BUILDING TRUST

PRODUCT DATA SHEET

Sikaflex®-591

Multipurpose adhesive sealant, highly color stable and mold resistant

TYPICAL PRODUCT DATA (FURTHER VALUES SEE SAFETY DATA SHEET)

Chemical base	Silane Terminated Polymer
Color (CQP001-1)	White, Black, Grey, Brown
Cure mechanism	Moisture-curing
Density (uncured)	1.5 kg/l
Non-sag properties	Very good
Application temperature	5 – 40 °C
Skin time (CQP019-1)	35 minutes [A]
Open time (CQP526-1)	20 minutes [A]
Curing speed (CQP049-1)	(see diagram)
Shrinkage (CQP014-1)	1 %
Shore A hardness (CQP023-1 / ISO 48-4)	45
Tensile strength (CQP036-1 / ISO 527)	2.2 MPa
Elongation at break (CQP036-1 / ISO 527)	500 %
Tear propagation resistance (CQP045-1 / ISO 34)	15 N/mm
Service temperature (CQP513-1)	-50 – 80 °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®-591 is a multipurpose adhesive sealant, which is highly color stable and mold resistant, suitable for interior and exterior sealing applications in the maritime industry.
Sikaflex®-591 is an elastic 1-component Silane Terminated Polymer (STP) adhesive sealant which cures on exposure to atmospheric moisture.

PRODUCT BENEFITS

- Very high color stability and mold resistance: Resistant to the harsh maritime conditions
- All-rounder for interior & exterior: Very good weathering resistance
- Fast & efficient workflow: Good adhesion to most substrates with minimal surface preparation
- Health-conscious formula: Solvent-, isocyanate-, phthalate- and PVC-free
- Above & below waterline: Suitable for below the waterline applications on boats

AREAS OF APPLICATION

Sikaflex®-591 is suitable with substrates commonly used in the maritime industry. Suitable substrate materials are metals, particularly aluminum, metal primers, paint coatings, sheet steel, ceramic materials and certain plastics. It bonds well to a wide range of substrates with minimal pre-treatment.
Tests with actual substrates and conditions have to be performed ensuring adhesion and material compatibility.

APPROVAL / CERTIFICATES

- Tested according to IMO Res. MSC.307(88) – 2010 FTP Code Annex 1, Part 5 and in compliance with Annex 2, Item 2.2 and 2.3

CURE MECHANISM

Sikaflex®-591 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).

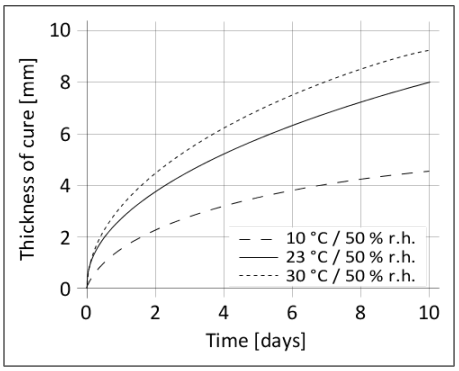


Diagram 1: Curing speed Sikaflex®-591

CHEMICAL RESISTANCE

Sikaflex®-591 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®-591 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.
The Product can be processed with hand, pneumatic or electric driven piston guns.
In case Sikaflex®-591 could get in contact with polyurethane, ensure that those products are cured or wait at least 24 hours prior to seal.

Tooling and finishing

Tooling and finishing must be carried out within the skin time of the product. It is recommended using Sika® Tooling Agent N. Other finishing agents must be tested for suitability and compatibility prior the use.

Removal

Uncured Sikaflex®-591 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!

Application limits

Sikaflex®-591 in light colors may discolorate when in contact with teak wood.
Seek manufacturer's advice and perform tests on original substrates before using Sikaflex®-591 on materials prone to stress cracking.

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
- General Guidelines
  Bonding and Sealing with 1-component Sikaflex®
- Sika® Pre-Treatment Chart
  For Sealing and Bonding in Marine Applications

PACKAGING INFORMATION

Mini Unipack	70 ml
Cartridge	300 ml
Unipack	400 ml 600 ml

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 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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