CE EN 1504-4 08 0921 - CPD - 2054

Sikadur®-33

2-part structural epoxy adhesive

Construction

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) ■ Sealing of fittings in high security installations *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 ■ Pick resistant

Tests

Approval / Standards	Testing according to EN 1504-4.

Product Data

Form

Colours	Part A: white Part B: grey Part A+B mixed: grey
Packaging	250 ml cartridge, 12 per box Pallet: 60 boxes with 12 cartridges

Storage

Storage Conditions / Shelf-Life	12 months from date of production if stored properly in undamaged and unopened, original, sealed packaging in cool and dry conditions, at temperatures between +10 °C and +30 °C. Protect from direct sunlight. On each Sikadur®-33 cartridge the best before date is printed.

Technical Data

Chemical Base	Epoxy resin.
Density	1.35 kg/l (part A+B mixed)

Curing Speed

Temperature	Open Time T_{gel}	Curing Time T_{cur}
+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

Sag Flow	Non-sag, suitable for overhead application
Layer Thickness	0.5 mm min. / 10 mm max.
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)

Mechanical / Physical Properties

Compressive Strength	~50 N/mm^2 (14 days, +23°C)
Flexural Strength	~20 N/mm^2 (14 days, +23°C)
Tensile Strength	10 - 15 N/mm^2 (14 days, +23°C)

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 blastcleaned	> 10 N/mm^2
After 3 days	Brick dry	> 1.5 N/mm^2 **

*100% concrete failure
**100% brick failure

System Information

Application Details

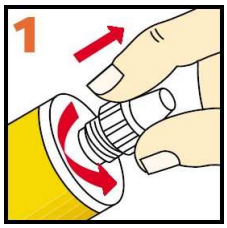
Substrate Quality	Mortar and concrete must be older than 28 days. Adequate substrate strength (concrete, masonry, natural stone) must always be confirmed.

Application Conditions / Limitations

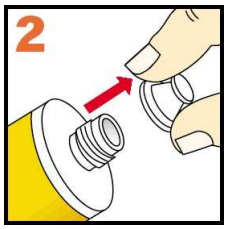
Substrate Temperature	+10°C min. / +35°C max.
Ambient Temperature	+10°C min. / +35°C max.
Substrate Moisture Content	Can be damp but not “wet”. No free standing water during application and curing.
Relative Air Humidity	85% max. (at +25°C)
Dew Point	Avoid condensation during dew point conditions. Substrate temperature during application must be at least 3°C above dew point.

Application Instructions

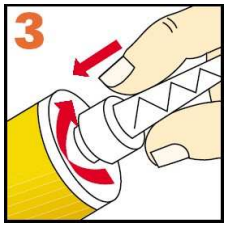
Mixing	Part A : part B = 1 : 1 by volume
Mixing Tools	*Getting the cartridge ready*



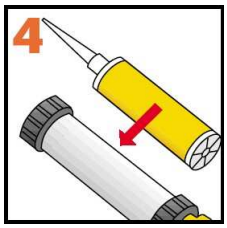
Unscrew and remove the cap



Pull out the plug



Screw on the static mixer

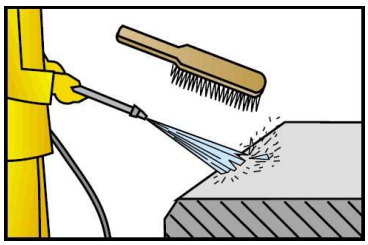


Place the cartridge into the gun and start application

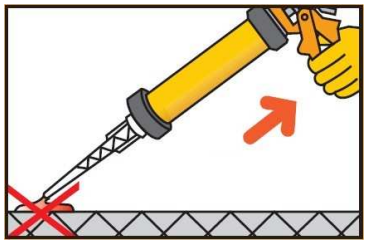
Important note:
When the work is interrupted the static mixer can remain on the cartridge after the gun pressure has been relieved. If the resin has hardened in the nozzle when work is resumed, a new nozzle must be attached.

Application Method / Tools

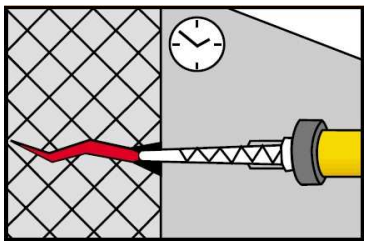
General Advice



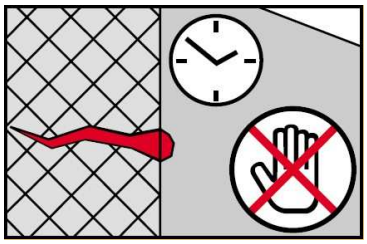
Clean the substrate (free from oil, grease and dust, no loose or friable particles, no cement laitance).



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® Colma Cleaner. 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: 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.

Cleaning of Tools

Clean all tools and application equipment with Thinner C immediately after use.
Hardened / curded material can only be mechanically removed.

Potlife

60 minutes (+23°C)

Value Base

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.

Health and Safety Information

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 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.

Construction

CE Labelling

CE	
0921	2)
Sika Schweiz AG Tueffenwies 16-22 CH - 8048 Zuerich 1001	
08	1)
0921-CPD-2054	3)
EN 1504-4	4)
Structural bonding product for bonded mortar or concrete for uses other than low performance requirements	

Bond/adhesion strength:	Pass (concrete failure)
Shear strength: (hardened- hardened concrete)	$\geq$ 12 N/mm^2
Compressive strength	$\geq$ 30 N/mm^2
Shrinkage / expansion:	$\leq$ 0.1%
Workability:	90 min. at 23°C
Sensitivity to water	Pass
Modulus of elasticity:	$\geq$ 2'000 N/mm^2
Coefficient of thermal expansion:	$\leq$ 100 * 10^{-6}
Glass transition temperature:	$\geq$ 40°C
Reaction to fire	Euroclass E
Durability	Pass
Dangerous substances: (comply with 5.4)	None

[1] Last two digits of the year in which the marking was affixed

[2] Identification number of the notified body

[3] Number of the EC Certificate

[4] Number of European standard

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