Construction

Sikadur® 30

Adhesive for Bonding Reinforcement

Product Description	Sikadur®-30 is a thixotropic, structural two part adhesive, based on a combination of epoxy resins and special filler, designed for use at normal temperatures between +8℃ and +35℃.
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. Hardens without shrinkage ■ Hardening is not affected by high humidity. ■ High strength adhesive. ■ Thixotropic: non-sag in vertical and overhead applications. ■ 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	
Approval / Standards	Deutsches Institut für Bautechnik Z-36.12-29, 2006: General construction authorisation for Sika® CarboDur®. IBMB, TU Braunschweig, test report No. 1871/0054, 1994: Approval for Sikadur®-30 Epoxy adhesive. IBMB, TU Braunschweig, test report No. 1734/6434, 1995: Testing for Sikadur®-41 Epoxy mortar in combination with Sikadur®-30 Epoxy adhesive for bonding of steel plates. Testing according to EN 1504-4

Back

Table of contents

Product Data

Form

Colours

Part A : white
Part B: black
Part 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

Comp. A+B mixed: creamy paste

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℃ and +30℃. 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℃)

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℃.

Squeezability

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

4'000 mm2 at +15℃ 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

Coefficient W:

2.5×10^{-5} per ℃ (temp. range -20℃ to +40℃)

Thermal Stability

Glass transition temperature

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

Curing time	Curing Temperature	TG
7 days	+45℃	+62℃

Heat deflection temperature: (According to ASTM-D 648)

Curing time	Curing Temperature	TG
3 hours	+80℃	+53℃
6 hours	+60℃	+53℃
7 days	+35℃	+53℃
7 days	+10℃	+36℃

Service Temperature

-40℃ to +45℃ (when cured at > +23℃)

Mechanical / Physical Properties

Compressive Strength

(According to EN 196)

	Curing Temperature	
Curing time	+10℃	+35℃
12 hours	-	80 - 90 N/mm^2
1 day	50 - 60 N/mm^2	85 - 95 N/mm^2
3 days	65 - 75 N/mm^2	85 - 95 N/mm^2
7 days	70 - 80 N/mm^2	85 - 95 N/mm^2

Shear Strength

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

Curing time	Curing Temperature +15°C	Curing Temperature +35°C
1 day	3 - 5 N/mm²	15 - 18 N/mm²
3 days	13 - 16 N/mm²	16 - 19 N/mm²
7 days	14 - 17 N/mm²	16 - 19 N/mm²

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

Tensile Strength (According to DIN 53455)

Curing time	Curing Temperature +15°C	Curing Temperature +35°C
1 day	18 - 21 N/mm²	23 - 28 N/mm²
3 days	21 - 24 N/mm²	25 - 30 N/mm²
7 days	24 - 27 N/mm²	26 - 31 N/mm²

Bond Strength

On steel > 21 N/mm2 (mean values > 30 N/mm²) (According to DIN EN 24624) on correctly prepared substrate, ie. 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: 11'200 N/mm² (at +23°C) (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 an d +35°C.

Substrate Moisture Content

Max. 4% pbw

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.

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.

Construction

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	+8℃	+20℃	+35℃
Potlife	~ 120 minutes	~ 90 minutes	~ 20 minutes
Open time	~ 150 minutes	~ 110 minutes	~ 50 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℃).

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

PT. Sika Indonesia
Jl. Raya Cibinong- Bekasi km. 20
Limusnunggal- Cileungsi
BOGOR 16820 - Indonesia
Tel. +62 21 8230025
Fax +62 21 8230026
Website : www.sika.co. id
e-mail: sikacare@id.sika.com

Branches
Surabaya :
Puri Niaga Blok G No. 29, Jl. Raya Rungkut Menanggal 11, Surabaya
Tel : 031-8690202 ; Fax : 031-8682123
Medan :
Jl. Pancing / Jl. Willem Iskandar No.66B, Kec. Medan Tembung
Tel : 061- 6619500; Fax : (061) 6619400
Batam :
Jl. Laksamana Bintan, Komp. Bumi Riau Makmur Blok E No.3, Sungai Panas
Tel : (0778) 424928; Fax : (0778) 450189