

PRODUCT DATA SHEET

SikaFast®-321 S

Fast curing, 2-component toughened structural adhesive with shims

TYPICAL PRODUCT DATA (FURTHER VALUES SEE SAFETY DATA SHEET)

Properties	SikaFast®-321 S (A)	SikaFast®-3081 N (B)
Chemical base	Methacrylate	
Color (CQP001-1)	Natural	White
	mixed Straw	
Cure mechanism	Radical polymerization	
Density	0.96 kg/l (8.0 lb/gal)	1.30 kg/l (10.8 lb/gal)
	mixed (calculated) 0.99 kg/l (8.3 lb/gal)	
Mixing ratio	by volume 10 : 1 by weight 7.4 : 1	
Consistency	Thixotropic paste	
Application temperature	10 – 35 °C (50 – 95 °F)	
Open time (CQP526-2)	5 minutes ^A	
Peak exotherm time / temperature	10 minutes / 90 °C (194 °F) ^A	
Shore D hardness (CQP023-1 / ISO 7619-1)	65	
Tensile strength (ASTM D638)	9 MPa (1300 psi)	
Elongation at break (ASTM D638)	80 %	
E-Modulus (ASTM D638)	elongation 0 – 5 % 100 MPa (14 500 psi)	
Tensile lap-shear strength (CQP046-6 / ISO 4587)	10.5 MPa (1500 psi)	
Service temperature (CQP513-1)	-30 – 80 °C (-22 – 176 °F)	
Shelf life (CQP016-1)	9 months ^B	

CQP = Corporate Quality Procedure

^A) 23 °C (73 °F) / 50 % r. h.

^B) Stored at temperature below 22 °C (72 °F) protect from direct sun light

DESCRIPTION

SikaFast®-321 S is an acrylic based, fast curing, flexibilized structural, 2-component adhesive with incorporated spacer shims (0.027 – 0.033 inch / 0.68 – 0.84 mm) to maintain uniform bond thickness. SikaFast®-321 S is for use in applications requiring quick fixturing for higher throughput. It is designed to efficiently transfer high loads and evenly distribute stresses. SikaFast®-321 S provides very good adhesion on various substrates and is suitable to replace mechanical fixation.

PRODUCT BENEFITS

- Strength development within minutes after application
- Superior low-temperature flexibility compared to other structural adhesives
- Spacer for control of bond thickness
- Adhesion to a wide range of substrates without or with limited surface preparation
- High elongation and ductility
- Good strength and impact resistance

AREAS OF APPLICATION

SikaFast®-321 S is designed for fast bonding and can replace or complement mechanical fixations such as rivets, screws or welding. It is suitable for high strength fastening of concealed joints and exhibits very good adhesion on different types of substrates including aluminum, stainless or galvanized steel and fiber reinforced polymers.

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

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012805303210001010

CURE MECHANISM

SikaFast®-321 S cures according to radical chain polymerization. For an ideal curing process, it is required to homogeneously mix both components with the defined ratio. Open and cure time are influenced by mixing ratio deviations as well as temperature, e.g., the higher the temperature the shorter the open and cure time and vice versa.

Despite the quick strength build-up, exposure to premature stresses must be avoided since this may result in a reduction of mechanical properties and loss of adhesion.

CHEMICAL RESISTANCE

In the view of potential chemical or thermal exposure, it is required to conduct project related testing.

METHOD OF APPLICATION

Surface Preparation

Surfaces must be clean, dry and free from grease, oil and dust. Remove all loose particles or residues by cleaning it thoroughly, for example with an IPA wipe.

Due to the diversity of materials, preliminary tests with original substrates are necessary.

Application

SikaFast®-321 S is applied with a mixing ratio of 10:1 by volume through an 18-element static mixer. If applied in large masses, heat is generated by the exothermic reaction. To avoid excessive temperature increase, bond thickness is limited to 5 mm (0.197 in), but must measure at least 0.5 mm (0.020 in).

Optimum temperature for the bonding process is between 15 °C and 25 °C (59 °F and 77 °F). The approved temperature range for substrates and adhesive is between 10 °C and 35 °C (50 °F and 95 °F). The influence of the reactivity by temperature changes has to be respected.

The parts must always be joined within the open time. For support in evaluation of the appropriate application equipment contact the System Engineering department of Sika Industry.

Removal

Uncured excess of SikaFast®-321 S can be removed easily before curing with a dry wipe, with Sika® Remover-208 or another suitable solvent. Once the adhesive is cured it can only be removed mechanically.

Hands and exposed skin should be washed immediately using a suitable industrial hand cleaner and water.

Do not use solvents on skin.

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

PACKAGING INFORMATION

Dual cartridge	490 ml
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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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