Industry

Sikaflex®-291

Multifunctional adhesive sealant for marine application

Technical Product Data

Chemical base		1-component polyurethane
Colour (CSQP[1] 001-1)		White, black
Cure mechanism		Moisture-curing
Density (uncured) (CSQP 006-4)		1.3 kg/l approx. depending on colour
Non-sag properties		Good
Application temperature		5°C - 40°C
Tack free time[2] (CSQP 019-1)		60 min. approx.
Open time[2] (CSQP 526-1)		45 min. approx.
Curing speed (CSQP 049-1)		(see diagram)
Shrinkage (CSQP 014-1)		5% approx.
Shore A-hardness (CSQP 023-1 / ISO 868)		40 approx.
Tensile strength (CSQP 036-1 / ISO 37)		1.8 N/mm^2 approx
Elongation at break (CSQP 036-1 / ISO 37)		500% approx.
Tear propagation resistance (CSQP 045-1/ ISO 34)		6 N/mm approx
Glass transition temperature (CSQP 509 -1/ ISO 4663)		-45°C approx.
Movement accommodation factor		12.5%
Service temperature (CSQP 513-1) Short term	permanent 4 hours 1 hour	-40°C to +90°C 160°C 180°C
Shelf life (storage below 25°C) (CSQP 016-1)		12 months

[1] CSQP = Corporate Sika Quality Procedure [2] 23°C / 50% r.h.

Description

Sikaflex®-291 is a non-sag, 1-component polyurethane sealant specifically developed for the marine industry, which cures on exposure to atmospheric moisture to form a durable elastomer.
Sikaflex®-291 meets the requirements set out by the International Maritime Organisation (IMO). Sikaflex®-291 is manufactured in accordance with the ISO 9001 / 14001 quality assurance system and with the responsible care program.

Product Benefits

- 1-component formulation
- Elastic
- Low odour
- Resistant to ageing and weathering
- Non-corrosive
- Can be overpainted
- Can be sanded
- Bonds well to a wide variety of substrates
- Electrically non-conductive

Areas of Application

Sikaflex®-291 is a multipurpose product for use in marine construction. It is suitable for making elastic, vibration-resistant adhesive seals, and can also be used for a variety of interior and exterior sealing applications. Sikaflex®-291 bonds extremely well to materials commonly used in marine construction such as wood, metals, metal primers and paint coatings (2-component systems), ceramic materials and plastics (GRP, etc.). Sikaflex®-291 must not be used to seal plastics that are prone to stress cracking (e.g. Plexiglas, polycarbonate, etc.). Once cured, Sikaflex®-291 can easily be sanded down as required.

Cure Mechanism

Sikaflex®-291 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)

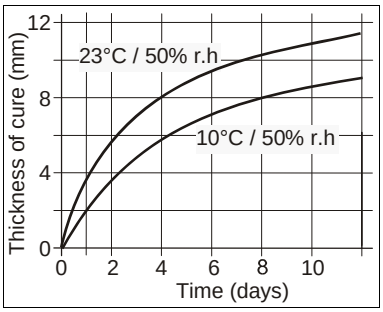

Diagram 1: Curing speed for Sikaflex®-291

Chemical Resistance

Sikaflex®-291 is resistant to fresh water, seawater, limewater, sewage effluent, diluted 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. The adhesion of the sealant can be improved by wiping the joint with Sika® Cleaner (cleaning and activating agent) and applying the appropriate Sika® Primer.
Advice on specific applications is available from Sika's Technical Service Department.

Application
Pierce cartridge membrane.

Cut off the tip of the nozzle to suit joint width and apply the sealant into the joint with a suitable hand operated or compressed-air gun, taking care to avoid air entrapment. Once opened, packs should be used up within a relatively short time.
Do not apply at temperatures below 5°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. Finishing agents or lubricants must be tested for suitability / compatibility

Removal
Uncured Sikaflex®-291 can be removed from tools and equipment with Sika® Remover-208. 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®-291 can be overpainted when tack-free.
The paint must be tested for compatibility by carrying out preliminary trials. Sikaflex®-291 should not be exposed to baking temperatures until it has attained full cure. It should be understood that the hardness and film thickness of the paint may impair the elasticity of the sealant and lead to cracking of the paint film.

Further Information

Copies of the following publications are available on request:
- Material Safety Data Sheet
- Sika Primer Chart
- Sika Marine Application Guide

Packaging Information

Cartridge	310 ml

Important

For information and advice regarding transportation, handling, storage and disposal of chemical products, users should refer to the actual Material Safety Data Sheet containing physical, ecological, toxicological and other safety-related data.

Note

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 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 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 Technical Data Sheet for the product concerned, copies of which will be supplied on request.

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