Construction

Sikadur®-33

High Modulus, High-Strength, Structural, Rapid Curing Epoxy, Smooth-Paste Adhesive

Description

Sikadur-33 is a 2-component, 100% solids, moisture-tolerant, high-modulus, high-strength, structural, smooth-paste epoxy adhesive.

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

Advantages

- Can be used on damp concrete
- Excellent adhesion to the substrate
- Non-sag, also overhead
- High load capacity
- Shrinkage-free hardening
- Styrene-free
- Convenient easy mix ratio A : B = 1 : 1 by volume

Storage and Shelf Life

Minimum shelf life is approximately 2 years. Store under controlled conditions in original containers (minimum 4ºC, maximum 35ºC temperature range). **Condition material to 18ºC-24ºC before using.**

Instructions for Use

Surface Preparation	Surface must be clean and sound. It may be dry or damp, but free from standing water. Remove dust, laitance, grease, curing compounds, impregnations, waxes and any other contaminants. **Preparation Work** 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: Blastcleaning or grinding. Construction steel 37, V2 A steel: Free from oil, grease, rust or mill scale. Preparation: Blastcleaning 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.*
Mixing	Pre-mix each component. Proportion equal parts by volume of Component 'B' and Component 'A' into a clean pail. Mix thoroughly for 3 minutes with Sika paddle on low speed (400-600 rpm) drill until uniform in colour. Mix only the quantity that can be used within its potlife.
Substrate Quality	Mortar and concrete must be older than 28 days. Adequate substrate strength (concrete, masonry, natural stone) must always be confirmed.
Application	Apply Sikadur-33 to the prepared substrate by trowel or gloved hand. Ensure the material is worked well (scrubbed) into the surface, this is particularly important on damp surfaces. There should be no standing water on concrete surfaces. If using Sikadur-33 as an adhesive, coat both adherents and press into place (on vertical and overhead surfaces temporary support must be provided). The adhesive layer should not be less than 2 mm. **To seal injection ports and crack for injection grouting** – Place the neat mixed material over the cracks to be pressure-injected and around each injection port. Allow sufficient time to set before pressure-injecting. Use Sikadur-52 for the low-viscosity injection adhesive. Consult the Technical Data Sheet on this product for more information. Also contact Technical Services for additional information on pressure-injection grouting. **To anchor bolts, dowels, pins** – Annular space around bolt should not exceed 3 mm, depth of embedment is typically 10-15 times the bolt diameter. Grout with neat Sikadur-33.
Cleaning	Uncured material may be cleaned from application tools, etc. by using Sika Colma Cleaner (flammable solvent). Cured material can only be removed mechanically.

Product Data

Form	Smooth-paste adhesive	
Colour	Concrete grey	
Density	1.35 kg/l (part A+B mixed)	
Change of Volume	Shrinkage: Hardens without shrinkage.	
Thermal Expansion Coefficient	Coefficient W: 9.3×10^{-5} per °C (Temp. range +23°C - +60°C)	(According EN 1770)
Thermal Stability	Glass transition temperature (TG): HDT = +49°C (7 days / +23°C)	(According to EN12614)
Packaging	2.7kg kit (2 litre) 27kg kit (20 litre)	

Mix ratio	A : B = 1 : 1 by volume
Potlife	60 minutes (+23ºC)
Application Conditions / Limitations	
Substrate Temperature	+10°C min. / +35°C max.
Ambient Temperature	+10°C min. / +35°C max.
Substrate Moisture Content	Can be damp but not “wet”. No free standing water during application and curing.
Relative Air Humidity	85% max. (at +25°C)
Dew Point	Avoid condensation during dew point conditions. Substrate temperature during application must be at least 3°C above dew point.

Curing Time

Temperature	Open Time	Curing Time
+ 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

Tensile Strength	10-15 MPa (14 days, +23°C)
Flexural strength	20 MPa (14 days, +23°C)
Layer Thickness	0.5mm min./10mm max

Bond Strength

Time	Substrate	Bond Strength
After 3 days	Dry Concrete	> 5 N/mm^2 *
After 3 days	Damp Concrete	> 5 N/mm^2 *
After 3 days	Steel Blast cleaned	> 10 N/mm^2
After 3 days	Brick Dry	> 1.5 N/mm^2 **

* 100% concrete failure

** 100% brick failure

Compressive strength, (MPa)	~50 N/mm^2 (14 days + 23ºC)

Important Notes

- Minimum substrate and ambient temperature 4ºC
- Do not thin. Addition of solvents will prevent proper cure.
- Material is a vapour barrier after cure
- Not for sealing and cracks under hydrostatic pressure at the time of application

Construction

Handling Precautions

- Avoid contact with skin and eyes and breathing vapour
- Wear chemical resistant gloves and safety goggles when mixing and using
- If poisoning occurs contact a doctor or Poison Information Centre
- If swallowed do not induce vomiting
- If skin contact occurs, remove contaminated clothing and wash skin thoroughly
- If in eyes, hold eyes open and flood with water for 15 minutes and consult a doctor
- In all cases contact a doctor if symptoms persist. See Safety Data Sheet for further information

Disclaimer

Sikagrout and Sikadur products are tested in accordance with Australian Standards and/or Internationally accepted Standards. The published performance data is achieved by testing strictly in accordance to the procedures of these standards.

Any test procedures performed by others on our products that are not in strict accordance with the standard in every facet will likely produce results different from the published above. On site testing by others can be affected by external factors such as incorrect mixing methods, poor sampling techniques, varying temperatures, curing, crushing procedures etc.

Sika can provide Certificates of Compliance of all products delivered to site prior to installation if required.

If results of site testing or testing facilities by others vary from the Sika published data we recommend the following items be reviewed before contacting the manufacturer as one or all of these items could be influencing the results attained on site.

These include but are not limited to the following: site conditions, ambient, substrate and product temperature, mixing equipment, mixer speed, pump equipment, contractor experience, and incorrect test methods.

Sika Australia do not take responsibility nor have to make a case for any such tests where results of testing by others do not achieve the published data as above.

Important Notification

The information, and, in particular, the recommendations relating to the application and end-use of Sika's 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 of our terms and conditions of sale. Users should always refer to the most recent issue of the Australian version of the Technical Data Sheet for the product concerned, copies of which will be supplied on request.

PLEASE CONSULT OUR TECHNICAL DEPARTMENT FOR FURTHER INFORMATION.