

Product Data Sheet
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Sikadur®-31 SBA S-03

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Segmental bridge adhesive

Product Description

Sikadur®-31 SBA S-03 is a solvent-free, thixotropic, structural two part adhesive especially formulated for segmental bridge construction.

Uses

■ Segmental bridge adhesive for use on substrate temperatures of +15°C to +35°C

Characteristics / Advantages

Sikadur®-31 SBA S-03 has the following advantages:

- Meets and / or exceed International and National Standards (such as FIP, BS, ASTM etc.)
- Lubricates surfaces and makes the location of shear 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 chemical resistance

Product Data

Form

Colours

Part A: white
Part B: black
Part A+B mixed: concrete grey

Packaging

6 kg (A+B) Pre batched unit.
Part A: 4.00 kg plastic container
Part B: 2.00 kg plastic container

Storage

Storage Conditions / Shelf Life

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.



Technical Data

Chemical Base	Epoxy resin						
Density	1.85 kg/l \pm 0.1 kg/l (Part A+B mixed) (at +27°C)						
Sag Flow	Flow at 9.5mm (According to FIP 5.3 with measurement according to ASTM D2730) (Requirement: Flow at minimum thickness of 3 mm)						
Squeezability	(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>~5'000 mm²</td></tr><tr><td>200 kg</td><td>~7'000 mm²</td></tr></tbody></table>	Squeeze load	Squeeze area	15 kg	~5'000 mm ²	200 kg	~7'000 mm ²
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15 kg	~5'000 mm ²						
200 kg	~7'000 mm ²						
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 / Creep: Hardens without shrinkage.						
Thermal Stability	Heat Deflection Temperature (HDT): > 50°C (According to FIP 5.10) Curing conditions: 7 days / +15°C						

Mechanical / Physical Properties

Compressive Strength	(According to FIP 5.12 and ASTM C 579)									
<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>+15°C</td><td>> 60 N/mm²</td></tr><tr><td>7 days</td><td>+15°C</td><td>> 75 N/mm²</td></tr></tbody></table>	Curing time	Temperature	Compressive strength	24 hours	+15°C	> 60 N/mm ²	7 days	+15°C	> 75 N/mm ²	
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Shear Strength	(According to FIP 5.15, Slant shear cylinder test)				
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+15°C	> 12 N/mm ²				

Resistance

Thermal Resistance	Meets the requirements of FIP 5.10 and ASTM D648.
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System Information


Application Details

Substrate Quality	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 ² and a minimum pull off 1.5 N/mm ² . 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
Substrate Preparation	Concrete: The surfaces must be cleaned and mechanically prepared to achieve the desired substrate quality.

Application Conditions / Limitations

Substrate Temperature	+15°C min. / +35°C max.
Ambient Temperature	+15°C min. / +35°C max.
Material Temperature	Sikadur®-31 SBA S-03 must be at a temperature of between +15°C and +30°C for application.
Substrate Moisture Content	When applied to mat moisture concrete, brush the adhesive well into 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 = 2: 1 (by weight).
Mixing Time	 <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 potlife.</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: (~ 100 g) (According to FIP 5.1 and 5.2)

Temperature	+35°C
Pot life	~ 35 minutes
Open time	~ 65 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.

