

Product Data Sheet

Version 07/2010 (03/2011)

Sikaflex®-221**One-Component Adhesive Sealant****Technical Data**

Chemical Base	One-component polyurethane
Colour	White, Aluminium Grey, Black
Cure Mechanism	Humidity-curing
Density (uncured)	1.3 kg/L approx (depending on colour)
VOC (EPA method 24)	48.3 g/L
Non-Sag Properties	Good
Application Temperature (product)	5°C to 40°C
Tack-Free Time ¹	60 minutes
Open Time ¹	45 minutes
Curing Speed	See diagram
Shrinkage	5%
Shore A Hardness (ASTM D 2240)	40
Tensile Strength (ASTM D 412)	1.8 MPa approx
Elongation at Break (ASTM D 412)	500%
Tear Propagation Resistance (ASTM D 624)	7 N/mm approx
Glass Transition Temperature	-45°C
Service Temperature	permanent -40°C to 90°C 1 day 120°C 1 hour 140°C
Shelf Life (Storage below 25°C)	12 months - cartridges & sausages 6 months - drums & pails
¹ 23°C and 50% Relative Humidity	

Description

Sikaflex®-221 is a high-quality, multi-purpose, non-sag one-component polyurethane sealant that cures on exposure to atmospheric humidity to form a durable elastomer. For USA: Meets ASTM C920 approvals and Federal Specifications TT-S-00230C. Sikaflex®-221 has been tested and classified in accordance with ANSI/UL 723 "Test for Surface Burning Characteristics of Building Materials". Sikaflex®-221 is manufactured in accordance with ISO 9001 and ISO 14001 Quality Assurance Systems.

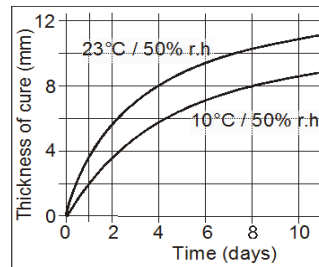
Product Benefits

- One-component formulation;
- Elastic;
- Low odour;
- Resistant to ageing and weathering exposure;
- Non-corrosive;
- Can be over-painted;
- Can be sanded;
- Bonds well to a wide variety of substrates;
- NSF-approved for incidental food contact and potable water (Black & White only).

Areas of Application

Sikaflex®-221 bonds well to a wide variety of substrates and is suitable for making permanent elastic seals of high adhesive strength. Suitable substrates are: wood, metals, metal primers and paint coatings (2-C systems), ceramic materials and plastics. Before using on transparent and pigmented materials that are prone to stress cracking, contact the Technical Services Department of Sika Industry. This product is suitable for professional experienced users only. Testing with actual substrates and conditions has 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 which can prolong the curing process (see diagram).



Chemical Resistance Sikaflex®-221 is **resistant** to fresh water, seawater, limewater, sewage effluent, 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 and caustic solutions or solvents. The above information is offered for general guidance only. Advice on specific applications will be given upon request.

Method of Application **Surface Preparation:** Surfaces should be of sound quality, clean, dry, and free of oil and grease. Preparation of the substrate in accordance with the instructions in the Sika Primer Chart is recommended. Advice on particular applications is available from Sika's Technical Services.

Application For cartridges, pierce the membrane; in the case of sausages, place in the application gun and snip of the closure clip. Cut off the tip of the nozzle to suit joint width and apply the sealant into the joint with a suitable hand-operated or compressed-air gun, taking care to avoid air entrapment. Once opened, packs should be used up within a relatively short time. Optimum temperature for substrate and sealant is between 15°C and 25°C. For advice on selecting and setting up a suitable pump system, as well as on the techniques of pump operated application, please contact the System Engineering Department of Sika Industry.

Tooling and Finishing Tooling and finishing must be carried out within the tack-free time of the sealant. We recommend the use of Sika® Tooling Agent N. Other finishing agents must be tested prior to 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 should be washed immediately using Sika® Hand Clean Towels or a suitable industrial hand cleaner and water. Do not use solvents!

Overpainting Sikaflex®-221 can be over-painted with most conventional paint systems. The paint must be tested for compatibility by carrying out preliminary trials and the best results are obtained if the sealant is allowed to cure fully first, especially in the case of baked enamels. Please note that nonflexible paint systems may impair the elasticity of the adhesive, impair joint movement and lead to cracking of the paint film. PVC-based paints and paints that dry by oxidation (oil or alkyd resin-based) are generally not suitable for application over Sikaflex®-221.

Further Information Copy of the following publications are available upon request: Material Safety Data Sheet and Sika Pre-Treatment Chart for One-Component Polyurethanes.

Packaging 300 ml Cartridges; 400 ml and 600 ml Sausages; 23 L Pails; and 189 L Drums

Value Bases All technical data stated in this Product Data Sheet are laboratory test-based. Current measured values may vary due to factors beyond our influence.

Health and Safety Information For information and advice on the safe handling, storage and disposal of chemical products, users should refer to the current Material Safety Data Sheet containing physical, ecological, toxicological and other safety-related data for the appropriate type of substance. All Product Data Sheets and Material Safety Data Sheets are available on our website at: www.sika.ca.

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, within their shelf life. 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 recommendations, or from any other advice offered. The proprietary rights of third parties must be observed. All orders are accepted subject to our current terms of sale and delivery. Users should always refer to the most recent issue of the Product Data Sheet for the product concerned, copies of which will be supplied on request or can be accessed in the Internet under www.sika.ca.

Sika Canada Inc.
601 Delmar Avenue
Pointe-Claire, QC H9R 4A9
Tel.: 514-697-2610
Fax: 514-697-3910

1-800-689-SIKA
www.sika.ca

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