Industry

Sikaflex®-296

Direct glazing adhesive for safety-, laminated- and insulation glass windows in the shipbuilding industry

Technical Product Data

Chemical base		1-C polyurethane
Colour (CQP[1] 001-1)		Black
Cure mechanism		Humidity-curing
Density (uncured) (CQP 006-4)		1,2 kg/l approx.
Non-sag properties (CQP 061-1)		very good, with no tendency to sag or slump
Application temperature		+ 10°C to + 35°C
Tack-free time[2] (CQP 019-1)		45 min. approx.
Open time[2] (CQP 526-1)		30 min. approx.
Curing speed (CQP 049-1)		(see diagram)
Shrinkage (CQP 014-1)		< 1%
Shore A hardness (CQP 023-1 / ISO 868)		45 approx.
Tensile strength (CQP 036-1 / ISO 37)		6 N/mm^2 approx.
Elongation at break (CQP 036-1 / ISO 37)		450% approx.
Tear propagation resistance (CQP 045-1 / ISO 34)		10 N/mm approx.
Tensile-shear strength (CQP 046-1 / ISO 4587)		4,5 N/mm^2 approx.
G-Modulus (CQP 081-1)		0,7 N/mm^2
Glass transition temperature (CQP 509-1 / ISO 4663)		-45°C, approx.
Electrical resistance (CQP 079-2 / ASTM D 257-99)		10^6 Ω cm approx.
Service temperature (CQP 513-1)	permanent	-40°C to +90°C
Shelf life (storage below 25°C) (CQP 016-1)	cartridge and unipac drum and hobbock	9 months 6 months

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

Description

Sikaflex®-296 is a high-performance elastic gap-filling 1-c polyurethane direct glazing adhesive that cures on exposure to atmospheric moisture forming a durable elastomer.
Sikaflex®-296 meets the regulations set out by the International Maritime Organisation (IMO).
Sikaflex®-296 is manufactured in accordance with the ISO 9001 / 14001 quality assurance system and with the responsible care program.

Product Benefits

- 1-C formulation
- Low odor
- Excellent working characteristics
- Fast cure time
- Resistant to ageing and weathering
- Solvent- and PVC-free
- Equally suitable for manual application and bulk dispensing
- Primerless application possible

Areas of Application

Sikaflex®-296 is designed for direct glazing applications in both the OEM and repair Marine markets, and is suitable for use with all types of mineral glass-based windows.
Before installing laminated safety glasses which incorporate heating elements in the PVB sandwich layer, we recommend that you contact Sika's Technical Service Department for advice.
Sikaflex®-296 can be tooled to a very fine finish, and suitable for exposed joints.

Cure Mechanism

Sikaflex®-296 cures by reaction with atmospheric humidity. At low temperatures the water content of the air is lower and the curing reaction proceeds at a slower rate (see diagram).

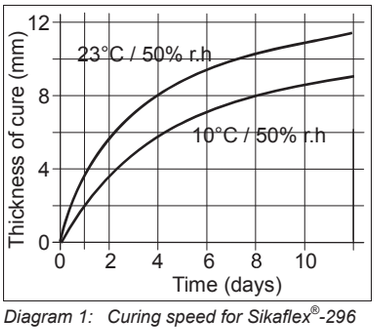


Diagram 1: Curing speed for Sikaflex®-296

Chemical Resistance

Sikaflex®-296 is resistant to fresh water, aqueous cleaning agents (neutral, acid or alkaline types, chlorine free in normal concentrations); temporarily resistant to fuels, mineral oils, vegetable and animal fats and oils; not resistant to organic acids, concentrated mineral acids and caustic solutions and solvents.

The above information is offered for general guidance only. Advice on specific applications will be given on request.

Method of Application

Surface preparation

Surface must be clean, dry and free from all traces of grease, oil and dust. The bond faces must be treated as follows:

Toughened glass with uniform and continuous opaque, mineral based ceramic frit with light transmission* more, than 0,01%**.	Sika® Aktivator + Sika® Primer-206 G+P
Toughened glass with uniform and continuous opaque, mineral based ceramic frit with light transmiss.* less, than 0,01%**.	Sika® Aktivator
Metal with paint primer or with partial new painting (< 25%)	Sika® Aktivator
Metal painted with two part finish lacquers	Sika® Aktivator + Sika® Primer-206 G+P
Old polyurethane direct glazing adhesive (cut face)	Sika® Aktivator

** Getag 200D, visible range*

***For laminated glass this limit is 0,02%.*

Advice on specific applications is available from the Technical Service Department of Sika Industry.

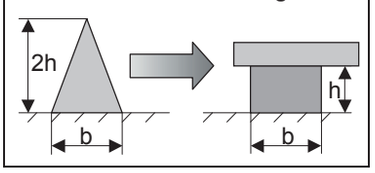
Application

Cartridge: Pierce cartridge membrane.

Unipac: Place unipac in the application gun and snip off the closure clip.

Cut off the tip of the nozzle to give desired adhesive bead geometry. For satisfactory results the adhesive must be applied with a hand-operated cartridge gun, piston-type compressed-air gun or pump operated bulk dispensing equipment. To ensure uniform thickness of adhesive bead, we recommend that the adhesive is applied in the form of a triangular bead (see illustration).

Recommended bead configuration



Fill exposed joints with Sikaflex®-296 completely without voids until slightly overfilled, then remove excess adhesive with a suitable filling knife or spatula, If necessary, the surface of the adhesive can be tooled to a neat, smooth finish using Sika® Tooling Agent N as a lubricant.

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 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.

Further Information

Copies of the following publications are available on request:

- Material Safety Data Sheets
- Sika Primer Chart for Marine
- General guidelines for bonding and sealing with Sikaflex® products.

Packaging Information

Cartridge	300 ml
Unipac	400 + 600 ml
Hobbock	23 l
Drum	195 l

Important

For information and advice regarding transportation, handling, storage and disposal of chemical products, users shall refer to the actual Material Safety Data Sheets 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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