

PRODUCT DATA SHEET

SikaPower®-415 P1

Moisture pre-curable, heat curing body shop sealant

TYPICAL PRODUCT DATA (FURTHER VALUES SEE SAFETY DATA SHEET)

Chemical base	Epoxy-Polyurethane
Color (CQP001-1)	Black
Density (uncured)	1.4 kg/l
Application temperature	25 – 40 °C
Skin time	4 hours ^A
Curing time	at 180 °C 30 minutes
Shore A (CQP023-1)	55 ^B
Tensile strength (CQP580-5, -6 / ISO 527-2)	at 200 mm/min. 2 MPa ^B
Elongation at break (CQP580-5, -6 / ISO 527-2)	at 200 mm/min. 100 % ^B
Glass transition temperature (CQP039-1 / ISO 6721)	-50 °C ^B
Shelf life	Cartridge 10 months ^C Pail / Drum 4 months ^C

CQP = Corporate Quality Procedure

^A) 23 °C / 50 % r.h.^B) 2 hours at 23 °C + 30 min. at 180 °C^C) stored below 25 °C

DESCRIPTION

SikaPower®-415 P1 is a 1-component, cold-applied, pre-curable, heat-curing sealant based on flexibilized epoxy resin. By exposure to humidity, it forms a skin within 4 hours at ambient temperature.

SikaPower®-415 P1 is designed for sealing seams or joints in sheet metal assemblies.

SikaPower®-415 P1 has a good wash-out resistance, which can be improved by skin formation or pre-curing.

PRODUCT BENEFITS

- Heat-curing 1-component elastic product
- Suitable for sealing different metals (e.g., bare steel, aluminum, zinc-coated steel, etc.)
- Adheres well to oily substrates
- Skin formation by exposure to moisture at ambient temperature
- Good wash-out resistance
- Can be electro- or powder-coated after pre-curing or skin formation
- Does not contain solvents or PVC

AREAS OF APPLICATION

SikaPower®-415 P1 is suitable for sealing seams (e.g., laser step seams) and joints for sheet metal assembly works.

Bonding of oily substrates (standard anti-corrosion treatments and deep drawing oils up to 3 g/m²) is possible due to oil uptake during the heat curing process.

This product is suitable for experienced professional users only. Tests with actual substrates and conditions have to be performed ensuring adhesion and material compatibility.

CURE MECHANISM

SikaPower®-415 P1 is cured by heat. The cure-rate depends on temperature and time of exposure. The most common heat sources are convection ovens. To avoid blisters, the open time at 23 °C / 50 % r.h. must not exceed 5 days before curing. SikaPower®-415 P1 forms a thin skin within approximately four hours (23 °C / 50 % r.h.) after application by the absorption of atmospheric moisture.

METHOD OF APPLICATION

Application

SikaPower®-415 P1 is typically applied in beads with minimal thickness of 2 mm. After application, the bead is usually flattened or spread. The time between application and curing must not exceed 5 days. However, moisture uptake can be prevented by pre-curing the assembled parts for 5 minutes at 160 °C (substrate temperature). The minimum curing temperature is 160 °C for 15 minutes, whereas the standard curing conditions is 180 °C for 30 minutes, usually in electrocoat ovens. SikaPower®-415 P1 can be exposed for a short time to 220 °C for max. 10 minutes. The follower plate and the hoses do not have to be heated. Typically, the application nozzle, last hose and the dosing unit are heated up to 40 °C to get constant application properties. During breaks longer than 4 hours (e.g. overnight or weekends) the heating must be switch-off and the pump system have to be depressurized. Store the product for 24 to 48 hours prior application at the assembly line, to get the product to room temperture, if stored cold (e.g. unheated storage in winter). SikaPower®-415 P1 can be processed with hand-, pneumatic- or electric driven piston guns as well as dispensing equipment. For advice on selecting and setting up a suitable pump system, contact the System Engineering Department of Sika Industry.

Overpainting tooling finishing

For tooling purposes, use small quantities of Sika® Tooling Agent N. The joint must be dry prior to the curing or pre-curing process. If SikaPower®-415 P1 need to be powder-coated, it must be pre-cured or a at least a thin skin must be present prior to coating. The powder-coating must be tested for compatibility by carrying out preliminary trials. The hardness and the film thickness of the powder-coating may impair the elasticity of the product and could lead to cracking of the coating.

STORAGE CONDITIONS

SikaPower®-415 P1 has to be kept between 5 °C and 25 °C in a dry place. Do not expose it to direct sunlight or frost. After opening of the packaging, the content has to be protected against humidity. If SikaPower®-415 P1 is stored at higher temperatures the shelf life will be reduced. Minimum temperature during transportation is -20 °C for max. 7 days.

FURTHER INFORMATION

The information herein is offered for general guidance only. Advice on specific applications is available on request from the Technical Department of Sika Industry. Copies of the following publications are available on request:

- Safety Data Sheets

PACKAGING INFORMATION

Cartridge	300 ml
Pail	23 l ^A 50 l
Drum	192 l

A) 280 mm diameter

BASIS OF PRODUCT DATA

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

DISCLAIMER

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 accordance with Sika's recommendations. 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 user of the product must test the product's suitability for the intended application and purpose. Sika reserves the right to change the properties of its products. The proprietary rights of third parties must be observed. All orders are accepted subject to our current terms of sale and delivery. Users can always refer to the most recent version of the local Product Data Sheet for the relevant product, available on our website. The information in any downloaded version is valid as of the time of download.

