Application Instructions

Mixing

Part A: part B = 3 : 1 by weight or volume

When using bulk material the exact mixing ratio must be safeguarded by accurately weighing and dosing each component.

Mixing Time

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. 600 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.

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.

Application Method /
Tools

See the Product Data Sheet of Sika® CarboDur® Plates.

Cleaning of Tools

Clean all tools and application equipment with Sika® Colma Cleaner immediately after use. Hardened / cured material can only be mechanically removed.

Potlife

(According to FIP (Fédération Internationale de la Précontrainte))

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<tr>
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<td>~ 50 minutes</td>
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The potlife 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 potlife. To obtain longer workability at high temperatures, the mixed adhesive may be divided into portions. Another method is to chill parts A+B before mixing them (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.

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 health information.

Disclaimer

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.

Sikadur® - 30

Adhesive for bonding reinforcement

Product Description

Sikadur®-30 is a solvent-free, thixotropic, structural two part adhesive, based on a combination of epoxy resins and special filler, designed for use at normal temperatures between +8°C and +35°C.

Uses

Adhesive for bonding structural reinforcement, particularly in structural strengthening works. Including:
- Sika® CarboDur® Plates to concrete, brickwork and timber (for details see the Sika® CarboDur® Product Data Sheet).
- Steel plates to concrete (for details see the relevant Sika® Technical information).

Characteristics /
Advantages

Sikadur®-30 has the following advantages:
- Easy to mix and apply.
- No primer needed.
- High creep resistance under permanent load.
- Very good adhesion to concrete, masonry, stonework, steel, cast iron, aluminium, timber and Sika® CarboDur® Plates.
- Hardening is not affected by high humidity.
- High strength adhesive.
- Thixotropic: non-sag in vertical and overhead applications.
- Solvent free.
- Hardens without shrinkage.
- Different coloured components (for mixing control).
- High initial and ultimate mechanical resistance.
- High abrasion and shock resistance.
- Impermeable to liquids and water vapour.

Tests

Product Data

**Form**
- Part A: white
- Part B: black
- Parts A+B mixed: light grey

**Packaging**
6 kg (A+B): pre-batched unit, pallets of 480 kg (80 x 6 kg).
Not pre-dosed industrial packaging (pallets at 14 pails):
- Part A: 30 kg pails
- Part B: 10 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**
1.65 kg/l + 0.1 kg/l (parts A+B mixed) (at +23°C)

**Sag Flow**
(According to FIP (Fédération Internationale de la Précontrainte))
On vertical surfaces it is non-sag up to 3-5 mm thickness at +35°C.

**Squeezability**
(According to FIP (Fédération Internationale de la Précontrainte))
4'000 mm at +15°C at 15 kg

**Layer Thickness**
30 mm max.
When using multiple units, one after the other. Do not mix the following unit until the previous one has been used in order to avoid a reduction in handling time.

**Change of Volume**
Shrinkage:
0.04% (According to FIP (Fédération Internationale de la Précontrainte))

**Thermal Expansion**
Coefficient W:
2.5 x 10^-5 per °C (temp. range -20°C to +40°C)

**Thermal Stability**
Glass transition temperature:
(According to FIP (Fédération Internationale de la Précontrainte))
- Curing time: 7 days
- Curing Temperature: +45°C
- TG: +62°C

Heat deflection temperature:
(According to ASTM D 646)
- Curing time: 3 hours
  - Curing Temperature: +80°C
  - HDT: +53°C
- Curing time: 6 hours
  - Curing Temperature: +60°C
  - HDT: +53°C
- Curing time: 7 days
  - Curing Temperature: +35°C
  - HDT: +53°C
- Curing time: 7 days
  - Curing Temperature: +10°C
  - HDT: +38°C

**Service Temperature**
-40°C to +45°C (when cured at > +23°C)

Mechanical / Physical Properties

**Compressive Strength**
(According to EN 196)
<table>
<thead>
<tr>
<th>Curing time</th>
<th>+10°C</th>
<th>+39°C</th>
</tr>
</thead>
<tbody>
<tr>
<td>12 hours</td>
<td>80 - 90 N/mm²</td>
<td>85 - 95 N/mm²</td>
</tr>
<tr>
<td>1 day</td>
<td>50 - 60 N/mm²</td>
<td>85 - 95 N/mm²</td>
</tr>
<tr>
<td>3 days</td>
<td>65 - 75 N/mm²</td>
<td>85 - 95 N/mm²</td>
</tr>
<tr>
<td>7 days</td>
<td>70 - 80 N/mm²</td>
<td>85 - 95 N/mm²</td>
</tr>
</tbody>
</table>

**Shear Strength**
Concrete failure (~ 15 N/mm²)
(According to FIP 5.15)
<table>
<thead>
<tr>
<th>Curing time</th>
<th>+15°C</th>
<th>+39°C</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 day</td>
<td>3 - 5 N/mm²</td>
<td>15 - 18 N/mm²</td>
</tr>
<tr>
<td>3 days</td>
<td>13 - 16 N/mm²</td>
<td>16 - 19 N/mm²</td>
</tr>
<tr>
<td>7 days</td>
<td>14 - 17 N/mm²</td>
<td>16 - 19 N/mm²</td>
</tr>
</tbody>
</table>

**Tensile Strength**
(According to DIN 53455)
<table>
<thead>
<tr>
<th>Curing time</th>
<th>+15°C</th>
<th>+39°C</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 day</td>
<td>18 - 21 N/mm²</td>
<td>23 - 28 N/mm²</td>
</tr>
<tr>
<td>3 days</td>
<td>21 - 24 N/mm²</td>
<td>25 - 30 N/mm²</td>
</tr>
<tr>
<td>7 days</td>
<td>24 - 27 N/mm²</td>
<td>26 - 31 N/mm²</td>
</tr>
</tbody>
</table>

**Bond Strength**
On steel > 21 N/mm² (mean values > 30 N/mm²)  (According to DIN EN 24624)
on correctly prepared substrate, i.e. blastcleaned to Sa. 2.5
On concrete: (According to FIP (Fédération Internationale de la Précontrainte))
concrete failure (> 4 N/mm²)

**E-Modulus**
Compressive: 9'600 N/mm² (at +23°C)  (According to ASTM D695)
Tensile: 1'200 N/mm² (initial, According to ISO 527)

System Information

**System Structure**
Sika® CarboDur® System:
For Application Details of Sika® CarboDur® Plates with Sikadur®-30, see the Sika® CarboDur® Product Data Sheet.

**Application Details**

**Substrate Quality**
See the Product Data Sheet of Sika® CarboDur® Plates.

**Substrate Preparation**
See the Product Data Sheet of Sika® CarboDur® Plates.

**Application Conditions / Limitations**

**Substrate Temperature**
+8°C min. / +35°C max.

**Ambient Temperature**
+8°C min. / +35°C max.

**Material Temperature**
Sikadur®-30 must be applied at temperatures between +8°C and +35°C.

**Substrate Moisture**
Max. 4% pbw

**Content**
When applied to mat damp concrete, brush the adhesive well into the substrate.

**Dew Point**
Beware of condensation!
Substrate temperature during application must be at least 3°C above dew point.
Product Data

Form

Colours
Part A: white
Part B: black
Parts A+B mixed: light grey

Packaging
6 kg (A+B): pre-batched unit, pallets of 480 kg (80 x 6 kg).
Not pre-dosed industrial packaging (pallets at 14 pails):
Part A: 30 kg pails
Part B: 10 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
1.65 kg/l + 0.1 kg/l (parts A+B mixed) (at +23°C)

Sag Flow
According to FIP (Fédération Internationale de la Précontrainte)
On vertical surfaces it is non-sag up to 3-5 mm thickness at +35°C.

Squeezability
According to FIP (Fédération Internationale de la Précontrainte)
4'000 mm at +15°C at 15 kg

Layer Thickness
30 mm max.
When using multiple units, one after the other. Do not mix the following unit until the previous one has been used in order to avoid a reduction in handling time.

Change of Volume
Shrinkage:
0.04% (According to FIP (Fédération Internationale de la Précontrainte))

Thermal Expansion
Coefficient W:
2.5 x 10⁻⁵ per °C (temp. range -20°C to +40°C)

Thermal Stability
Glass transition temperature:
(According to FIP (Fédération Internationale de la Précontrainte))
Curing time Curing Temperature TG
7 days +45°C +62°C

Heat deflection temperature:
(According to ASTM-D 648)
Curing time Curing Temperature HDT
3 hours +80°C +53°C
6 hours +60°C +53°C
7 days +35°C +53°C
7 days +10°C +58°C

Service Temperature
-40°C to +45°C (when cured at > +23°C)

Mechanical / Physical Properties

Compressive Strength
(According to EN 196)

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Concrete failure (~ 15 N/mm²)
(According to FIP 5.15)

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</tr>
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</table>

18 N/mm² (7 days at +23°C)
(According to DIN 53283)

Tensile Strength
(According to DIN 53455)

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18 N/mm² (7 days at +23°C)
(According to DIN 696)

Tensile:
11 200 N/mm² (at +23°C) (initial, According to ISO 527)

Bond Strength
On steel > 21 N/mm² (mean values > 30 N/mm²)
(According to DIN EN 24624)
on correctly prepared substrate, i.e. blastcleaned to Sa. 2.5
On concrete: (According to FIP (Fédération Internationale de la Précontrainte))
concrete failure (> 4 N/mm²)

E-Modulus
Compressive: 9'600 N/mm² (at +23°C)
(Temperature, According to ASTM D695)
Tensile: 1 1'200 N/mm² (initial, According to ISO 527)

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Substrate Preparation
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Application Conditions / Limitations

Substrate Temperature
+8°C min. / +35°C max.

Ambient Temperature
+8°C min. / +35°C max.

Material Temperature
Sikadur®-30 must be applied at temperatures between +8°C and +35°C.

Substrate Moisture
Max. 4% wbw

Content
When applied to mat damp concrete, brush the adhesive well into the substrate.

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 = 3 : 1 by weight or volume

When using bulk material the exact mixing ratio must be safeguarded by accurately weighing and dosing each component.

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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. 600 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.

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Application Method / Tools

See the Product Data Sheet of Sika® CarboDur® Plates.

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Product Data Sheet

Edition 04, 2009
Identification no. 4.1.008
Version No. 00
Sikadur®-30

Sikadur® - 30

Adhesive for bonding reinforcement

Uses

Adhesive for bonding structural reinforcement, particularly in structural strengthening works. Including:

- Sika® CarboDur® Plates to concrete, brickwork and timber (for details see the Sika® CarboDur® Product Data Sheet).
- Steel plates to concrete (for details see the relevant Sika® Technical information).

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Sikadur®-30 has the following advantages:

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Tests