

# Sikaflex® -291i

## Multifunctional adhesive sealant for marine application

### Typical Product Data

Chemical base	1-C polyurethane
Color (CQP <sup>1</sup> 001-1)	White
Cure mechanism	Moisture-curing
Density (uncured) (CQP 006-4)	(10.8 lb/gal) 1.3 kg/l
Non-sag properties	Good
Application temperature	ambient
Tack free time <sup>2</sup> (CQP 019-1)	10 -40 °C (50 -105 °F )
Open time <sup>2</sup> (CQP 526-1)	60 min.
Curing speed (CQP 049-1)	45 min.
Shrinkage (CQP 014-1)	(see diagram)
Shore A-hardness (CQP 023-1 / ISO 868)	2 %
Tensile strength (CQP 036-1 / ISO 37)	40
Elongation at break (CQP 036-1 / ISO 37)	1.8 MPa (260 psi)
Tear propagation resistance (CQP 045-1/ ISO 34)	700 %
Glass transition temperature (CQP 509 -1/ ISO 4663)	7 N/mm (40 pli)
Service temperature (CQP 513-1)	-45 °C (-50 °F)
Short term	-40 - 90 °C ( -40 - 195 °F)
	4 hours
	120 °C (250 °F)
	1 hour
	140 °C (285 °F)
Shelf life (storage below 25 °C) (CQP 016-1)	12 months

1) CQP = Corporate Quality Procedure <sup>2)</sup> 73°F (23°C) / 50% R.H.

### Description

Sikaflex®-291i is a non-sag 1-component polyurethane sealant specifically developed for the marine market, which cures on exposure to atmospheric moisture and forms a durable elastomer. Additionally, Sikaflex®-291i meets the low spread of flame requirements set out by the International Maritime Organization (IMO).

Sikaflex®-291i is manufactured in accordance with the ISO 9001 / 14001 quality assurance system and with the responsible care program.

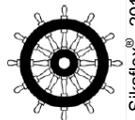
### Product Benefits

- Wheelmark approved
- 1-C formulation
- Highly elastic
- Low odor
- Non-corrosive
- Can be over painted
- Bonds well to a wide variety of marine substrates
- No added solvents
- Very low VOC

### Areas of Application

Sikaflex®-291i is a multipurpose product used in marine constructions. It is suitable for making elastic, vibration-resistant joint seals, and can also be used for a variety of interior sealing applications. Sikaflex®-291i bonds extremely well to the materials commonly used in marine construction like wood, metals, metal primers and paint coatings (2-C systems), ceramic materials and plastics (FRP, etc.). Sikaflex®-291i must not be used to seal plastics that are prone to stress cracking (e.g. PMMA, PC, etc.). 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.

Prior to each use of any Sika product, the user must always read and follow the warnings and instructions on the product's most current Product Data Sheet, label and Safety Data Sheet which are available on request at [tsmh@us.sika.com](mailto:tsmh@us.sika.com). Nothing contained in any Sika 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 Data Sheet, label and Safety Data Sheet prior to product use.



## Cure Mechanism

Sikaflex®-291i cures by reaction with atmospheric moisture. At low temperatures the water content of the air is generally lower and the curing reaction proceeds slower (see diagram 1).

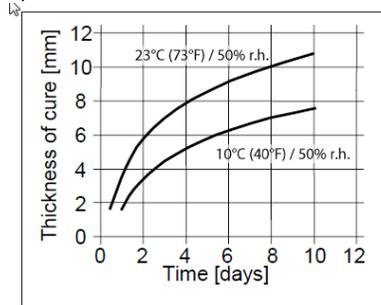


Diagram 1: Curing speed for Sikaflex®-291i

## Chemical Resistance

Sikaflex®-291i is resistant to fresh water, seawater, and proprietary aqueous cleaning agents; temporarily resistant to fuels, mineral oils, vegetable and animal fats; not resistant to organic acids, concentrated mineral acids and caustic solutions or solvents. 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. The adhesion of the sealant can be improved by wiping the joint with an appropriate Sika® activating agent and Sika® Primer if required. Advice on specific applications is available from the Technical Service Department of Sika Industry by contacting [tsmh@us.sika.com](mailto:tsmh@us.sika.com).

### Application

Cut off the tip of the nozzle to suit joint width and apply the sealant with a suitable hand operated or compressed air gun, taking care to avoid air entrapment. Do not apply at temperatures below 50 °F (10 °C) or above 105 °F (40 °C). The optimum

temperature for substrate and sealant is between 59 °F (15 °C) and 77 °F (25 °C).

### Tooling and finishing

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

### Removal

Uncured Sikaflex®-291i 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 a suitable industrial hand cleanser and water. Do not use solvents!

### Overpainting

Sikaflex®-291i can be overpainted 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 non flexible 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 to overpaint Sikaflex®-291i.

### Further Information

Copies of the following publications are available on request:

- Safety Data Sheets
- Sika Pre-Treatment Chart

### Packaging Information

Unipac	70 ml mini unipac
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### Basis of Product Data

All technical data stated in this Product Data Sheet are based on laboratory tests only. 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.

## Limited Material Warranty

Sika Corporation warrants this product for one year from date of installation to be free from manufacturing defects and to meet the technical properties on the current Product Data Sheet if used as directed within shelf life. User determines suitability of product for intended use and assumes all risks. Buyer's sole remedy shall be limited to the purchase price or replacement of product exclusive of labor or cost of labor. **NO OTHER WARRANTIES EXPRESS OR IMPLIED SHALL APPLY INCLUDING ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. SIKA SHALL NOT BE LIABLE UNDER ANY LEGAL THEORY FOR SPECIAL OR CONSEQUENTIAL DAMAGES. SIKA SHALL NOT BE RESPONSIBLE FOR THE USE OF THIS PRODUCT IN A MANNER TO INFRINGE ON ANY PATENT OR ANY OTHER INTELLECTUAL PROPERTY RIGHTS HELD BY OTHERS.**

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