

# PRODUCT DATA SHEET

## Sikadur®-330

### 2-COMPONENT EPOXY IMPREGNATION RESIN FOR SIKAWRAP CFRP SYSTEMS AND NEAR SURFACE MOUNTED CFRP

#### DESCRIPTION

Sikadur®-330 is a 2-component, thixotropic epoxy based impregnating resin and adhesive.

#### USES

Sikadur®-330 suitably experienced and trained specialist contractors.

Sikadur®-330 is used as:

- 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

#### SUSTAINABILITY

- Conformity with LEED v4 MRc 4 (Option 2): Building Product Disclosure and Optimization - Material Ingredients
- Conformity with LEED v2009 IEQc 4.1: Low-Emitting Materials - Adhesives and Sealants
- VOC-SCAQMD Method 304-91

#### APPROVALS / CERTIFICATES

- Avis Technique N° 3/16-875 (annule et remplace N° 3/10-669) Sika® CarboDur®, SikaWrap®
- CIT n°290 18/07/2017 (certificato di idoneità tecnica all'impiego) ; Sika® CarboDur®, SikaWrap®, Sikadur®
- Road and Bridges Research Institute (Poland): IBDiM No AT/2008-03-336/1
- Adhesive for structural bonding tested according to EN 1504-4, provided with the CE-mark
- VOC-SCAQMD Method 304-91

#### PRODUCT INFORMATION

<b>Composition</b>	Epoxy resin	
<b>Packaging</b>	5 kg (A+B)	Pre-batched unit
<b>Colour</b>	Component A: white paste Component B: grey paste Components A + B mixed: light grey paste	
<b>Shelf life</b>	24 months from date of production	

<b>Storage conditions</b>	Store in original, unopened, sealed and undamaged packaging in dry conditions at temperatures between +5 °C and +30 °C. Protect from direct sunlight.	
<b>Density</b>	1.30 ± 0.1 kg/l (component A+B mixed) (at +23 °C)	
<b>Viscosity</b>	Shear rate: 50 /s	
	<b>Temperature</b>	<b>Viscosity</b>
	+10 °C	~10 000 mPas
	+23 °C	~6 000 mPas
	+35 °C	~5 000 mPas

## TECHNICAL INFORMATION

<b>Compressive Strength</b>	<b>Compressive Strength</b>	<b>Temperature</b>	<b>Age</b>	Standard: GB2567-2008 (Cylinder-10mm diameter* 25mm height) @23°C
	~80MPa	23°C	7Days	
	~50MPa	30°C	3Hours	
	~60MPa	30°C	4Hours	
	~62MPa	30°C	5Hours	
	~63MPa	35°C	3Hours	
	~66MPa	35°C	4Hours	
	~67MPa	35°C	5Hours	
<b>Modulus of Elasticity in Flexure</b>	~ 3 800 N/mm <sup>2</sup> (7 days at +23 °C)			(DIN EN 1465)
<b>Tensile Strength</b>	~ 30 N/mm <sup>2</sup> (7 days at +23°C)			(ISO 527)
<b>Modulus of Elasticity in Tension</b>	~ 4 500 N/mm <sup>2</sup> (7 days at +23 °C)			(ISO 527)
<b>Elongation at Break</b>	0.9 % (7 days at +23 °C)			(ISO 527)
<b>Tensile Adhesion Strength</b>	Concrete fracture (> 4 N/mm <sup>2</sup> ) on sandblasted substrate			(EN ISO 4624)
<b>Coefficient of Thermal Expansion</b>	4.5 × 10 <sup>-5</sup> 1/K (Temperature range -10 °C – +40 °C)			(EN 1770)
<b>Glass Transition Temperature</b>	<b>Curing time</b>	<b>Curing temperature</b>	<b>TG</b>	(EN 12614)
	30 days	+30 °C	+58 °C	
<b>Heat Deflection Temperature</b>	<b>Curing time</b>	<b>Curing temperature</b>	<b>HDT</b>	(ASTM D 648)
	7 days	+10 °C	+36 °C	
	7 days	+23 °C	+47 °C	
	7 days	+35 °C	+53 °C	
	Resistant to continuous exposure up to +45 °C.			
<b>Service Temperature</b>	-40 °C to +45 °C			

## SYSTEMS

<b>System Structure</b>	Substrate primer - Sikadur®-330. Impregnating / laminating resin - Sikadur®-330. Structural strengthening fabric - SikaWrap® type to suit requirements.
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## APPLICATION INFORMATION

<b>Mixing Ratio</b>	Component A : component B = 4 : 1 by weight When using bulk material the exact mixing ratio must be safeguarded by accurately weighing and dosing each component.
<b>Consumption</b>	See the "Method Statement for SikaWrap® manual dry application" Ref 850 41 02. Guide: 0.7 - 1.5 kg/m <sup>2</sup>

<b>Ambient Air Temperature</b>	+10 °C min. / +35 °C max.		
<b>Dew Point</b>	Beware of condensation. Substrate temperature during application must be at least 3 °C above dew point.		
<b>Substrate Temperature</b>	+10 °C min. / +35 °C max.		
<b>Substrate Moisture Content</b>	< 4 % pbw		
<b>Pot Life</b>	<b>Temperature</b>	<b>Pot life</b>	<b>Open time</b> (EN ISO 9514)
	+10 °C	~90 minutes (5 kg)	~90 minutes
	+23 °C	~60 minutes (5 kg)	~60 minutes
	+35 °C	~30 minutes (5 kg)	~30 minutes

The pot life begins when the resin and hardener are mixed. It is shorter at high temperatures and longer at low temperatures. The greater the quantity mixed, the shorter the pot life. To obtain longer workability at high temperatures, the mixed adhesive may be divided into portions. Another method is to chill components A+B before mixing them (not below +5 °C).

## APPLICATION INSTRUCTIONS

### SUBSTRATE QUALITY

Substrate must be sound and of sufficient tensile strength to provide a minimum pull off strength of 1.0 N/mm<sup>2</sup> or as per the requirements of the design specification.

See also the "Method Statement for SikaWrap® manual dry application" Ref 850 41 02.

### SUBSTRATE PREPARATION

See the "Method Statement for SikaWrap® manual dry application" Ref 850 41 02.

### MIXING

Pre-batched units:

Mix components 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 pot life.

Bulk packing, not pre-batched:

First, stir each component thoroughly. Add the components in the correct proportions into a suitable mixing pail and stir correctly using an electric low speed mixer as above for pre-batched units.

### APPLICATION METHOD / TOOLS

See the "Method Statement for SikaWrap® manual dry application" Ref 850 41 02.

### CLEANING OF EQUIPMENT

Clean all equipment immediately with Sika® Colma Cleaner. Cured material can only be removed mechanically.

## IMPORTANT CONSIDERATIONS

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 "Method Statement 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 the specific application.

## 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 declared data for this product may vary from country to country. Please consult the local Product Data Sheet for the exact product data.

## 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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### Product Data Sheet

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