

PRODUCT DATA SHEET

SikaPower®-546

Crash resistant low bake body shop adhesive

TYPICAL PRODUCT DATA (FURTHER VALUES SEE SAFETY DATA SHEET)

Chemical base	Epoxy hybrid
Color (CQP001-1)	Green
Solid content (CQP576-1)	99 %
Density (uncured)	1.30 kg/l
Application temperature	50 – 60 °C
Viscosity η^* (DIN 54458)	flowability A4 at 45 °C 170 Pa·s
Levelling behavior G' (DIN 54458)	A2 at 45 °C 30 000 Pa
Curing conditions	standard at 180 °C 30 minutes ^A minimum at 150 °C 15 minutes ^A
Tensile lap-shear strength (CQP046-9 / ISO 4587)	30 MPa ^{B, C, E}
Dynamic resistance to cleavage (CQP505-1, CQP580-6)	38 N/mm ^{B, D, F}
T-peel strength (CQP580-2, -6 / ISO 11339)	10 N/mm ^{B, D, G}
Tensile strength (CQP580-5, -6 / ISO 527)	30 MPa ^H
Elongation at break (CQP580-5, -6 / ISO 527)	8 % ^H
Young's modulus (CQP580-5, -6 / ISO 527)	2 200 MPa ^H
Glass transition temperature (CQP039-1 / ISO 6721)	peak 100 °C ^I
Shelf life	6 months ^J

CQP = Corporate Quality Procedure

D) bondline thickness 0.3 mm

H) test at 2 mm/min

A) substrate temperature

E) test at 10 mm/min

I) tensile vibration, frequency 1 Hz, deformation stat./dyn 0.3/0.05 %, heating rate 1 K/min

B) steel, HDG, H420, 1.2 mm

F) test at 2 m/s

C) bondline thickness 0.2 mm

G) test at 100 mm/min

J) stored below 25 °C

DESCRIPTION

SikaPower®-546 is a one-part, epoxy based, warm-applied, heat-curing, impact modified, structural adhesive.

It is designed for sheet metal assembly work in the body shop and is cured with heat, e.g. in the paint oven.

PRODUCT BENEFITS

- Curing at lower temperature
- High crash resistance
- Adheres well to oily substrates
- High wash-out resistance
- Can be spot-welded
- High strength
- Suitable to join different metals
- Distortion-free joining
- Solvents, PVC and isocyanate free

AREAS OF APPLICATION

SikaPower®-546 is suitable for structural bonding of different types of metal and specific plastic materials. It is designed for use in combination with spot-welding, riveting, clinching and other mechanical fastening techniques, and in some cases as a partial replacement for them. The bonding of oily substrates (standard anti-corrosion treatment and deep drawing oils, approx. 2 g/m²) is possible because of the oil uptake during the heat curing.

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®-546 is cured by heat. The cure-rate depends on temperature and time of exposure. The most common heat sources are convection ovens. The maximum temperature must not exceed 210 °C for more than 10 minutes.

METHOD OF APPLICATION

SikaPower®-546 is typically applied in bead form with a diameter of 1 to 3 mm. All parts of the application system in contact with the product must be heated. A phased temperature increase from 35 °C at the fol-lower plate to 55 °C at the application nozzle is typically used. During longer breaks (e.g. overnight or weekends) suitable standby tem-peratures and switch-off times must be taken into account. The time between application and curing must be as short as possible, since moisture uptake could cause formation of blisters dur-ing the heat curing process. However, mois-ture uptake can be prevented by pre-curing the assemblies or car bodies for 15 minutes at 150 °C (substrate temperature).

SikaPower®-546 can be processed with manu-al-, pneumatic- or electric driven piston guns as well as dispensing equipment. For advice on selecting and setting up a suit-able pump system and related process para-meters, contact the System Engineering De-partment of Sika Industry.

FURTHER INFORMATION

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

- Safety Data Sheets

PACKAGING INFORMATION

Cartridge	300 ml
Pail	23 l
	50 l
Drum	195 l

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 trans- portation, handling, storage and disposal of chemical products, users shall refer to the ac-tual Safety Data Sheets containing physical, ecological, toxicological and other safety-re-lated data.

DISCLAIMER

The information, and, in particular, the re- commendations relating to the application and enduse of Sika products, are given in good faith based on Sika's current knowledge and experience of the products when prop- erly stored, handled and applied under nor- mal conditions in accordance with Sika's re- commendations. In practice, the differences in materials, substrates and actual site con- ditions 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 writ- ten recommendations, or from any other ad- vice 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 must always refer to the most recent issue of the local Product Data Sheet for the product concerned, copies of which will be supplied on request.

