BUILDING TRUST

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, grey, black, brown
Cure mechanism		Moisture-curing
Density (uncured)	depending on color	1.3 kg/l
Non-sag properties		Good
Application temperature	ambient	5 – 40 °C
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
Elongation at break (CQP036-1 / ISO 527)		500 %
Tear propagation resistance (CQP045-1 / ISO 34)		7 N/mm
Service temperature (CQP513-1)		-50 – 90 °C
	24 hours	120 °C
	1 hour	140 °C
Shelf life (CQP016-1)		12 months [B]

CQP = Corporate Quality Procedure

[A] 23 °C / 50 % r.h.

[B] storage below 25 °C

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 ageing
- Can be sanded and painted
- Passes EN45545-2 R1/R7 HL3
- 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.

Test with actual substrates and conditions have to be performed to ensure adhesion and material compatibility.

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).

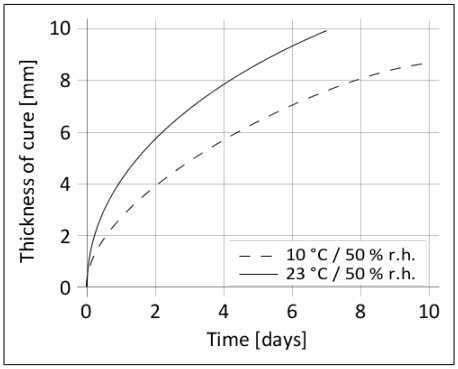

Diagram 1: Curing speed for Sikaflex®-221

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 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.

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® Tooling Agent N. Other finishing agents must be tested for suitability and compatibility prior 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 hand wipes such as Sika® Cleaner-350H or 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 of sealants what could lead to cracking of the paint film 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 Polyurethane
- General Guidelines Bonding and Sealing with Sikaflex® and SikaTack®

PACKAGING INFORMATION

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

For information and advice regarding transportation, handling, storage and disposal of chemical products, users shall refer to the actual Safety Data Sheets containing physical, ecological, toxicological and other safety-related data.

DISCLAIMER

The information, and, in particular, the recommendations relating to the application and enduse 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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