BUILDING TRUST

PRODUCT DATA SHEET

Sikadur®-31 CF Slow

2-component thixotropic epoxy adhesive

DESCRIPTION

Sikadur®-31 CF Slow is a moisture tolerant, thixotropic, structural 2-component adhesive and repair mortar, based on epoxy resins and special fillers for use at higher temperatures between +25 °C and +45 °C.
Suitable for use in hot and tropical conditions.

USES

Sikadur®-31 CF Slow may only be used by experienced professionals.

As a structural adhesive and mortar for:
- Concrete elements
- Hard natural stone
- Ceramics, fibre cement
- Mortar, bricks, masonry
- Steel, iron, aluminium
- Wood
- Polyester, epoxy
- Glass

As a fast setting rapid repair adhesive and mortar:
- Corners and edges
- Holes and void filling
- For vertical and overhead use

As a joint filling and crack sealing:
- Joint arris repair and crack sealing

FEATURES

Sikadur®-31 CF Slow has the following advantages:
- Easy to mix and apply
- Very good adhesion to most construction materials
- High strength adhesive
- Thixotropic: non-sag in vertical and overhead applications
- Hardens without shrinkage
- Different coloured components (for mixing control)
- No primer needed
- High initial and ultimate mechanical strength
- Good abrasion resistance
- Impermeable to liquids and water vapour
- Good chemical resistance

SUSTAINABILITY

Sikadur®-31 CF Slow is certified according "Low Emitting Materials as per Al Sa'fat - Dubai Green Building Evaluation System" by Dubai Central Laboratory (DCL), certificate No. CL17020432

CERTIFICATES AND TEST REPORTS

- Adhesive for structural bonding tested according to EN 1504-4 and ASTM, C881 M-02, Type I, Grade 3, Class B + C.

PRODUCT INFORMATION

Composition	Epoxy resin		
Packaging	**Component A:**	**Component B:**	**A+B set**
	0.8 kg	0.4 kg	1.2 kg (8 sets per box)
	4 kg	2 kg	6 kg
	8 kg	4 kg	12 kg
Colour	Component A: white Component B: black		

	Components A + B mixed: concrete grey
Shelf life	24 months from date of production

Storage conditions	Store in original, unopened, sealed and undamaged packaging in dry conditions at temperatures between +5 °C and +30 °C. Protect from direct sunlight.
Density	1.93 ± 0.1 kg/l (component A + B mixed) (+23°C) (evacuated)

TECHNICAL INFORMATION

Compressive strength (DIN EN 196)

Curing time	Curing temperature		
	+25°C	+35°C	+45°C
1 d	~30 N/mm²	~45 N/mm²	~48 N/mm²
3 d	~47 N/mm²	~49 N/mm²	~54 N/mm²
7 d	~52 N/mm²	~54 N/mm²	~57 N/mm²

Modulus of elasticity in compression ~2 600 N/mm² (14 d / +23 °C) (ASTM D 695)

Flexural-strength (DIN EN 196)

Curing time	Curing temperature		
	+25°C	+35°C	+45°C
1 d	~20 N/mm²	~20 N/mm²	~20 N/mm²
3 d	~25 N/mm²	~25 N/mm²	~25 N/mm²
7 d	~27 N/mm²	~27 N/mm²	~28 N/mm²

Tensile strength (DIN EN 196)

Curing time	Curing temperature		
	+25°C	+35°C	+45°C
1 d	~6 N/mm²	~12 N/mm²	~13 N/mm²
3 d	~12 N/mm²	~13 N/mm²	~16 N/mm²
7 d	~13 N/mm²	~13 N/mm²	~17 N/mm²

Modulus of elasticity in tension ~3 000 N/mm² (14 d / +23°C) (ISO 527)

Tensile strain at break 0.6 ± 0.1 % (7 d / +35°C) (ISO 527)

Shrinkage Hardens without shrinkage.

Tensile adhesion strength (EN ISO 4624, EN 1542, EN 12188)

Curing time	Substrate	Curing temperature	Adhesion strength
7 d	Concrete dry	+35°C	> 4 N/mm² *
7 d	Concrete moist	+25°C	> 4 N/mm² *
7 d	Concrete moist	+35°C	> 4 N/mm² *
7 d	Steel	+25°C	~15 N/mm²
7 d	Steel	+35°C	~14 N/mm²
7 d	Steel	+50°C	~14 N/mm²

*100 % concrete failure

Coefficient of thermal expansion 7.9 x 10^{-5} per °C (Temp. range +23°C min. / +60°C max.) (EN 1770)

Heat deflection temperature (ISO 75)

Curing time	Curing temperature	HDT
7 d	+35°C	+50°C

(thickness 10 mm)

APPLICATION INFORMATION

Mixing ratio	Component A : Component B = 2 : 1 (by weight)
Consumption	~1.9 kg/m² per mm of thickness.
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.
Sag flow	On vertical surfaces it is non-sag up to 15 mm thickness. (EN 1799)
Material temperature	Sikadur®-31 CF Slow can be applied at temperatures between +25°C and +45°C.
Ambient air temperature	+25 °C min. / +45 °C max.
Dew point	Beware of condensation. Substrate temperature during application must be at least 3 °C above dew point.
Substrate temperature	+25°C min. / +45°C max.
Substrate moisture content	Substrate must be dry or mat damp (no standing water) Brush the adhesive well into the substrate
Pot Life	(EN ISO 9514)

Temperature	Potlife*	Open time
+25°C	~120 min	—
+35°C	~70 min	—
+45°C	~45 min	~60 min

*200 g
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 components A and B before mixing them (not below +5 °C).

BASIS OF PRODUCT DATA

All technical data stated in this Data Sheet are based on laboratory tests. Actual measured data may vary due to circumstances beyond our control.

IMPORTANT CONSIDERATIONS

Sikadur® resins are formulated to have low creep under permanent loading. However due to the creep behaviour of all polymer materials under load, the long term structural design load must account for creep. Generally the long term structural design load must be lower than 20 to 25 % of the failure load.
A structural engineer must be consulted for load calculations for the specific application.

ECOLOGY, HEALTH AND SAFETY

User must read the most recent corresponding Safety Data Sheets (SDS) before using any products. The SDS provides information and advice on the safe handling, storage and disposal of chemical products and contains physical, ecological, toxicological and other safety-related data.

APPLICATION INSTRUCTIONS

SUBSTRATE QUALITY

Mortar and concrete must be older than 28 days (depends on minimal requirement of strengths).
Verify the substrate strength (concrete, masonry, natural stone).
The substrate surface (all types) must be clean, dry or mat damp (no standing water) and free from contaminants such as dirt, oil, grease, existing surface treatments and coatings etc.
Steel substrates must be de-rusted similar to Sa 2.5
The substrate must be sound and all loose particles must be removed.

SUBSTRATE PREPARATION

Concrete, mortar, stone, bricks: Substrates must be sound, dry or mat damp (no standing water), clean and free from laitance, ice, standing water, grease, oils, old surface treatments or coatings and all loose or friable particles must be removed to achieve a laitance and contaminant free, open textured surface.
Steel: Must be cleaned and prepared thoroughly to an acceptable quality that is by blastcleaning and vacuum. Avoid dew point conditions.

MIXING

Pre-batched units:
Mix components A and B together for at least 3 minutes with a mixing spindle attached to a slow speed electric drill (maximum 300 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 approximately 1 minute at low speed to keep air entrapment at a minimum. Mix only that quantity which can be used within its pot life.

APPLICATION METHOD / TOOLS

When using a thin layer adhesive, apply the mixed adhesive to the prepared surface with a spatula, trowel, notched trowel, (or with hands protected by gloves). When applying as a repair mortar use some formwork. When using for bonding metal profiles onto vertical surfaces, press uniformly using props for at least 12 hours, dependent on the layer thickness applied (not more than 5 millimetre) and the room temperature. Once hardened check the adhesion by tapping with a hammer.

CLEANING OF EQUIPMENT

Clean all tools and application equipment with Sika® Colma Cleaner immediately after use. Hardened / cured material can only be mechanically removed.

LOCAL RESTRICTIONS

Note that as a result of specific local regulations the declared data and recommended uses for this product may vary from country to country. Consult the local Product Data Sheet for exact product data and uses.

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.