

Sikaflex®-223

Weathering resistant low modulus adhesive sealant

Typical Product Data

Chemical base		1-C polyurethane
Colour (CQP ¹ 001-1)		Black, white
Cure mechanism		Moisture-curing
Density (uncured) (CQP 006-4)	depending on colour	1.2 kg/l
Non-sag properties		Good
Application temperature	ambient	10 – 35 °C
Skin time ² (CQP 019-1)		50 minutes
Curing speed (CQP 049-1)		(see diagram)
Shrinkage (CQP 014-1)		1 %
Shore A-hardness (CQP 023-1 / ISO 868)		30
Tensile strength (CQP 036-1 / ISO 37)		2 MPa
Elongation at break (CQP 036-1 / ISO 37)		400 %
Tear propagation resistance (CQP 045-1 / ISO 34)		5.5 N/mm
Glass transition temperature (CQP 509-1 / ISO 4663)		-45 °C
Service temperature (CQP 513-1)		-40 – 90 °C
Short term	4 hours 1 hour	120 °C 150 °C
Shelf life (storage below 25°C) (CQP 016-1)		12 months

¹⁾ CQP = Corporate Quality Procedures

²⁾ 23 °C / 50 % r.h.

Description

Sikaflex®-223 is an adhesive and sealant for a large variety of substrates. The product can be used for exterior joints due to the very good weathering resistance.

Product Benefits

- Ageing and weathering resistant
- Easy to process and for tooling
- Suitable for a wide variety of organic glasses
- Short cut-off string

Areas of Application

Sikaflex®-223 is a multi-purpose adhesive and sealant suitable for application on most common substrates such as metals, GRP, 2-C coating and paint systems, plastics. Due to its excellent weathering resistance it is well suited for exposed open joints. Its low modulus allows the use of Sikaflex®-223 to bond and seal organic glasses (PC, PMMA). Special care is however required for materials prone to environmental stress cracking (ESC) such as thermoplastics - including organic glasses. In such cases project related testing is required.

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®-223 cures by reaction with atmospheric moisture. At low temperature the water content of the air is generally lower and the curing reaction proceeds slower (see diagram 1).

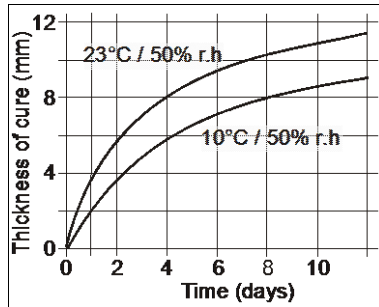


Diagram 1: Curing speed Sikaflex®-223

Chemical Resistance

Sikaflex®-223 is resistant to fresh water, seawater, aqueous, chlorine free cleaning solutions and sewage effluent as well as diluted acids and caustic solutions; temporarily resistant to fuels, mineral oils, vegetable and animal fats and oils; not resistant to organic acids, alcohol, concentrated mineral acids, caustic solutions or paint thinners.

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 guideline for surface preparation the corresponding Sika Pre-Treatment Chart is to be used.

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

Application

Adhesive in cartridges or unipacks must be applied with adequate equipment such as a piston application guns.

For advice on suitable pump system contact the System Engineering Department of Sika Industry.

Sikaflex®-223 can be processed between 10 °C and 35 °C but changes in reactivity as well as application properties need to be considered. The optimum process temperature (substrates, climate and product) is between 15 °C and 25 °C.

To ensure uniform thickness of adhesive when compressed, we recommend applying the adhesive in the form of a triangular bead (see illustration).

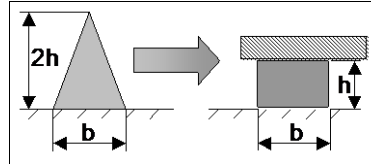


Figure 1: Recommended bead configuration

Tooling and finishing

Tooling and finishing must be carried out within the tack-free time of the adhesive. We recommend the use of Sika® Tooling Agent N. Other finishing agents or lubricants must be tested for suitability/ compatibility.

Removal

Uncured Sikaflex®-223 may be removed from tools and equipment with Sika® Remover-208. 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 cleanser and water. Do not use solvents on skin!

Overpainting

Sikaflex®-223 can be overpainted after formation of a skin. In case the paint requires a bake process it may be necessary to wait for a full cure. 1C-PUR and 2C-acrylic based paints are usually suitable. Not suitable are oil based paints. All paints have to be tested by carrying preliminary trials under manufacturing conditions. The elasticity of paints is lower than that of polyurethanes. 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 Sheets
- Sika Pre-Treatment Chart for 1-Component Polyurethanes
- General Guidelines - Bonding and Sealing with Sikaflex® and SikaTack®

Packaging Information

Cartridge	300 ml
Unipack	600 ml

Bases of Product Data

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 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 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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