Industry

Sikaflex®-292

Structural adhesive for marine application

Technical Product Data

Chemical base		1-C polyurethane
Colour (CQP[1] 001-1)		White
Cure mechanism		Moisture curing
Density (uncured) (CQP 006-4)		1.2 kg/l approx.
Non-sag properties		Very good
Application temperature		10°C - 35°C
Tack-free time[2] (CQP 019-1)		40 min. approx.
Curing speed (CQP 049-1)		see diagram 1
Shrinkage (CQP 014-1)		6% approx.
Shore A hardness (CQP 023-1 / ISO 868)		55 approx.
Tensile strength (CQP 036-1 / ISO 37)		4 N/mm^2 approx.
Elongation at break (CQP 036-1 / ISO 37)		>300% approx.
Tear propagation resistance (CQP 045-1 / ISO 34)		9 N/mm approx.
Tensile lap-shear strength (CQP 046-1 / ISO 4587)		2.5 N/mm^2 approx.
Glass transition temperature (CQP 509-1 / ISO 4663)		-40°C
Electrical resistance (CQP 079-2 / ASTM D 257-99)		5 x 10^9 Ω cm approx.
Service temperature (CQP 513-1) Short term	permanent 4 hours 1 hour	-40°C to 90°C 130°C 150°C
Shelf life (storage below 25°C) (CQP 016-1)		12 months

[1] CQP = Corporate Quality Procedure [2] 23°C (73°F) / 50% r.h.

Description

Sikaflex®-292 is a non-sag 1-C polyurethane adhesive of thixotropic, paste-like consistency which cures on exposure to atmospheric moisture to form a durable elastomer. Sikaflex®-292 exhibits excellent adhesive properties and a high degree of mechanical strength.
Sikaflex®-292 meets the requirements set out by the International Maritime Organisation (IMO). Sikaflex®-292 is manufactured in accordance with the ISO 9001/14001 quality assurance system and with the responsible care program.

Product Benefits

- 1-C formulation
- Elastic
- Can be overpainted
- 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®-292 is suitable for structural joints in marine constructions which will be subjected to high dynamic stresses. Suitable 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®-292.
This product is suitable for professional experienced users only. Test with actual substrates and conditions have to be performed to ensure adhesion and material compatibility.

Cure Mechanism

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

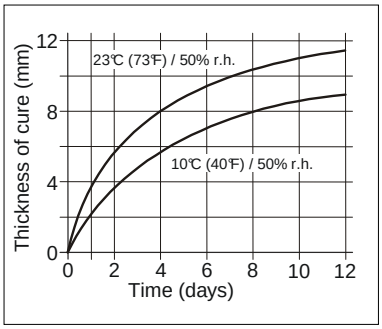

Diagram 1: Curing speed for Sikaflex®-292

Chemical Resistance

Sikaflex®-292 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 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.

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 do apply the adhesive in the form of a triangular bead. Once opened, packs should be used up within a relatively short space of time. Do not apply at temperatures below 10°C or above 35°C. The optimum temperature for substrate and adhesive is between 15°C and 25°C. For cartridge application we recommend the use of a compressed air piston type cartridge gun. For advice on selecting and setting up a suitable pump system, as well as on the techniques of pump operated application, please contact the System Engineering Department of Sika Industry.

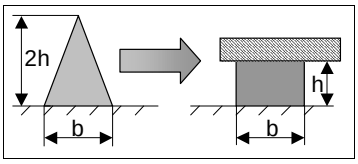

Figure 1: Recommended bead configuration

Tooling and finishing

Tooling and finishing must be carried out within the tack-free time of the adhesive. We recommend the use of Sika® Tooling Agent N.

Removal

Uncured Sikaflex®-292 may 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 Sika® Handclean Towel or a suitable industrial hand cleaner and water. Do not use solvents!

Overpainting

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

Further Information

Copies of the following publications are available on request:

- Material Safety Data Sheets
- Sika Primer Chart
- General Guidelines Bonding and Sealing with Sikaflex® products

Packaging Information

Cartridge	300 ml
Unipac	600 ml
Hobbock	23 l

Value Bases

All technical data stated in this Product Data Sheet 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 should refer to the actual Material Safety Data Sheets containing physical, ecological, toxicological and other safety-related data.

Legal Notes

Further information available at:
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www.sika.com

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