

Sikadur®-31DW

2-part epoxy adhesive with approval for drinking water

Product Description

Sikadur®-31DW is a solvent-free, thixotropic two part adhesive and repairing mortar, based on epoxy resins and special fillers especially formulated to meet the requirements for bonding in drinking water areas.

Uses

Structural adhesive with drinking water approvals for the following substrates

- Concrete
- Hard natural stone
- Ceramics, Cementfibre
- Mortar, Bricks
- Steel, Iron, Aluminium
- Wood
- Polyester, Epoxy
- Glass
- As adhesive with drinking water approvals for the Sikadur®-Combiflex® System

Structural adhesive with drinking water approvals for following fields off application

For precast concrete segments:

- Columns
- Curbstones
- Pylons
- Brackets

Punctual concrete repairing

- Edges
- Holes
- Joint's profile

Joint filling and crack sealing

Construction



Characteristics / Advantages	<p>Sikadur®-31DW provides the following advantages:</p> <ul style="list-style-type: none"> ■ Can be used in drinking water areas ■ Easy to mix and apply ■ Suitable for dry and damp surfaces ■ Very good adhesion to most of the construction materials ■ Thixotropic: non-sag in vertical and overhead applications ■ Solvent free ■ Hardens without shrinkage ■ Parts of different colours (mixing control) ■ No primer needed ■ High initial and final mechanical resistances ■ Good abrasion resistance
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Tests

Approval / Standards	<ul style="list-style-type: none"> - Ofi: Test report No. 300.493 about drinking water suitability according to ÖNORM B 5014 / part 1 (23.06.03) - C.R.E.C.E.P. Paris: Test report No. 01 MAT.PA 013 about drinking water suitability according to French Ministry of health (Standard XP P 41-250-1 and NF EN 1622) - Austrian agency for health and nutrition safety: Report No. UZ 9239/02 drinking water certificate (23.07.02)
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Product Data

Form

Colours	<table style="width: 100%; border: none;"> <tr> <td style="width: 30%;">Part A:</td> <td style="width: 30%;">white</td> <td style="width: 40%;"></td> </tr> <tr> <td>Part B:</td> <td>black</td> <td></td> </tr> <tr> <td>Part A+B mixed:</td> <td>grey</td> <td></td> </tr> </table>	Part A:	white		Part B:	black		Part A+B mixed:	grey	
Part A:	white									
Part B:	black									
Part A+B mixed:	grey									

Packaging	<p>6 kg (A+B) Pre-dosed unit, Pallets at 480 kg (80 x 6 kg) 40 kg (A+B) not Pre-dosed unit, Pallets at 560 kg (14 x 40 kg)</p>
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Storage

Storage Conditions / Shelf-Life	<p>24 months from date of production if stored properly in original undamaged packaging in cool and dry conditions at temperatures between +5°C and +30°C. Protect from direct sunshine.</p>
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Technical Data

Chemical Base	Epoxy resin
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Density	<table style="width: 100%; border: none;"> <tr> <td style="width: 60%;">2.00 kg/l (part A)</td> <td style="width: 40%;">(at +20°C)</td> </tr> <tr> <td>2.00 kg/l (part B)</td> <td>(at +20°C)</td> </tr> <tr> <td>2.00 kg/l (part A+B mixed)</td> <td>(at +20°C)</td> </tr> </table>	2.00 kg/l (part A)	(at +20°C)	2.00 kg/l (part B)	(at +20°C)	2.00 kg/l (part A+B mixed)	(at +20°C)
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2.00 kg/l (part A+B mixed)	(at +20°C)						

Sag Flow	On vertical surfaces it is non-sag up to 10 mm thickness
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Layer Thickness	<p>30 mm max.</p> <p>Sometimes it is necessary to use different lots, one after the other. It is not recommended to mix the following lot until the previous one has been finished in order to avoid a handling time decreasing.</p>
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Change of Volume	<p><i>Shrinkage / Volume</i></p> <p>Hardens without shrinkage</p>
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Mechanical / Physical Properties

Compressive Strength 78 N/mm² (after 14 days at +23°C)

Flexural Tensile Strength 37 N/mm² (after 14 days at +23°C)

Tensile Strength 23 N/mm² (after 14 days at +23°C)

Bond Strength

Curing time	Temperature	Substrate	Bond strength
After 7 Days	+23°C	dry concrete	3 N/mm ²
After 7 Days	+23°C	moist concrete	2 N/mm ²
After 7 Days	+23°C	steel sandblasted	9 N/mm ²

E-Modulus 6500 N/mm²

Strength Development It is recommended to check the adhesive with regard to strength development by producing cubes at site and to test them for compressive and flexural strength.

System Information

System Structure Please consult the Sikadur®-Combiflex® System product data sheet for all applications with this system

Application Details

Substrate Quality Mortar and concrete must be older than 28 days. (Depending on climate, wirebrush, sand- or waterblasted or grind substrates)
Substrate strength (concrete, masonry, natural stone) must be verified in any case.

Substrate Preparation *Concrete, mortar, stone, bricks:*
The surface must be sound, clean, free from frost, standing water, grease, oils, dust, old paintings and all loosely adhering particles.
Cement laitance must be removed.
Pre-treatment: sand- or waterplasting abrasion.

Steel:
Substrate must be free from oils, grease, rust and any other substance which could decrease adhesion.
Be careful with the water condensation (dew point).
Pre-treatment: sandplasting, abrasion.

Other surfaces (polyester, epoxy, glass, ceramic):
The surface must be sound, clean, free from frost, standing water, grease, oils, dust, old paintings and all loosely adhering particles.
Pre-treatment: well abrasion

Application Conditions / Limitations

Substrate Temperature +10°C min. / +30°C max.
Sikadur®-31DW must be at a temperature of between +10°C and +30°C for application

Ambient Temperature +10°C min. / +30°C max.
Sikadur®-31DW must be at a temperature of between +10°C and +30°C for application

Substrate Humidity	When applied to mat moisture concrete, brush the adhesive well into substrate.
Relative Air Humidity	85% max. (at +25°C)
Dew Point	Beware of condensation!

Mixing Instructions

Mixing Part A : part B = 3 : 1 by weight or volume

Mixing Time



Mix parts A+B together for at least 2 minutes with a mixing spindle attached to a slow speed electric drill (max. 600 rpm) until the material becomes smooth in consistency and even grey colour of the mixture is obtained. Avoid aeration while mixing. Then, pour the whole mix into a clean container and again for ~ 1 more minute at low speed to keep air entrapment at a minimum.

Application Method / Tools

When using a thin layer adhesive, apply the mixed adhesive to the surface with a spatula , trowel, toothed trowel or with your hands protected with gloves.

When applying as a repair mortar it could be necessary to use a framework.

After applying for bonding metallic profiles onto vertical surfaces or cellars, press uniformly those profiles using props for at least 12 hours, depending on the layer thickness applied (which won't be higher than 5 mm) and the room temperature.

Once hardened it will be necessary to check the adhesion using a hammer.

Cleaning of Tools

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

Potlife (max. open time) Potlife: (100 g)

Temperature	+23°C
Time	~ 90 minutes

The pot life 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 pot life. To obtain longer workability at high temperatures, the mixed adhesive may be divided into portions. Another method is to chill parts A and B before mixing them.

Notes

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

Local Restrictions

Please note that as a result of specific local regulations the performance of this product may vary from country to country. Please consult the local Product Data Sheet for the exact description of the application fields.

Health and Safety Information

Protective Measures

Wash hands and skin thoroughly in warm soap water. When uncured, Sikadur®-31DW parts A+B are water pollutants and must not be discharged into drains, waterways or the ground. Colma Cleaner and Sikadur®-31DW residues must always be disposed in accordance with the regulations. During application in closed rooms, pits and shafts, etc., sufficient ventilation must be provided. Keep away from open flames including welding. To avoid rare allergic reactions, we recommend the use of protective gloves. Change soiled work clothes and wash hand before breaks and after finishing work.

Local regulations as well as health and safety advice on packaging labels must be observed.

Important Notes

Residues of material must be removed according to local regulations. Fully cured material can be disposed of as household waste under agreement with the responsible local authorities.

Detailed health and safety information as well as detailed precautionary measures e.g. physical, toxicological and ecological data can be obtained from the safety data sheet.

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 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 must always refer to the most recent issue of the Product Data Sheet for the product concerned, copies of which will be supplied on request.



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