

Sikaflex®-552 AT

Assembly adhesive with reduced substrate preparation

Technical Product Data

Chemical base		Silane Terminated Polymer
Color (CQP ¹ 001-1)		White, black
Cure mechanism		Moisture-curing
Density (uncured) (CQP 006-4)	depending on color	1.5 kg/l approx.
Non-sag properties		Very Good
Application temperature	ambient	5 - 40 °C (40 - 105 °F)
Skin time ² (CQP 019-1)		30 min. approx.
Curing speed (CQP 049-1)		see diagram 1
Shrinkage (CQP 014-1)		2 % approx.
Shore A hardness (CQP 023-1 / ISO 868)		50 approx.
Tensile strength (CQP 036-1 / ISO 37)		3 N/mm ² approx.
Elongation at break (CQP 036-1 / ISO 37)		600 % approx.
Tear propagation resistance (CQP 045-1 / ISO 34)		15 N/mm approx.
Tensile lap-shear strength (CQP 046-1 / ISO 4587)		2 N/mm ² approx.
Glass transition temperature (CQP 509-1 / ISO 4663)		-50 °C (-60 °F) approx.
Volume resistivity (CQP 079-2 / ASTM D 257-99)		3 x 10 ¹¹ Ωcm approx.
Temperature resistance (CQP 513-1)		90 °C (195 °F)
Short term	4 hours 1 hour	140 °C (285 °F) 160 °C (300 °F)
Service temperature range		-40 - 90 °C (-40 - 195 °F)
Shelf life (storage below 25 °C) (CQP 016-1)	cartridge unipack drum / pail	15 months 12 months 9 months

¹⁾ CQP = Corporate Quality Procedure

²⁾ 23 °C (73 °F) / 50 % r.h.

Description

Sikaflex®-552 AT is a high-performance elastic PUR-Hybrid assembly adhesive based on the Sika Silane Terminated Polymer (STP) technology. The product cures on exposure to atmospheric humidity to form a durable elastomer.

Sikaflex®-552 AT is manufactured in accordance with ISO 9001 / 14001 quality assurance system and the responsible care program.

Product Benefits

- Ageing and weathering resistant
- Good adhesion to a wide variety of substrates without primer
- Capable of withstanding high dynamic stresses
- High elasticity
- Can be over-painted
- Low odor
- Very low VOC
- Isocyanate- and solvent-free
- Silicone- and PVC-free

Areas of Application

Sikaflex®-552 AT is suitable for joints that will be subjected to dynamic stresses. Suitable substrate materials are metals, particularly aluminum, metal primers, paint coatings, sheet steel, ceramic materials and plastics.

Seek manufacturer's advice before using on plastics that are prone to stress cracking.

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



Cure Mechanism

Sikaflex®-552 AT cures by reaction with atmospheric moisture. At low temperatures the water content of the air is generally lower and the curing reaction proceeds somewhat slower (see diagram 1).

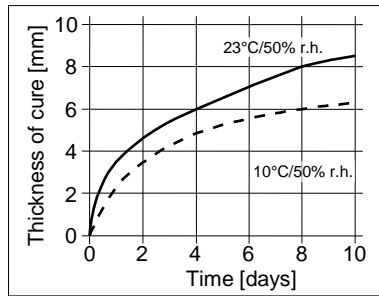


Diagram 1: Curing speed Sikaflex®-552 AT

Chemical Resistance

Sikaflex®-552 AT is resistant to fresh water, seawater, aqueous cleaning solutions; temporarily resistant to fuels, mineral oils, vegetable and animal fats and oils; not resistant to organic acids, alcohol, concentrated mineral acids and caustic solutions or solvents.

The above information is offered for general guidance only. Advice on specific applications will be given on request.

Method of Application

Surface preparation

Surfaces must be clean, dry and free from grease, oil and dust. As a rule the bond faces must be prepared in accordance with the instructions given in the current Sika® Pre-Treatment Chart – For Polyurethane Hybrids. Due to the wide variety of substrate compositions preliminary tests are highly recommended.

Advice on specific applications is available from the Technical Department of Sika Industry.

Application

Cut off the tip of the nozzle to give desired adhesive bead geometry. For satisfactory results the adhesive must be applied with a suitable piston-type gun (hand, compressed air or battery operated).

To ensure a uniform thickness of adhesive we recommend applying the adhesive in the form of a triangular bead (see figure 1). The optimum temperature for substrate and adhesive is between 15°C and 25°C.

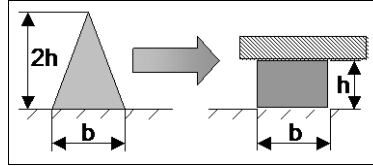


Figure 1: Recommended bead configuration

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. For a smooth finish use Sika® Tooling Agent N. Other finishing agents must be tested for suitability and compatibility.

Removal

Uncured Sikaflex®-552 AT 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 should be washed immediately using Sika® Handclean towels or a suitable industrial hand cleaner and water. Do not use solvents!

Overpainting

Sikaflex®-552 AT can be overpainted with a variety of paint systems (including water based). Alkyd-based and acid-curing paints are not suitable.

Over painting can be done wet-on-wet and up to 3 hours after application of Sikaflex®-552 AT.

Adhesion on cured Sikaflex®-552 AT can be improved by treating the adhesive with Sika® Aktivator-205 prior to painting.

Paints must be tested for compatibility by carrying out preliminary trials under manufacturing conditions. The elasticity of paints is lower than of elastomers. This could lead to cracking of the paint film in the joint area.

Further Information

Copies of the following publications are available on request:

- Safety Data Sheet
- General Guidelines - Bonding and Sealing with Sikaflex®
- Sika® Pre-Treatment Chart for Polyurethane Hybrids

Packaging Information

Cartridge	300 ml
Unipack	400 / 600 ml
Pail	23 l
Drum	195 l

Value Bases

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.

Health and Safety Information

For information and advice regarding transportation, handling, storage and disposal of chemical products, users shall refer to the actual Material Safety Data Sheets 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.

Further information available at:

www.sika.ch
www.sika.com

Sika Schweiz AG
Business Unit Industry
Tüffenwies 16
CH-8048 Zurich
Switzerland
Tel. +41 58 436 40 40
Fax +41 58 436 55 30

