

# PRODUCT DATA SHEET

## Sikadur<sup>®</sup>-33

### 2-PART STRUCTURAL EPOXY ADHESIVE

#### PRODUCT DESCRIPTION

Thixotropic two part structural adhesive based on epoxy resin in a cartridge.

#### USES

**As a structural adhesive for:**

- Concrete elements
- Hard natural stone
- Ceramics, fibre cement
- Mortar, Bricks, Blocks, Masonry, render etc.
- Steel, Iron, Aluminium
- Wood
- Polyester, Epoxy

**For concrete repairs Interior, vertical and overhead repair of:**

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

**Joint filling and crack sealing:**

- Crack filling and sealing (non-moving)

**Metalwork, carpentry:**

- Fixing and fastening of handrails, railings, balustrades and supports
- Fixing of window and door frames

**For use in the following:**

- Concrete
- Hard natural stone
- Solid rock
- Hollow and solid masonry
- Steel
- Wood

#### CHARACTERISTICS / ADVANTAGES

- Can be used on damp concrete
- Excellent adhesion to the substrate
- Non-sag, also overhead
- High load capacity
- Shrinkage-free hardening
- Styrene-free

#### APPROVALS / STANDARDS

Testing according to EN 1504-4.

#### PRODUCT INFORMATION

Chemical Base	Epoxy resin.
Packaging	250 ml cartridge

<b>Colour</b>	Part A: white Part B: grey Part A+B mixed: grey		
<b>Shelf Life</b>	12 months from date of production if stored properly in undamaged and unopened. On each Sikadur®-33 cartridge the best before date is printed.		
<b>Storage Conditions</b>	Cool and dry conditions, at temperatures between +10°C and +30°C. Protect from direct sunlight.		
<b>Density</b>	1.35 kg/l (part A+B mixed)		
<b>Compressive Strength</b>	~50 N/mm <sup>2</sup> (14 days, +23°C)	(According to EN 12190)	
<b>Flexural Strength</b>	~20 N/mm <sup>2</sup> (14 days, +23°C)	(According to EN 196)	
<b>Tensile Strength</b>	10 - 15 N/mm <sup>2</sup> (14 days, +23°C)	(According to DIN EN ISO 527-3)	
<b>Shrinkage</b>	Hardens without shrinkage.		
<b>Tensile Adhesion Strength</b>	<b>Time</b>	<b>Substrate</b>	<b>Bond strength</b>
	After 3 days	Dry concrete	> 5 N/mm <sup>2</sup> *
	After 3 days	Damp concrete	>5 N/mm <sup>2</sup> *
	After 3 days	Steel blast cleaned	> 10 N/mm <sup>2</sup>
	After 3 days	Brick dry	>1.5 N/mm <sup>2</sup> **
	*100% concrete failure **100% brick failure		
<b>Mixing Ratio</b>	Part A : part B = 1 : 1 by volume		
<b>Layer Thickness</b>	0.5 mm min. / 10 mm max.		
<b>Sag Flow</b>	Non-sag, suitable for overhead application		
<b>Ambient Air Temperature</b>	+10°C min. / +35°C max.		
<b>Dew Point</b>	Avoid condensation during dew point conditions. Substrate temperature during application must be at least 3°C above dew point.		
<b>Substrate Temperature</b>	+10°C min. / +35°C max.		
<b>Substrate Moisture Content</b>	Substrate must be dry or mat damp (no standing water)		
<b>Pot Life</b>	60 minutes (+23°C)		
<b>Curing Time</b>	<b>Temperature</b>	<b>Open Time</b>	<b>Curing Time</b>
	+10°C	210 minutes	3 days*
	+20°C	90 minutes	2 days*
	+35°C	45 minutes	1 day*
	* to achieve approx. 80% of the performance Min. cartridge temperature +10°C		

## SUBSTRATE QUALITY

Mortar and concrete must be older than 28 days. Adequate substrate strength (concrete, masonry, natural stone) must always be confirmed.

## MIXING

### Getting the cartridge ready

- Unscrew and remove the cap
- Pull out the plug
- Screw on the static mixer
- Place the cartridge into the gun and start application

**Important note:** When the work is interrupted the static mixer can remain on the cartridge after the gun pressure has been relieved. If the resin has

*hardened in the nozzle when work is resumed, a new nozzle must be attached.*

## APPLICATION METHOD / TOOLS

### General Advice:

- Clean the substrate (free from oil, grease and dust, no loose or friable particles, no cement laitance).
- Pump approx. twice until both components start to come out uniformly. Do not use this material. Release the gun pressure and clean the end of the nozzle with a cloth.
- Apply the adhesive. Observe the open time.
- During curing / hardening the fixing must not be moved. Observe the curing time. Wash tools immediately with Sika® Thinner C. Wash hands and skin thoroughly with warm soap water afterwards.

**Concrete, natural stone, cement mortar and render:**

Clean, free from oils and grease, no loose or friable particles, no cement laitance.

Age of concrete 3 to 6 weeks (dependent on mix design and environment).

Preparation: Blast cleaning or grinding.

**Construction steel 37, V2 A steel:**

Free from oil, grease, rust or mill scale. Preparation: Blast cleaning or grinding.

Avoid dew point conditions. If prepared steel is not to be used immediately, its surface must be coated with Sikagard®-62 to protect it.

**Polyester, epoxy, ceramics:**

Free from oils and grease. Polyester epoxy: Grind, using coarse abrasive.

Glass, ceramics: Grinding, do not apply to siliconised substrates.

**CLEANING OF TOOLS**

Clean all tools and application equipment with Sika® Thinner C 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. Please consult a structural engineer for load calculations for your specific application.

**VALUE BASE**

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.

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