BUILDING TRUST

PRODUCT DATA SHEET

# Sikadur®-330

2-component epoxy impregnation resin

## PRODUCT DESCRIPTION

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

## USES

Sikadur®-330 may only be used by experienced professionals.

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

- Easily mixed and applied 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.

## ENVIRONMENTAL INFORMATION

- 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.

## APPROVALS / STANDARDS

- 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.

## PRODUCT INFORMATION

| | | |
|---|---|---|
| **Chemical Base** | Epoxy resin | |
| **Packaging** | 5 kg (A+B) | Pre-batched unit |
| **Shelf Life** | 24 months from date of production | |
| **Storage Conditions** | Store in original, unopened, sealed and undamaged packaging in dry conditions at temperatures between +5 °C and +30 °C. Protect from direct sunlight. | |
| **Colour** | Component A: white paste<br>Component B: grey paste | |

| | |
|---|---|
| | Components A + B mixed: light grey paste |
| **Density** | 1.30 ± 0.1 kg/l (component 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 |

## TECHNICAL INFORMATION

| | | |
|---|---|---|
| **Flexural E-Modulus** | ~ 3 800 N/mm² (7 days at +23 °C) | (DIN EN 1465) |
| **Tensile Strength** | ~ 30 N/mm² (7 days at +23°C) | (ISO 527) |
| **Tensile Modulus of Elasticity** | ~ 4 500 N/mm² (7 days at +23 °C) | (ISO 527) |
| **Elongation at Break** | 0.9 % (7 days at +23 °C) | (ISO 527) |
| **Tensile adhesion strength** | Concrete fracture (> 4 N/mm²) on sandblasted substrate | (EN ISO 4624) |
| **Coefficient of Thermal Expansion** | 4.5 × $10^{-5}$ 1/K (Temperature range −10 °C to +40 °C) | (EN 1770) |
| **Service Temperature** | –40 °C to +45 °C | |

**Glass transition temperature** (EN 12614)

| Curing time | Curing temperature | TG |
|---|---|---|
| 30 days | +30 °C | +58 °C |

**Heat deflection temperature** (ASTM D 648)

| Curing time | Curing temperature | HDT |
|---|---|---|
| 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.

## SYSTEM INFORMATION

**System Structure**

Substrate primer - Sikadur®-330.
Impregnating / laminating resin - Sikadur®-330.
Structural strengthening fabric - SikaWrap® (type to suit requirements).

## APPLICATION INFORMATION

| | |
|---|---|
| **Mixing Ratio** | Component A : Component B = 4 : 1 by weight<br>When using bulk material, the exact mixing ratio must be safeguarded by accurately weighing and dosing each component. |
| **Consumption** | See the "Method Statement for SikaWrap® manual dry application" Ref. 850 41 02.<br>Guide: 0.7 - 1.5 kg/m². |
| **Ambient Air Temperature** | +10 °C min. / +35 °C max. |
| **Dew Point** | Beware of condensation.<br>Substrate temperature during application must be at least 3 °C above dew point. |
| **Substrate Temperature** | +10 °C min. / +35 °C max. |
| **Substrate Moisture Content** | < 4 % pbw |

**Pot Life**

| Temperature | Pot-life | Open time |
|---|---|---|
| +10 °C | ~90 minutes (5 kg) | ~90 minutes |
| +23 °C | ~60 minutes (5 kg) | ~60 minutes |
| +35 °C | ~30 minutes (5 kg) | ~30 minutes |

(EN ISO 9514)

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 (although not below +5 °C).

## 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.

## LIMITATIONS

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.

## ECOLOGY, HEALTH AND SAFETY

User must read the most recent corresponding Safety Data Sheets (SDS) before using any products. The SDS provides information and advice on the safe handling, storage and disposal of chemical products and contains physical, ecological, toxicological and other safety-related data.

## APPLICATION INSTRUCTIONS

### SUBSTRATE QUALITY

Substrate must be sound and of sufficient tensile strength to provide a minimum pull off strength of 1.0 N/mm² 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 (maximum 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 approximately 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 TOOLS

Clean all equipment immediately with Sika® Thinner C. Cured material can only be removed mechanically.

## 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.

## 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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