C. Cured material can only be removed mechanically.

Potlife

Potlife:

Temperature	Time
+10°C	90 minutes (5 kg)
+35°C	30 minutes (5 kg)

Potlife starts with the mixing of both parts (resin and hardener). At low ambient temperature pot life will be extended; at elevated temperatures this will be reduced. The higher the quantity of material mixed, the shorter the potlife. To achieve a longer potlife at high temperatures the mixed material may be divided into smaller units or both parts may be cooled before mixing.

Open time:

Temperature	Time
+10°C	60 minutes
+35°C	30 minutes

Waiting Time / Overcoating

To (pre-) cured resin:

Products	Substrate temperature	Minimum	Maximum
Sikadur®-330	+10°C	24 hours	Cured resin older than 7 days has to be degreased with Sika® Thinner C and gently grinded with sandpaper before coating.
	+23°C	12 hours	
	+35°C	6 hours	

Products	Substrate temperature	Minimum	Maximum
Sikadur®-330	+10°C	5 days	Cured resin older than 7 days has to be degreased with Sika® Thinner C and gently grinded with sandpaper before coating.
	+23°C	3 days	
	+35°C	1 day	

Times are approximate and will be affected by changing ambient conditions.

Notes on Application / Limitations

This product may only be used by experienced professionals.

The Sikadur®-330 must be protected from rain for at least 24 hours after application.

Ensure placement of fabric and laminating with roller takes place within open time.

At low temperatures and / or high relative humidity, a tacky residue (blush) may form on the surface of the cured Sikadur®-330 epoxy. If an additional layer of fabric or a coating is to be applied onto the cured epoxy, this residue must first be removed with warm, soapy water to ensure adequate bond. In any case, the surface must be wiped dry prior to application of the next layer or coating.

For application in cold or hot conditions, pre-condition material for 24 hours in temperature controlled storage facilities to improve mixing, application and pot life limits.

For further information on over coating, number of layers or creep, please consult a structural engineer for calculations and see also the " Technical Information Manual for SikaWrap® manual dry application" Ref 850 41 02.

Sikadur® resins are formulated to have low creep under permanent loading. However due to the creep behaviour of all polymer materials under load, the long term structural design load must account for creep. Generally the long term structural design load must be lower than 20-25% of the failure load. Please consult a structural engineer for load calculations for your specific application.

Curing Details

Applied Product ready for use

Temperature	Full cure
+10°C	7 days
+23°C	5 days
+35°C	2 days

All cure times are approximate and will be affected by changing ambient conditions.

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.



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