

## Sikadur®-30 LP

### Adhesive for Bonding Reinforcement

<b>Product Description</b>	<b>Sikadur®-30 LP</b> is a solvent-free, thixotropic, structural two part adhesive, based on a combination of epoxy resins and especially designed for use at higher temperatures between +25°C and +45°C.
<b>Uses</b>	Adhesive for bonding structural reinforcement, particularly in structural strengthening works. Including: <ul style="list-style-type: none"><li>■ Sika® CarboDur® Plates to concrete, brickwork, timber and steel (for details see the Sika® CarboDur® Product Data Sheet)</li><li>■ Steel plates to concrete (for details see the relevant Sika® Technical information).</li></ul>
<b>Characteristics / dvantages</b>	<b>Sikadur®-30 LP</b> has the following advantages: <ul style="list-style-type: none"><li>■ Long potlife</li><li>■ High temperature resistance at elevated curing temperatures (see the Sika® CarboHeater Product Data Sheet)</li><li>■ Easy to mix and apply</li><li>■ No primer needed</li><li>■ High creep resistance under permanent load</li><li>■ Very good adhesion to concrete, masonry, stonework, steel, cast iron, aluminium, timber and Sika CarboDur® Plates</li><li>■ Suitable for dry and damp concrete surfaces</li><li>■ Hardening is not affected by high humidity</li><li>■ High strength adhesive</li><li>■ Thixotropic: non-sag in vertical and overhead applications</li><li>■ Solvent free</li><li>■ Hardens without shrinkage</li><li>■ Different coloured components (for mixing control)</li><li>■ High initial and ultimate mechanical resistance</li><li>■ High abrasion and shock resistance</li><li>■ Impermeable to liquids and water vapour</li></ul>
<b>Tests</b>	
<b>Approval / Standards</b>	Sika® Publications: Shorter curing time for structural strengthening with Sika® CarboDur® CFRP plates - Use of the Sika® CarboHeater Language: GER Issued: 10/08/99



## Product Data

### Form

<b>Colours</b>	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).

### 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.

<b>Density</b>	1.8 kg/lit ± 0.1 kg/lit (part A)	(at +20°C)
	1.8 kg/lit ± 0.1 kg/lit (part B)	(at +20°C)
	1.8 kg/lit ± 0.1 kg/lit (parts A+B mixed)	(at +20°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 +55°C.

**Squeezability** According to FIP (Fédération Internationale de la Précontrainte))  
5'500 mm<sup>2</sup> at +25°C at 15 kg.

**Layer Thickness** 30 mm maximum  
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 Stability** Glass transition temperature (TG):  
According to FIP (Fédération Internationale de la Précontrainte))

Curing conditions	Temperature	TG
2 hours	+80°C	+72°C
7 days	+35°C	+55°C
28 days	+23°C	+45°C

Heat deflection temperature (HDT):  
According to FIP 5.10 (Fédération Internationale de la Précontrainte), ASTM D648

Curing conditions	Temperature	HDT
2 hours	+80°C	+84°C
7 days	+23°C	+55°C
7 days	+55°C	+82°C

## Mechanical / Physical Properties

### Compressive Strength

(According to EN 196)

Curing time	+25°C	+55°C
12 hours	> 60 N/mm <sup>2</sup>	75 - 100 N/mm <sup>2</sup>
1 day	> 75 N/mm <sup>2</sup>	85 - 115 N/mm <sup>2</sup>
3 days	> 85 N/mm <sup>2</sup>	95 - 120 N/mm <sup>2</sup>
7 days	> 85 N/mm <sup>2</sup>	95 - 120 N/mm <sup>2</sup>

### Flexural Strength

(According to DIN 53455)

Curing time	+25°C	+55°C
1 day	> 12 N/mm <sup>2</sup>	38 N/mm <sup>2</sup>
3 days	> 20 N/mm <sup>2</sup>	40 N/mm <sup>2</sup>
7 days	> 25 N/mm <sup>2</sup>	42 N/mm <sup>2</sup>
14 days	> 25 N/mm <sup>2</sup>	42 N/mm <sup>2</sup>

### Shear Strength

(According to FIP 5.15, Slant cylinder test)

Temperature	Shear strength
+40°C to +55°C	17-21 N/mm <sup>2</sup>

### Bond Strength

Tensile Adhesive Strength:

(According to DIN / EN 24624)

On concrete:

Curing time	+23°C	+55°C
1 day	Concrete fracture	Concrete fracture

On Steel:

Curing time	+23°C	+55°C
1 day	15 N/mm <sup>2</sup>	25 N/mm <sup>2</sup>
3 days	22 N/mm <sup>2</sup>	28 N/mm <sup>2</sup>

### E-Modulus

According to FIP (Fédération Internationale de la Précontrainte)  
Static 10'000 N/mm<sup>2</sup> (curing 14 days at +25°C)

### Strength Development

Confirm the strength development by producing cubes on site and testing them for compressive and flexural strength.

## System Information

### System Structure

Sika® CarboDur® System:  
For Application Details of Sika® CarboDur® Plates and **Sikadur®-30 LP**, 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

<b>Substrate Temperature</b>	+25°C min. / +55°C max.
<b>Ambient Temperature</b>	+25°C min. / +55°C max.
<b>Material Temperature</b>	<b>Sikadur®-30 LP</b> must be applied at temperatures between +5°C and +30°C.
<b>Substrate Humidity</b>	Maximum 4% pbv When applied to mat damp concrete, brush the adhesive well into the substrate.
<b>Dew Point</b>	Beware of condensation! Ambient 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.  
Only mix complete pre-batched units of **Sikadur®-30 LP**.

### 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.

**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))

Temperature	+25°C	+55°C
Potlife	~ 60 minutes	~ 30 minutes
Open time	~ 90 minutes	~ 60 minutes

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).

**Notes** 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 should 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 should 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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