

PRODUCT DATA SHEET

Sikaflex®-221

Multi-purpose adhesive sealant with a wide adhesion range

TYPICAL PRODUCT DATA (FURTHER VALUES SEE SAFETY DATA SHEET)

Chemical base	1-component polyurethane
Color (CQP001-1)	White, aluminum gray, black, colonial white
Cure mechanism	Moisture-curing
Density (uncured)	depending on color 1.3 kg/l (10.8 lb/gal)
Non-sag properties	Good
Application temperature	ambient 5 – 40 °C (41 – 104 °F)
Skin time (CQP019-1)	60 minutes ^A
Open time (CQP526-1)	45 minutes ^A
Curing speed (CQP049-1)	(see diagram)
Shrinkage (CQP014-1)	5 %
Shore A hardness (CQP023-1 / ISO 48-4)	40
Tensile strength (CQP036-1 / ISO 527)	1.8 MPa (260 psi)
Elongation at break (CQP036-1 / ISO 527)	500 %
Tear propagation resistance (CQP045-1 / ISO 34)	7 N/mm (40 pli)
Service temperature (CQP513-1)	-50 – 90 °C (-58 – 194 °F)
	24 hours 120 °C (248 °F)
	1 hour 140 °C (284 °F)
Shelf life (CQP016-1)	cartridge / unipack 12 months ^B
	pail / drum 6 months ^B

CQP = Corporate Quality Procedure

^A) 23 °C (73 °F) / 50 % r.h.^B) storage below 25 °C (77 °F)

DESCRIPTION

Sikaflex®-221 is a multi-purpose 1-component polyurethane adhesive / sealant that bonds well to a wide variety of substrates like metals, metal primers and paint coatings (2-component systems), ceramic materials and plastics. It is suitable for making permanent elastic seals.

PRODUCT BENEFITS

- Bonds well to a wide variety of substrates
- Resistant to aging
- Can be sanded and painted
- Listed under NSF/ANSI/CAN 61 – Drinking Water System Components (aluminum gray, black, and white)
- Listed under NSF – Proprietary Substances and Nonfood Compounds (aluminum gray, black, and white)
- Non-corrosive
- Low odor

AREAS OF APPLICATION

Sikaflex®-221 bonds well to a wide variety of substrates and is suitable for making permanent elastic seals. Suitable substrate materials are metals, metal primers and paint coatings (2-component systems), ceramic materials and plastics. It is ideally used for internal sealing and simple bonding applications.

Seek manufacturer's advice and perform tests on original substrates before using Sikaflex®-221 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.

PRODUCT DATA SHEET

Sikaflex®-221

Version 05.01 (10 - 2024), en_US
012001202210001000

Nonfood Compounds
Program Listed (IC) Registration
#120442, 122725, & 122723

CURE MECHANISM

Sikaflex®-221 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).

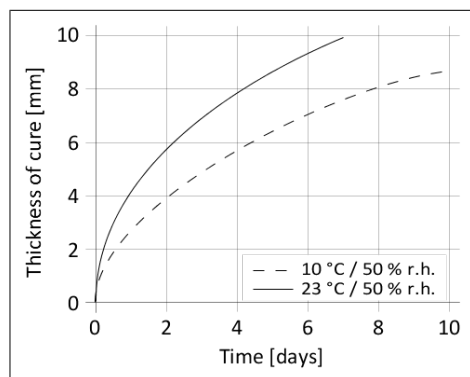


Diagram 1: Curing speed for Sikaflex®-221

CHEMICAL RESISTANCE

Sikaflex®-221 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 and dust.

Surface treatment depends on the specific nature of the substrates and is crucial for a long lasting bond. Suggestions for surface preparation may be found on the current edition of the appropriate Sika® Pre-Treatment Chart. Consider that these suggestions are based on experience and have in any case to be verified by tests on original substrates.

Application

Sikaflex®-221 can be processed between 5 °C and 40 °C (41 °F and 104 °F) 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 (59 °C and 77 °F).

Sikaflex®-221 can be processed with hand, pneumatic or electric driven piston guns as well as pump equipment. 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 skin time of the sealant. It is recommended using Sika® Slick. Other finishing agents must be tested for suitability and compatibility prior to the use.

Removal

Uncured Sikaflex®-221 can 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 a suitable industrial hand cleaner and water.

Do not use solvents on skin.

Overpainting

Sikaflex®-221 can be painted after formation of a skin. If the paint requires a baking process, best performance is achieved by allowing the sealant to fully cure first. 1C-PUR and 2C-acrylic based paints are usually suitable. All paints have to be tested by carrying preliminary trials under manufacturing conditions.

The elasticity of paints is usually lower than that of sealants. This could lead to cracking of the paint in the joint area.

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
- Sika Pre-treatment Chart
For 1-component Polyurethane
- General Guidelines
Bonding and Sealing with 1-component Sikaflex®

PACKAGING INFORMATION

Cartridge	300 ml
Unipack	400 ml 600 ml
Pail	4.5 gal (US)
Drum	50 gal (US)

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.

ENVIRONMENTAL, HEALTH AND SAFETY

For further information and advice regarding transportation, handling, storage and disposal of chemical products, user should refer to the actual Safety Data Sheets containing physical, environmental, toxicological and other safety related data. User must read the current actual Safety Data Sheets before using any products. In case of an emergency, call CHEMTREC at 1-800-424-9300, International 703-527-3887.

LEGAL DISCLAIMER

Prior to each use of any product of Sika Corporation, its subsidiaries or affiliates ("SIKA"), the user must always read and follow the warnings and instructions on the product's most current product label, Product Data Sheet and Safety Data Sheet which are available at usa.sika.com or by contacting SIKA's Technical Service Department via email at tsmh@us.sika.com. Nothing contained in any SIKA literature or materials relieves the user of the obligation to read and follow the warnings and instructions for each SIKA product as set forth in the current product label, Product Data Sheet and Safety Data Sheet prior to use of the SIKA product.

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