

Sikaflex®-292i

Assembly adhesive for Marine applications

Technical Product Data (typical values)

Chemical base	1-C polyurethane	
Color (CQP 001-1)	White	
Cure mechanism	Moisture-curing	
Density (uncured) Density (uncured) (CQP 006-4)	10.9 lb/gal	
Non-sag properties (CQP 061-1)	Very good	
Application temperature	50°F - 95°F (10°C - 35°C)	
Tack free time ¹	40 min. approx.	
Curing speed (CQP 049-1)	(see diagram 1)	
Shrinkage (CQP 014-1)	2% approx.	
Shore A hardness (CQP 023-1 / ISO 868)	50 approx.	
Tensile strength (CQP 036-1 / ISO 37)	435 psi	
Elongation at break (CQP 036-1 / ISO 37)	> 300%	
Tear propagation resistance (CQP 045-1 / ISO 34)	46 pli	
Tensile lap-shear strength (CQP 046-1 / ISO 4587)	290 psi	
Glass transition temperature (CQP 509-1 / ISO 4663)-	-40°F (40°C) approx.	
Electrical resistance (CQP 079-2 / ASTM D 257-99)	5 x 10 ⁹ Ω cm approx.	
Service temperature (CQP 513-1)	-40 - 195°F (-40 - 90°C)	
Short term	4 hours 1 hour	248°F (120°C) 284°F (140°C)
Shelf life (storage below 77°F (25°C))	Cartridges	12 months

¹⁾ 73°F (23°C) / 50% r.h.

Description

Sikaflex®-292i is a non-sag one component polyurethane adhesive of thixotropic, paste-like consistency which cures on exposure to atmospheric moisture to form a durable elastomer. Sikaflex®-292i exhibits excellent adhesive properties and a high degree of mechanical strength. Sikaflex®-292i meets the low spread of flame requirements set out by the International Maritime Organization (IMO).

Product Benefits

- 1-C formulation
- Very Low VOC according to US EPA Method 24
- No added solvents
- Elastic
- Can be over-painted
- Good gap-filling properties
- Capable of withstanding high dynamic stresses
- Vibration-damping
- Non-corrosive
- Electrically non-conductive
- Bonds well to a wide variety of substrates

Areas of Application

Sikaflex®-292i is suitable for structural joints in marine constructions which will be subjected to high dynamic stresses. Suitable to bond metals, particularly aluminum (including anodized finishes), metal primers and paint coatings (2-c systems), or ceramic materials, plastics such as GRP (unsaturated polyester resin), ABS, etc.

Clear plastics and mineral glass should not be bonded with Sikaflex®-292i.

Industry



Cure Mechanism

Sikaflex®-292i cures by reaction with atmospheric moisture. At low temperature the water content of the air is generally lower and the curing reaction proceeds slower. (see diagram).

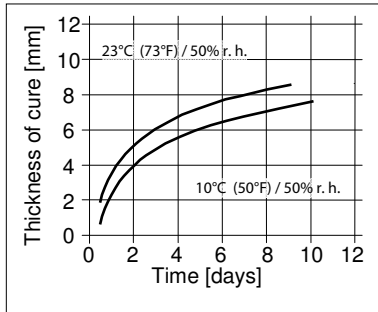


Diagram 1: Curing speed Sikaflex®-292i

Chemical Resistance

Sikaflex®-292i is resistant to fresh water, seawater, limewater, sewage effluent, dilute 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 on request.

Method of Application

Surface preparation

Surfaces must be of sound quality, clean, dry and free from all traces of grease, oil and dust. As a rule the surfaces must be prepared in accordance with the instructions given in the current edition of the Sika® Primer Chart for Marine applications. Advice on specific applications is available from the Technical Service Department of Sika Industry at (tsmh@sika-corp.com).

Application

Cartridges: Pierce cartridge membrane. Unipacs: Place unipac in the application gun and snip off the closure clip. Cut off the tip of the nozzle. To ensure uniform thickness

of adhesive when compressed, we recommend application of the adhesive in the form of a triangular bead (see illustration).

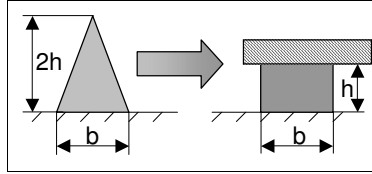


Figure 1: Recommended bead configuration

Once opened, cartridges should be used up within a relatively short space of time. Do not apply at temperatures below 50°F and 95°F (10°C or above 35°C). The optimum temperature for substrate and adhesive is between 59°F and 77°F (15°C and 25°C). For cartridge application we recommend the use of a compressed air piston type cartridge gun.

Tooling and finishing

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

Removal

Uncured Sikaflex®-292i 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 soap and water or a suitable industrial hand cleanser and water. Do not use solvents on skin!

Overpainting

Sikaflex®-292i 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®-292i and two pack paint systems are preferred.

Limitations

Since system is moisture-cured, permit sufficient exposure to air.

- The information in this document is intended for use by Sika Corporation (USA) customers in the USA only.
- Do not apply over silicones or in the presence of curing silicones
- Avoid contact with alcohol, and alcohol containing solvents, during cure
- For best results, use opened cartridges the same day.
- PVC based paints and paints that dry by oxidation (oil or alkyd resin based) are generally not suitable for application over Sikaflex®-292i.
- Clear plastics and mineral glass should not be bonded with Sikaflex®-292i.

CAUTION: IRRITANT. Contains Diisodecyl phthalate (CAS: 68515-49-1), reaction product of polyol with toluene diisocyanate (Mixture) and Silane, dichlorodimethyl-, reaction products with silica (CAS: 68611-44-9). Causes eye / skin / respiratory irritation. Harmful if swallowed.

HMS

Health	*2
Flammability	1
Reactivity	0
Personal Protection	C

First Aid Measure

Eyes – Hold eyelids apart and flush thoroughly with water for 15 minutes. **Skin** – Remove contaminated clothing. Wash skin thoroughly for 15 minutes with soap and water. **Inhalation** – Remove to fresh air. **Ingestion** – Do not induce vomiting. Dilute with water. Contact physician. **In all cases contact a**

Further information available at:
www.sikausa.com
Manufactured in Switzerland.

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physician immediately if symptoms persist.

Further Information

Copies of the following publications are available on our website www.sikausa.com:

- Material Safety Data Sheets
- Product Data Sheet
- Sika Primer Chart

In case of emergency call:

Chemtrec: 800-424-9300
International: 703-527-3887

Health and Safety Information

For further information and advice regarding transportation, handling, storage and disposal of chemical products, users should refer to the actual Material Safety Data Sheets containing physical, ecological, toxicological and other safety related data. It is highly recommended to read the actual Material Safety Data Sheet before using the product.

- **KEEP OUT OF REACH OF CHILDREN**
- **NOT FOR INTERNAL CONSUMPTION**
- **FOR INDUSTRIAL USE ONLY**
- **KEEP CONTAINER TIGHTLY CLOSED**

Packaging Information

Cartridge	10.1 oz
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Value Basis

All technical data stated on this Product Data Sheet are based on the results of laboratory tests only. Actual measured data in the field may vary due to site specific conditions which are not known to Sika and beyond our control.

Handling and Storage

Avoid direct contact. Wear personal protective equipment (chemical resistant goggles / gloves / clothing) to prevent direct contact with skin and eyes. Use only in well ventilated areas. Open doors and windows during use. Use a properly fitted NIOSH respirator if ventilation is poor. Wash thoroughly with soap

and water after use. Remove contaminated clothing and laundry before reuse.

Clean Up

Use personal protective equipment (chemical resistant gloves/goggles/clothing). Without direct contact, sweep up spilled or excess product and place in suitable sealed container. Dispose of excess product and container in accordance with applicable local, state, and federal regulations.

Limited Material Warranty

SIKA 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 IMPLIED OR EXPRESS 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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All information provided by Sika Corporation ("Sika") concerning Sika products, including but not limited to, any recommendations and advice relating to the application and use of Sika products, is given in good faith based on Sika's current experience and knowledge of its products when properly stored, handled and applied

under normal conditions in accordance with Sika's instructions. In practice, the differences in materials, substrates, storage and handling conditions, actual site conditions and other factors outside of Sika's control are such that Sika assumes no liability for the provision of such information, advice, recommendations or instructions related to its products, nor shall any legal relationship be created by or arise from the provision of such information, advice, recommendations or instructions related to its products. The user of the Sika product(s) must test the product(s) for suitability for the intended application and purpose before proceeding with the full application of the product(s).

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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 Technical Data Sheet, product label and Material Safety Data Sheet which are available at www.sikausa.com or by contacting the Technical Service Department of Sika Industry at (tsmh@sika-corp.com). Nothing contained in any Sika materials relieves the user of the obligation to read and follow the warnings and instruction for each Sika product as set forth in the current Product Data Sheet, product label and Material Safety Data Sheet prior to product use.

Further information available at:
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