

Product Data Sheet

Version 09/2011 (11/2012)

Sikaflex®-291i

Multi-Purpose Marine Adhesive/Sealant

Technical Data

Chemical Base	1-C Polyurethane	
Colour (CQP ¹ 001-1)	White, Grey, Black	
Cure Mechanism	Moisture-curing	
Density (uncured) (CQP 006-4) (colour-dependent)	1.3 kg/L approx	
Non-Sag Properties	Good	
Application Temperature	10°C to 40°C - ambient	
Tack-Free Time ² (CQP 019-1)	60 minutes approx	
Open Time ² (CQP 526-1)	45 minutes approx	
Curing Speed (CQP 049-1)	See Graph	
Shore A Hardness (CQP 023-1/ISO 868)	40 approx	
Tensile Strength (CQP 036-1/ISO 37)	1.8 MPa approx	
Elongation at Break (CQP 036-1/ISO 37)	500% approx	
Tear Propagation Resistance (CQP 045-1/ISO 34)	7 N/mm approx	
Glass Transition Temperature (CQP 509-1/ISO 4663)	-45 °C approx	
Service Temperature (CQP 513-1)	-40 to 90°C approx	
Short Term:	4 hours	120°C
	1 hour	140°C
Shelf Life (Storage below 25°C) (CQP 016-1)	12 months	
¹ CQP = Corporate Quality Procedure; ² 23°C and 50% Relative Humidity		

Description

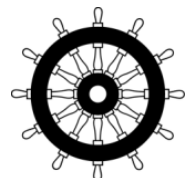
Sikaflex®-291i is a non-sag, one-component, polyurethane sealant specifically developed for the marine market; it cures on exposure to atmospheric moisture and forms a durable elastomer. Sikaflex®-291i meets the low spread of flame requirements set out by the International Maritime Organisation (IMO). Sikaflex®-291i is manufactured in accordance with the ISO 9001 Quality Assurance System.

Product Benefits

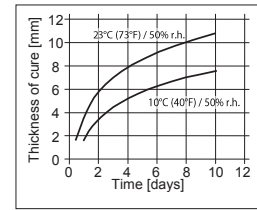
- Wheelmark-approved;
- One-component formulation;
- Highly elastic;
- Low odour;
- Non corrosive
- VOC- and emission-free;
- Can be over-painted;
- Adheres well to a wide variety of marine substrates.

Areas of Application

Sikaflex®-291i is a multi-purpose adhesive/sealant used in marine on a wide variety of vessels. It is suitable for making elastic, vibration-resistant joint seals and for use in a variety of interior and exterior sealing applications. Sikaflex®-291i bonds extremely well to the materials commonly used in marine construction such as wood, metal, metal primer, paint coatings (2-C systems), ceramic materials, and plastics (GRP, 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 professional experienced users only. Tests with original substrates and conditions must be performed to ensure adhesion and material compatibility.



Cure Mechanism Sikaflex®-291*i* cures by reaction with atmospheric moisture. At low temperatures, the water content of the air is lower and the curing process prolonged.



Curing Speed - Sikaflex®-291*i*

Chemical Resistance	Sikaflex®-291 <i>i</i> is resistant to fresh-water, sea-water, lime-water, sewage effluent, diluted acids and caustic solutions; temporarily resistant to fuels, mineral oils, vegetable and animal fats and oils; and 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.
Surface Preparation	Surfaces must be clean, dry and free from oil, grease and dust. In many cases, the adhesion of the sealant can be improved by wiping the joint with an appropriate Sika® activating agent and/or Sika® primer. Advice on specific applications and surface pretreatment methods is available from the Technical Services Department of Sika Industry.
Application	Trim the nozzle to the required size. Use a manual- or air-driven cartridge gun to apply the sealant, taking care to avoid air entrapment. Do not apply at temperatures below 10°C or above 40°C. The optimum temperature for substrate and sealant is between 15°C and 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® Tooling Agent N. Other finishing agents or lubricants must first be tested for suitability and compatibility.
Removal	Uncured Sikaflex®-291 <i>i</i> may be removed from tools and equipment with Sika® Remover-208 or other suitable solvent. Once cured, the material can only be removed mechanically. Hands and exposed skin should be washed immediately using Sika® Hand Cleaner towels or suitable industrial hand cleaner and water. Do not use solvents!
Over-painting	Sikaflex®-291 <i>i</i> can be over-painted with most conventional paint systems. The paint must first be tested for compatibility by carrying out preliminary trials. The best results are obtained if the sealant is allowed to fully cure 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 for use over Sikaflex®-291 <i>i</i> .
Further Information	Copy of the following publications are available upon request: <i>Material Safety Data Sheet, Sika® Marine Application Guide.</i>
Packaging	300 ml Cartridges
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. Product Data Sheets and Material Safety Data Sheets are available on our website at: www.sika.ca or via your local Technical Sales Representative.

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.

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