

# PRODUCT DATA SHEET

## Sikadur<sup>®</sup>-31 DW

2-COMPONENT EPOXY ADHESIVE WITH APPROVAL FOR DRINKING WATER CONTACT



### DESCRIPTION

Sikadur<sup>®</sup>-31 DW, two part adhesive and repair mortar, based on epoxy resins and special fillers which has been specially formulated to meet the requirements for use in contact with drinking water. Suitable for use in hot and tropical climatic conditions.

### USES

Sikadur<sup>®</sup>-31 DW may only be used by experienced professionals.

As a structural adhesive for the following substrates:

- Concrete
- Hard natural stone
- Ceramics, fibre Cement
- Mortar, Bricks
- Steel, Iron, Aluminium
- Wood
- Polyester, Epoxy
- Glass

As the adhesive with drinking water approvals for the Sikadur<sup>®</sup>-Combiflex<sup>®</sup> System

As a structural adhesive for precast concrete segments including:

- Columns, beams etc.
- Kerbs and edging stones, copings etc.

Rapid curing concrete repairs:

- Corners and edges
- Hole and void filling
- Joint arrises

Joint filling and crack sealing:

- Rigid joint filling
- Crack filling and sealing (non-moving)

### CHARACTERISTICS / ADVANTAGES

Sikadur<sup>®</sup>-31 DW provides the following advantages:

- Can be used in drinking water areas
- Easy to mix and apply
- Very good adhesion to most of the construction materials
- Thixotropic: non-sag and suitable for vertical and overhead application
- Hardens without shrinkage
- Different coloured components (for mixing control)
- No primer needed
- High initial and ultimate strengths

### APPROVALS / CERTIFICATES

- WRAS, UK: Approval for use with Sikadur-Combiflex SG, approval number 1708503
- Sikadur<sup>®</sup>-31 DW follows the requirements of EN 1504-4 as adhesive for structural bonding

### PRODUCT INFORMATION

<b>Composition</b>	Epoxy resin
<b>Packaging</b>	6 kg (A + B)

<b>Colour</b>	Component A: White Component B: Black Components A + B mixed: Grey
<b>Shelf life</b>	24 months from date of production
<b>Storage conditions</b>	Store in original, unopened, sealed and undamaged packaging in dry conditions at temperatures between +5 °C and +30 °C. Protect from direct sunlight, heat and moisture.
<b>Density</b>	2.00 kg/l (component A + B mixed) (+20 °C)

## TECHNICAL INFORMATION

<b>Compressive Strength</b>	<b>Curing time</b> 14 d	<b>Curing temperature 23 °C</b> ~78 N/mm <sup>2</sup>	(DIN EN 196)		
<b>Tensile Strength in Flexure</b>	<b>Curing time</b> 14 d	<b>Curing temperature 23 °C</b> ~37 N/mm <sup>2</sup>	(DIN EN 196)		
<b>Tensile Strength</b>	<b>Curing time</b> 14 d	<b>Curing temperature 23 °C</b> ~23 N/mm <sup>2</sup>	(ISO 527)		
<b>Modulus of Elasticity in Tension</b>	~6 500 N/mm <sup>2</sup>		(ISO 527)		
<b>Tensile Adhesion Strength</b>	<b>Curing time</b> 7 d	<b>Substrate</b> Concrete dry	<b>Curing temperature</b> +23 °C	<b>Adhesion strength</b> 3 N/mm <sup>2</sup> *	(EN ISO 4624, EN 1542, EN 12188)
	7 d	Concrete moist	+23 °C	2 N/mm <sup>2</sup> *	
	7 d	Steel sand-blasted	+23 °C	9 N/mm <sup>2</sup>	
	*100 % concrete failure				
<b>Shrinkage</b>	Hardens without shrinkage.				
<b>Coefficient of Thermal Expansion</b>	2.36 x 10 <sup>-5</sup> per °C (Temperature range +23 °C - +60 °C)			(EN 1770)	
<b>Heat Deflection Temperature</b>	<b>Curing time</b> 7 d	<b>Curing temperature</b> +23 °C	<b>HDT</b> +50 °C	(ISO 75)	

## SYSTEMS

<b>System Structure</b>	Please consult the Sikadur®-Combiflex® System product data sheet for all applications with this system.
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## APPLICATION INFORMATION

<b>Mixing Ratio</b>	Component A : Component B = 3 : 1 by weight or volume
<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>Sag Flow</b>	On vertical surfaces it is non-sag up to 10 mm thickness. (EN 1799)
<b>Product Temperature</b>	Sikadur®-31 DW must be at a temperatures of between +10 °C and +30 °C for application.
<b>Ambient Air Temperature</b>	+10 °C min. / +30 °C max.
<b>Dew Point</b>	Beware of condensation. Substrate temperature during application must be at least 3 °C above dew point.

<b>Substrate Temperature</b>	+10 °C min. / +30 °C max.		
<b>Substrate Moisture Content</b>	Substrate must be dry or mat damp (no standing water) Brush the adhesive well into the substrate		
<b>Pot Life</b>	<b>Temperature</b>	<b>Potlife*</b>	<b>Open time</b>
	+23 °C	~90 min	-
	+30 °C	-	~55 min
<small>*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 + B before mixing them (not below +5 °C).</small>			

## 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 i.e. by blast cleaning and vacuum. Avoid dew point conditions.

### MIXING

Pre-batched units:

Mix components A + 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 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.

### CLEANING OF EQUIPMENT

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

## 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 - 25 % of the failure load.

**A structural engineer must be consulted for load calculations for the specific application.**

## 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.

## 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 the exact product data and uses.

## ECOLOGY, HEALTH AND SAFETY

For information and advice on the safe handling, storage and disposal of chemical products, users shall refer to the most recent Safety Data Sheet (SDS) 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.

### SIKA NORTHERN GULF

Bahrain / Qatar / Kuwait  
Tel: +973 177 38188  
sika.gulf@bh.sika.com  
gcc.sika.com

### SIKA SOUTHERN GULF

UAE / Oman / SIC  
Tel: +971 4 439 8200  
info@ae.sika.com  
gcc.sika.com

### SIKA SAUDI ARABIA

Riyadh / Jeddah / Damman  
Tel: +966 11 217 6532  
info@sa.sika.com  
gcc.sika.com



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All products are supplied  
under a management  
system certified to conform  
to the requirements of the  
quality, environmental and  
occupational health &  
safety standards ISO 9001,  
ISO 14001 and OHSAS  
18001.

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Product Data Sheet

Sikadur®-31 DW

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