

PRODUCT DATA SHEET

Sikadur[®]-31 DW

DESCRIPTION

Sikadur[®]-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.

USES

Sikadur[®]-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[®]-Combiflex[®] 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[®]-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 / STANDARDS

- Austrian agency for health and nutrition safety: Report No. UZ 9239/02 drinking water certificate (23.07.02).
- WRAS, UK: Approval for use with Combiflex, Reference RW/M5425, (17. 04. 2008) Test report M 103983 / M 104028
- O.T.E.C. Barcelona, Spain Document No. 07614, Reference No 0761415488
- Adhesive for structural bonding tested according to EN 1504-4, provided with the CE-mark

PRODUCT INFORMATION

Chemical Base	Epoxy resin	
Packaging	6 kg (A+B)	Pre-batched unit pallets of 540 kg (90 x 6 kg)
Colour	Component A: white Component B: black Components A+B mixed: grey	
Shelf Life	24 months from date of production	
Storage Conditions	Store in original, unopened, sealed and undamaged packaging in dry conditions. Protect from direct sunlight.	
Density	2.00 kg/l (component A+B mixed) (at +20 °C)	

TECHNICAL INFORMATION

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

SYSTEM INFORMATION

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

Mixing Ratio	Component A : component B = 3 : 1 by weight or volume	
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.	
Sag Flow	On vertical surfaces it is non-sag up to 10 mm thickness.	(EN 1799)

Ambient Air Temperature	+10 °C min. / +30 °C max.		
Dew Point	Beware of condensation. Substrate temperature during application must be at least 3 °C above dew point.		
Substrate Temperature	+10 °C min. / +30 °C max.		
Substrate Moisture Content	Substrate must be dry or mat damp (no standing water) Brush the adhesive well into the substrate		
Pot Life	Temperature	Potlife*	Open time (EN ISO 9514)
	+23 °C	~ 90 minutes	—
	+30 °C	—	~ 55 minutes
	*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).		

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 (max. 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 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.

CLEANING OF TOOLS

Clean all tools and application equipment with Sika® Remover-208 immediately after use. Hardened / cured material can only be mechanically removed.

LIMITATIONS

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 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.

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 Material Safety Data Sheet (MSDS) 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. It may be necessary to adapt the above disclaimer to specific local laws and regulations. Any changes to this disclaimer may only be implemented with permission of Sika® Corporate Legal in Baar.

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