

Sikadur®-31 CF Normal (formerly known as Sikadur®-31 LP)

2-part thixotropic epoxy adhesive

Product Description

Sikadur®-31 CF Normal is a solvent-free, moisture tolerant, thixotropic, structural two part adhesive and repair mortar, based on a combination of epoxy resins and special fillers, designed for use at temperatures between +10°C and +30°C"

Uses

As a structural adhesive and mortar for :

- Concrete elements
- Hard natural stone
- Ceramics, fiber cement
- Mortar, Bricks, Masonry
- Steel, Iron, Aluminium
- Wood
- Polyester, Epoxy
- Glass

As a repair mortar and adhesive:

- Corners and edges
- Holes and void filling
- Vertical and overhead use

Joint filling and crack sealing:

- Joint and crack arris / edge repair
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Characteristics / Advantages

- Sikadur®-31 CF Normal has the following advantages:
 - Easy to mix and apply
 - Suitable for dry and damp concrete surfaces
 - Very good adhesion to most construction materials
 - High strength adhesive
 - Thixotropic: non-sag in vertical and overhead applications
 - Solvent free
 - 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
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Tensile Strength

(according to ISO 527)

Curing time	+10°C	+23°C	+30°C
1 day	2 – 6 N/mm ²	6 – 10 N/mm ²	9 – 15 N/mm ²
3 days	9 – 15 N/mm ²	17 – 23 N/mm ²	17 – 23 N/mm ²
7 days	14 – 20 N/mm ²	18 – 24 N/mm ²	19 – 25 N/mm ²

Bond Strength

(according to EN ISO 4624, EN 1542 and EN 12188)

Curing time	Temperature	Substrate	Bond strength
1 day	+10°C	Concrete dry	> 4 N/mm ² *
1 day	+10°C	Concrete moist	> 4 N/mm ² *
1 day	+10°C	Steel	6 – 10 N/mm ²
3 days	+10°C	Steel	10 – 14 N/mm ²
3 days	+23°C	Steel	11 – 15 N/mm ²
3 days	+30°C	Steel	13 – 17 N/mm ²

*100% concrete failure

E-Modulus

Tensile:

~ 5'000 N/mm² (14 days at +23°C)

(according to ISO 527)

Compressive:

~ 4'600 N/mm² (14 days at +23°C)

(according to ASTM D695)

Elongation at Break

0.4 ± 0.1% (7 days at +23°C)

(according to ISO 75)

System Information**Application Details****Consumption / Dosage**The consumption of Sikadur[®]-31 CF Normal is ~ 1.9 kg/m² per mm of thickness**Substrate Quality**

Mortar and concrete must be older than 28 days (dependent on environment and strength).

Verify the substrate strength (concrete, masonry, natural stone).

The substrate surface (all types) must be clean, dry 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, clean and free from laitance, ice, standing water, grease, oils, old surface treatments or coatings and loosely adhering particles to achieve a laitance and contaminant free, open textured surface.

Steel:

Must be cleaned and prepared thoroughly to an acceptable quality i.e. by blastcleaning and vacuum. Avoid dew point conditions.

Other surfaces (polyester, epoxy, glass, ceramic):

On these substrates pre-apply Sikafloor[®]-156 (primer) and then, "wet on wet" apply Sikadur[®]-31 CF Normal.**Application Conditions / Limitations****Substrate Temperature**

+10°C min. / +30°C max.


Ambient Temperature

+10°C min. / +30°C max.

Material TemperatureSikadur[®]-31 CF Normal must be applied at temperatures between +10°C and +30°C

Substrate Humidity	When applied to mat moisture concrete, brush the adhesive well into substrate.
Dew Point	Beware of condensation! Ambient temperature during application must be at least 3°C above dew point

Application Instructions

Mixing	Part A : part B = 2 : 1 by weight or volume	
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..

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, support and press uniformly using props for at least 12 hours, depending on the thickness applied (not more than 5 mm) and the room temperature. Once hardened check the adhesion by tapping with a hammer
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Cleaning of Tools	Clean all tools and application equipment with Sika® Colma Cleaner immediately after use. Hardener / cured material can only be mechanically removed.
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Potlife	Potlife (200 g)		
	+10°C	+23°C	+30°C
	~ 145 minutes	~ 55 minutes	~ 35 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°C).		

Curing Details

Applied Product ready for use	Temperature	Foot traffic	Light traffic	Full cure
	+10°C	~ 48 hours	~ 6 days	~ 14 days
	+20°C	~ 30 hours	~ 4 days	~ 10 days
	+30°C	~ 20 hours	~ 3 days	~ 7 days
	Note: Times are approximate and will be affected by changing ambient conditions. For traffic with solid / hard wheeled lift trucks allow 3 weeks curing time.			

Cleaning / Maintenance

Methods	To maintain the appearance of the floor after application, Sikadur®-31 CF Normal must have all spillages removed immediately and must be regularly cleaned using rotary brush, mechanical scrubbers, scrubber dryer, high pressure washer, wash and vacuum techniques etc., using suitable detergents and waxes.
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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.



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