

PRODUCT DATA SHEET

Sikaflex[®]-554 + SikaBooster[®] S-50

Accelerated STP adhesive for assembly bonding

TYPICAL PRODUCT DATA (FURTHER VALUES SEE SAFETY DATA SHEET)

| | |
|--|--|
| Chemical base | Silane Terminated Polymer |
| Colour (CQP001-1) | White, black |
| Cure mechanism | Moisture-curing ^A |
| Density (uncured) | adhesive (depending on colour) 1.44 kg/l SikaBooster [®] S-50 1.15 kg/l |
| Booster content | by volume 2.5 % by weight 2.0 % |
| Non-sag properties | Good |
| Application temperature | ambient 5 – 40 °C |
| Open time (CQP526-1) | 20 minutes ^B |
| Early tensile lap-shear strength (CQP046-1 / ISO 4587) | see table 1 |
| Shrinkage (CQP014-1) | 2 % |
| Shore A hardness (CQP023-1 / ISO 48-4) | 55 |
| Tensile strength (CQP036-1 / ISO 527) | 3.5 MPa |
| Elongation at break (CQP036-1 / ISO 527) | 500 % |
| Tear propagation resistance (CQP045-1 / ISO 34) | 20 N/mm |
| Tensile lap-shear strength (CQP046-1 / ISO 4587) | 2.5 MPa |
| Service temperature (CQP513-1) | -50 – 90 °C |
| Shelf life | Sikaflex [®] -554 (pail / drum) 9 months ^C SikaBooster [®] S-50 unipack 12 months ^C SikaBooster [®] S-50 pail 9 months ^C |
| Mixer | Statomix MS 13/18 G |

CQP = Corporate Quality Procedure

^{A)} provided by SikaBooster[®] S-50^{B)} 23 °C / 50 % r. h.^{C)} stored below 25 °C**DESCRIPTION**

Sikaflex[®]-554 + SikaBooster[®] S-50 is an accelerated Silane Terminated Polymer (STP) adhesive system especially designed for bonding large components in industrial assembly. It bonds well to a wide range of substrates with minimal pretreatment.

PRODUCT BENEFITS

- Good adhesion to a wide variety of substrates without primer
- Very good weathering resistance
- Passes DIN EN 45545-2 R1/R7 HL3
- Fast curing by Booster Technology
- Solvent-, isocyanate-, phthalate- and PVC-free
- Capable of withstanding dynamic stresses

AREAS OF APPLICATION

Sikaflex[®]-554 + SikaBooster[®] S-50 is suitable for joints that will be subjected to dynamic stresses.

Suitable substrate materials are metals, particularly aluminium, metal primers, paint coatings, sheet steel, ceramic materials and certain plastics. It bonds well to a wide range of substrates with minimal pre-treatment.

Seek manufacturer's advice and perform tests on original substrates before using Sikaflex[®]-554 + SikaBooster[®] S-50 on materials prone to stress cracking.

This product is suitable for experienced professional users only. Tests with actual substrates and conditions have to be performed ensuring adhesion and material compatibility.

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CURE MECHANISM

Sikaflex®-554 + SikaBooster® S-50 cures by reaction with the accelerator and largely independent from atmospheric moisture. For typical strength build up data at 23 °C see table below.

| Time [h] | Lap-Shear Strength [MPa] |
|----------|--------------------------|
| 2 | 0.25 |
| 4 | 0.7 |
| 8 | 1.2 |
| 24 | 2 |

Table 1: Strength build-up Sikaflex®-554 + SikaBooster® S-50

CHEMICAL RESISTANCE

Sikaflex®-554 + SikaBooster® S-50 is generally resistant to fresh water, seawater, diluted acids and diluted caustic solutions; temporarily resistant to fuels, mineral oils, vegetable and animal fats and oils; not resistant to organic acids, glycolic alcohol, concentrated mineral acids and caustic solutions or solvents.

METHOD OF APPLICATION

Surface Preparation

Surfaces must be clean, dry and free from grease, oil, dust and contaminants. Surface treatment depends on the specific nature of the substrates and is crucial for a long lasting bond.

All pre-treatment steps must be confirmed by preliminary tests on original substrates considering specific conditions in the assembly process.

Application

Sikaflex®-554 + SikaBooster® S-50 need to be processed with an adequate dispensing system. The mixer type needs to be respected (see table Typical Product Data). Sikaflex®-554 + SikaBooster® S-50 can be applied between 5 °C and 40 °C but changes in reactivity and application properties have to be considered. The optimum temperature for substrate and sealant is between 15 °C and 25 °C.

To ensure a uniform thickness of the bondline it is recommend to apply the adhesive in form of a triangular bead (see figure 1).

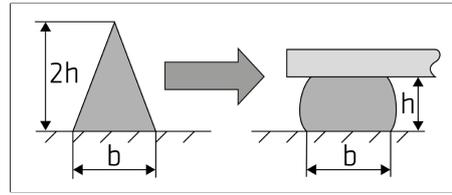


Figure 1: Recommended bead configuration

The open time is significantly shorter in hot and humid climate. The parts must always be joint within the open time. As a rule of thumb, a change of + 10 °C reduces the open time by half.

For advice on selecting and setting up a suitable pump system, contact the System Engineering Department of Sika Industry.

Tooling and finishing

Tooling and finishing must be carried out within the open time of the adhesive. We recommend the use of Sika® Tooling Agent N. Other finishing agents must be tested for suitability and compatibility.

Removal

Uncured Sikaflex®-554 + SikaBooster® S-50 may be removed from tools and equipment with Sika® Remover-208 or another suitable solvent. Once cured, the material can only be removed mechanically.

Hands and exposed skin have to be washed immediately using hand wipes such as Sika® Cleaner-350H or a suitable industrial hand cleaner and water.

Do not use solvents on skin.

FURTHER INFORMATION

The information herein is offered for general guidance only. Advice on specific applications is available on request from the Technical Department of Sika Industry.

Copies of the following publications are available on request:

- Safety Data Sheets
- General Guidelines
- Bonding and Sealing with 1-component Sikaflex®

PACKAGING INFORMATION

Sikaflex®-554

| | |
|------|-------|
| Pail | 23 l |
| Drum | 195 l |

SikaBooster® S-50

| | |
|---------|--------|
| Unipack | 600 ml |
| Pail | 23 l |

BASIS OF PRODUCT DATA

All technical data stated in this document are based on laboratory tests. Actual measured data may vary due to circumstances beyond our control.

HEALTH AND SAFETY INFORMATION

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.

DISCLAIMER

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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