

# Sikadur®-31 SBA S-04

## Segmental bridge adhesive

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### Product Description

Sikadur®-31 SBA S-04 is a solvent-free, thixotropic, structural two part adhesive especially formulated for segmental bridge construction.

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### Uses

- Segmental bridge adhesive for use on substrate temperatures of +10°C to +20°C

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### Characteristics / Advantages

Sikadur®-31 SBA S-04 has the following advantages:

- Meets and / or exceed International and National Standards (such as FIP, BS, ASTM etc.)
- Lubricates the surface and makes location of the keys easier
- High strength and high modulus of elasticity
- High initial and ultimate strengths
- Impermeable to liquids and water vapour
- Minimal water absorption
- Suitable for dry and damp concrete surfaces (moisture tolerant)
- Hardening is not affected by humidity
- Thixotropic: non-sag in vertical and overhead applications
- Solvent free
- Hardens without shrinkage
- Different coloured components (for mixing control)
- No primer needed
- Good mechanical resistance

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### Product Data

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#### Form

<b>Colours</b>	Part A:	White
	Part B:	Black
	Part A+B mixed:	Concrete grey

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<b>Packaging</b>	6 kg (A+B) Pre batched unit.
	Part A: 4.50 kg plastic container
	Part B: 1.50 kg plastic container

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#### Storage

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<b>Storage Conditions / Shelf Life</b>	12 months from date of production if stored properly in original unopened, sealed and undamaged packaging, in dry conditions at temperatures between +5°C and +40°C. Protect from direct sunshine.
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Construction

## Technical Data

<b>Chemical Base</b>	Epoxy resin						
<b>Density</b>	1.7 kg/l $\pm$ 0.1 kg/l (Part A+B mixed) (at +27°C)						
<b>Sag Flow</b>	Flow at 9.5mm (According to FIP 5.3 with measurement according to ASTM D2730) (Requirement: Flow at minimum thickness of 3 mm)						
<b>Squeezability</b>	(According to FIP 5.4) <table border="1"><thead><tr><th>Squeeze load</th><th>Squeeze area</th></tr></thead><tbody><tr><td>15 kg</td><td>&gt;5'000 mm<sup>2</sup></td></tr><tr><td>200 kg</td><td>~7'000 mm<sup>2</sup></td></tr></tbody></table>	Squeeze load	Squeeze area	15 kg	>5'000 mm <sup>2</sup>	200 kg	~7'000 mm <sup>2</sup>
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15 kg	>5'000 mm <sup>2</sup>						
200 kg	~7'000 mm <sup>2</sup>						
<b>Layer Thickness</b>	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.						
<b>Change of Volume</b>	Shrinkage / Creep: Hardens without shrinkage.						
<b>Thermal Stability</b>	Heat Deflection Temperature (HDT): > 50°C (According to ASTM D648)  Curing conditions: 7 days / +20°C						

## Mechanical / Physical Properties

<b>Compressive Strength</b>	(According to FIP 5.12 and IS 9162-1979) <table border="1"><thead><tr><th>Curing time</th><th>Temperature</th><th>Compressive strength</th></tr></thead><tbody><tr><td>24 hours</td><td>+10°C</td><td><math>\geq</math>45 N/mm<sup>2</sup></td></tr><tr><td>7 days</td><td>+10°C</td><td><math>\geq</math>75 N/mm<sup>2</sup></td></tr></tbody></table>	Curing time	Temperature	Compressive strength	24 hours	+10°C	$\geq$ 45 N/mm <sup>2</sup>	7 days	+10°C	$\geq$ 75 N/mm <sup>2</sup>
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<b>Shear Strength</b>	(According to FIP 5.15, Shear strength-Slant prism test) <table border="1"><thead><tr><th>Temperature</th><th>Shear strength</th></tr></thead><tbody><tr><td>+10°C</td><td>&gt; 12 N/mm<sup>2</sup></td></tr></tbody></table>	Temperature	Shear strength	+10°C	> 12 N/mm <sup>2</sup>
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## Resistance

<b>Thermal Resistance</b>	Meets the requirements of FIP 5.10, DIN 53458 and ASTM D648.
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## System Information


### Application Details

<b>Substrate Quality</b>	Concrete should be cured for at least 28 days, (depends on minimal requirement of strengths) and have an open textured profile. Any cement laitance should be removed.  Substrate must be sound and free of all loose or friable particles with a minimum compressive strength 25 N/mm <sup>2</sup> and a minimum pull off 1.5 N/mm <sup>2</sup> .  Substrate must be clean and free of all contaminants such as dirt, oils and grease, surface treatments or coatings etc.  Substrate must be dry or mat damp and free from any standing water, ice etc..
<b>Substrate Preparation</b>	Concrete: The surfaces must be cleaned and mechanically prepared to achieve the desired substrate quality.

## Application Conditions / Limitations

<b>Substrate Temperature</b>	+10°C min. / +20°C max.
<b>Ambient Temperature</b>	+10°C min. / +20°C max.
<b>Material Temperature</b>	Sikadur®-31 SBA S-04 must be at a temperature of between +10°C and +20°C for application.
<b>Substrate Moisture Content</b>	When applied to mat moisture concrete, brush the adhesive well into substrate.
<b>Dew Point</b>	Beware of condensation! Substrate temperature during application must be at least 3°C above dew point.

## Application Instructions

<b>Mixing</b>	Part A : Part B = 3 : 1 (by weight)
<b>Mixing Time</b>	 <p>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 pot life.</p>

**Application Method / Tools** Apply the mixed adhesive to the prepared surface with a spatula, trowel, notched trowel, or with hands protected by gloves.

**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/ Open Time** Quantity: (100gm for Pot life test) (According to FIP 5.1 and 5.2)

Temperature	+20°C
Pot life	~ 25 minutes
Open time	~ 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.

## 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.

## 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

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.

