

PRODUCT DATA SHEET

SikaPower®-480 LV

Toughened and high strength structural adhesive

TYPICAL PRODUCT DATA (FURTHER VALUES SEE SAFETY DATA SHEET)

Chemical base	Epoxy
Color (CQP001-1)	Black
Solid content (CQP576-1)	99 %
Density (uncured)	1.35 kg/l ^A
Application temperature	20 – 40 °C
Viscosity η^* (DIN 54458)	flowability A4 at 45 °C 100 Pa·s
Levelling behavior G' (DIN 54458)	A2 at 45 °C 13 000 Pa
Curing conditions	standard 180 °C 20 minutes ^A minimum 160 °C 15 minutes ^A
Tensile lap-shear strength (CQP046-9 / ISO 4587)	at 10 mm/min 30 MPa ^{B/C}
Dynamic resistance to cleavage (CQP505-1, CQP580-6)	at 2 m/s 25 N/mm ^{B/D}
T-peel strength (CQP580-2,-6 / ISO 11339)	at 100 mm/min 10 N/mm ^{B/D}
Tensile strength (CQP580-5, -6 / ISO 527-2)	at 2 mm/min 30 MPa
Elongation at break (CQP580-5, -6 / ISO 527-2)	at 2 mm/min 10 %
Young's modulus (CQP580-5, -6 / ISO 527)	at 2 mm/min 1 800 MPa
Glass transition temperature, DMTA (DIN EN ISO 6721)	peak 100 °C ^F
Shelf life	10 months ^E

CQP = Corporate Quality Procedure

^C) bondline thickness 0.2 mm^F) tensile vibration, frequency 1 Hz, deformation stat./dyn 0.3/0.05 %, heating rate 1 K/min^A) substrate temperature^D) bondline thickness 0.3 mm^B) steel, HDG, H420, 1.2 mm^E) stored at temperature below 25 °C
DESCRIPTION

SikaPower®-480 LV is cold applied, structural heat curing adhesive based on epoxy.

SikaPower®-480 LV is designed for sheet metal assembly work in the body shop and is cured with heat (e.g. in the e-coat oven) to form a high performance thermoset.

PRODUCT BENEFITS

- High strength
- Adheres well to oily substrates
- High wash out resistance
- Suitable for bonding different metals
- Spot welding
- Provides protection against corrosion
- No damage to substrates
- Contains no solvents, PVC or isocyanates

AREAS OF APPLICATION

SikaPower®-480 LV is suitable for high structural bonding of different types of metals. As an adhesive 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 that is an essential part of the 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.

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CURE MECHANISM

SikaPower®-480 LV is cured by heat. The cure-rate depends on temperature and time of exposure. The most common heat sources are con-vection ovens. The maximum temperature must not exceed 210 °C for more than 10 minutes.

METHOD OF APPLICATION

SikaPower®-480 LV 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 follower plate to 55 °C at the application nozzle is typically used. During longer breaks (e.g. overnight or weekends) suitable standby temperatures 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 during the heat curing process. However, moisture uptake can be prevented by pre-curing the assemblies or car bodies for 15 minutes at 160 °C (substrate temperature).

SikaPower®-480 LV can be processed with manual-, pneumatic- or electric driven piston guns as well as dispensing equipment.

For advice on selecting and setting up a suitable pump system and related process parameters, contact the System Engineering Department 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 Department of Sika Industry.

Copies of the following publications are available on request:

- Safety Data Sheets

PACKAGING INFORMATION

Cartridge	300 ml
Pail	23 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 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.

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