

PRODUCT DATA SHEET

Sikadur® SAT 4500 ID

2-part epoxy impregnating resin for SikaWrap® FIB FRP composite system

DESCRIPTION

Sikadur® SAT 4500 ID is a two-part, high-solid epoxy based product recommended as impregnating / laminating resin for SikaWrap® FIB structural strengthening fabrics.

USES

Sikadur® SAT 4500 ID is the recommended saturant for reinforcement of the SikaWrap® FIB system can be applied on concrete substrate.

FEATURES

- Easy to mix
- Easy to apply by impregnation roller
- Formulated for manual saturation methods
- Low odor
- Low VOC
- Good application properties for vertical and overhead surfaces
- Good adhesion
- High mechanical properties
- Hardens without shrinkage
- Solvent free

PRODUCT INFORMATION

Composition	Epoxy resin and selected fillers	
Packaging	Part A + Part B = 5 kg	
	Part A	3.57 kg
	Part B	1.43 kg
Colour	Parts A + B mixed: Blue	
Shelf life	18 months from date of production	
Storage conditions	Store the product in a covered, cool and dry place (10 – 35 °C) away from direct contact with the sun, fire or open flames. If the temperature drops below 10 °C, the resin may show an increase in viscosity and the formation of lumps. In these cases, before using it, heat the packages by immersion of the sealed can in hot water until the lumps disappear.	
Density	Parts A + B mixed	1.13 ± 0.03 kg/l

TECHNICAL INFORMATION

Compressive strength	1 day	>40 MPa	(ASTM C579)
	7 days	>60 MPa	
Flexural-strength	1 day	35 MPa	(ASTM D790)

Tensile adhesion strength	Curing time	Substrate	Adhesion Strength	(EN 12636)
	7 days	Concrete-Resin-Concrete	>2 MPa	
Service temperature	-10 °C to +40 °C			

APPLICATION INFORMATION

Mixing ratio	Part A : Part B = 3.57 : 1.43 by weight		
Consumption	0.8 – 1.0 Kg/m² for 200 ~ 350 gsm fibre sheet 0.9 – 1.2 Kg/m² for 350 ~ 450 gsm fibre sheet 1.2 – 1.4 Kg/m² for 450 ~ 600 gsm fibre sheet Depending on the weight of the SikaWrap® FIB fabric to be impregnated		
Material temperature	Maximum	+35 °C	
	Minimum	+5 °C	
Ambient air temperature	Maximum	+35 °C	
	Minimum	+10 °C	
Relative air humidity	< 85%		
Dew point	Beware of condensation. The substrate and uncured applied resin must be at least +3 °C above dew point to reduce the risk of condensation or blooming on the resin surface.		
Substrate temperature	Maximum	+30 °C	
	Minimum	+10 °C	
Substrate moisture content	Max 6% pbw		
Pot Life	Temperature	Pot life	
	+21 °C	45 min	
	+30 °C	30 min	
	(ISO 9514) The pot life begins when Parts A+B 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 smaller quantities. Another method is to chill Parts A+B before mixing (not below +5 °C).		
Open Time	Temperature	Open time	(EN 12189)
	+30 °C	30 min	

SYSTEM INFORMATION

System structure	The system build-up and configuration as described must be fully complied with and may not be changed. - Concrete substrate adhesive primer: Sikadur® P 3500 ID - Impregnating or laminating resin: Sikadur® SAT 4500 ID - Structural strengthening fabric: SikaWrap® FIB For detailed information on the products, please refer to the individual Product Data Sheets and the "Method Statement SikaWrap® FIB System"
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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 behavior 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.

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

CONCRETE

Concrete and mortar must be fully cured. Substrates must be sound, clean, dry and free of all contaminants such as dirt, ice, oil, grease, coatings, laitance, efflorescence, surface treatments, loose friable material and with no standing water. Any damaged areas, spalled areas, delaminated areas, or areas with corrosion damage must be repaired prior to applying the product.

MIXING

IMPORTANT

Maintaining workability and handling time.
When using multiple units during application, do not mix the following unit until the previous one has been used.

PRE-BATCHED UNITS

1. **IMPORTANT** Mix full units only. Prior to mixing all parts, mix part A (resin) briefly using a mixing spindle attached to a slow speed electric mixer (max. 300 rpm).
2. Add part B (hardener) to part A (resin) and mix parts A+B continuously for at least 3 minutes until a uniformly coloured smooth consistency mix has been achieved.
3. **IMPORTANT** Do not over mix. To ensure thorough mixing pour materials into a clean container and mix again for approximately 1 minute. Mixing time for A+B = 4 minutes.

APPLICATION

Apply the mixed the product to the prepared/primed substrate by roller, ensuring uniform and complete coverage and the right consumption, depending on the weight of the SikaWrap® F1b fabric used.
For further details, see the “Method Statement SikaWrap® FIB System”

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Sikadur® SAT 4500 ID
November 2025, Version 01.01
020206040010246161

CLEANING OF EQUIPMENT

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

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.

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