



# SikaDur® 30

## Epoxy Adhesive for Bonding Sika® CarboDur® CFRP Plates

### Technical Data Sheet

#### DESCRIPTION

**SikaDur 30** is a solvent free, two component epoxy resin based product formulated specifically for the external bonding of **Sika CarboDur** CFRP plates.

#### USES

- \* Bonding of **Sika CarboDur** CFRP plates to concrete, timber and masonry substrates.

A component of the **Sika CarboDur Strengthening System**

#### ADVANTAGES

- \* Colour coded components to ensure correct mixing.
- \* Thixotropic nature facilitates application in both vertical and overhead situations.
- \* Excellent adhesion to correctly prepared substrates, even when damp.
- \* Good stress transfer between the structural member and CFRP plate.
- \* Excellent water resistant properties providing outstanding resistance to creep.
- \* Part of a complete and independently tested system for long term durability.
- \* Comprehensively proven in field applications.
- \* Full specification service available.
- \* No VOC's (Volatile Organic Compounds).
- \* Solvent free.
- \* Excellent 'grab' allows plates to be bonded without temporary supports.

#### Technical Data (typical)

<b>Resin type:</b>	Bisphenol A resin with a polyamine based hardener and inert fillers.	
<b>Colour:</b>	Base - White Hardener - Black Mixed - Mid Grey	
<b>Density:</b>	Approx 1.65 kg/litre	
<b>Application Thickness:</b>	Applicable overhead in layers up to 10mm thick	
<b>Application Temperatures:</b>		
Min	+5°C	
Max	+35°C	
<b>Compressive Strength:</b>	90 N/mm <sup>2</sup> (@35°C)	
<b>Shear Strength:</b>	Approx 15 N/mm <sup>2</sup> (concrete failure)	
<b>Maximum Service Temperature:</b>	+50°C	
<b>Shrinkage:</b>	0.04%	
<b>Heat Deflection Temperature: (ASTM)</b>	<b>Curing</b>	<b>HDT</b>
	7 days, +10°C	+36°C
	7 days, +15°C	+44°C
	7 days, +35°C	+53°C
	6 hours, +60°C	+53°C
	3 hours, +80°C	+53°C
<b>Glass Transition Temperature:</b>	+62°C	
<b>Co-efficient of Expansion:</b>	9 x 10 <sup>-5</sup> per °C (-10°C to +40°C)	
<b>Moisture Resistance:</b>	<0.5% uptake at 28 days	
<b>Static E-Modulus:</b>	12,800 N/mm <sup>2</sup>	
<b>Adhesive Strength:</b>	>4 N/mm <sup>2</sup> - concrete failure dependent on concrete strength and surface preparation	

Additional information on compressive, tensile and shear strength development is available on request.

Pot Life:		Open Assembly Time:
35°C	40 mins	30 mins
10°C	120 mins	-

All above values are approximate and to F.I.P.

## SURFACE PREPARATION

Concrete and masonry substrates must be sound, clean and free from laitance, ice and all surface contaminants. After preparation by grit blasting to expose coarse and fine aggregate surfaces should be vacuum cleaned. Maximum moisture content of substrate  $\leq 4\%$ .

Concrete suitability should be checked using bond and substrate strength tests.

Repairs to the concrete substrate must be undertaken with structural repair materials such as **SikaCem® 133 Gunite** or **SikaDur 41** repair mortar (see separate data sheets).

Timber surfaces should be prepared by planing or sanding. Dust should be removed by vacuum cleaner.

Bond tests should be made to ensure substrate preparation is adequate.

Immediately prior to the application of **SikaDur 30**, solvent wipe prepared roughened surface with **Sika Thinner C** to remove contaminants and carbon dust. Wait until surface is dry before applying adhesive.

## APPLICATION

The whole of Part A (white resin) should be mixed with the whole of Part B (black hardener) using a low speed drill (500 rpm) and suitable spiral or paddle mixer for 3 minutes until an even grey colour is achieved. A spatula should be used to check that there are no streaks near bottom edges of the container.

Application should be made to the appropriately prepared surfaces by float or suitable spreader at the specified thickness. A specially profiled spreader blade should be used for application to the **Sika CarboDur** CFRP plate.

The mating surfaces must then be brought together within the open time of the material.  
(Also refer to **Sika® CarboDur®** product data sheet).

## IMPORTANT CONSIDERATIONS

- \* A suitable qualified person must be involved in the design of the strengthening works.
- \* The application is inherently structural and great care should be taken in choosing suitably experienced specialist contractors.
- \* A full material specification should be obtained from **Sika Limited**.
- \* Site quality control must be assured by an independent testing authority.
- \* Ambient and substrate temperature during application must be a minimum of 3°C above dew point.
- \* DO NOT PART MIX PACKS.

**Note:** DETAILED ADVICE ON THE ABOVE SHOULD ALWAYS BE OBTAINED FROM **SIKA LIMITED**.

## CLEANING

Remove **SikaDur 30** from tools, equipment etc with **Sika Thinner C** whilst the product is still soft. Hardened material can only be removed mechanically.

## PACKAGING

Refer to latest price list.

## CONSUMPTION

<b>SikaDur 30</b>	Thickness	kg/m <sup>2</sup>
<b>Sika CFRP plate</b>	1.0 mm	1.8
<b>Substrate</b>	1 - 2mm	1.8 - 3.6

The above are guide figures. Allowances should be made for substrate irregularity and wastage.

## STORAGE AND SHELF LIFE

**SikaDur 30** should be stored in dry warehouse conditions between +5°C and +25°C in original containers. Shelf life under these circumstances is a minimum of one year.

### Handling Precautions

Sika products are generally harmless provided that certain precautions normally taken when handling chemicals are observed. The materials must not, for instance, be allowed to come in contact with foodstuffs or food utensils and measures should also be taken to prevent the uncured materials from coming in contact with the skin, since people with particularly sensitive skin may be affected. The use of protective clothing, goggles, barrier creams and rubber gloves is required. The skin should be thoroughly cleaned at the end of each working period either by washing with soap and warm water or by using a resin-removing cream - the use of powerful solvents is to be avoided. Disposable paper towels - not cloth towels - should be used to dry the skin. Adequate ventilation of the working area is recommended. In case of accidental eye or mouth contact, flush with water - consult a doctor immediately. Health and Safety information on Sika Products is available and we strongly advise that this is read prior to their use. Sika products are for professional use and should be stored in sealed containers away from the reach of children.

### Important Note

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 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 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 Technical Data Sheet for the product concerned, copies of which will be supplied on request.

Please consult our Technical Sales Department for further information

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