Product Data Sheet
Version 02 / 2009

SikaPower®-492G

Semi crash resistant hem flange adhesive

Automotive

Technical Product Data

Chemical base	Epoxy hybrid
Color (CQP[1] 001)	black
Hazard designation	Xi, N
Non-volatile compounds (CQP 576)	> 99 %
Density before / after curing (CQP 576)	1.30 / 1.35 kg/l approx.
Application temperature	50 - 60°C (nozzle)
Viscosity; 50°C, oscillation 5Hz, P/P 25 mm, 1 mm gap (CQP 584-1)	1000 Pa·s approx.
Curing time / substrate temperature	20 min / 175°C
Lap shear strength[2], at 0.3 mm (CQP 580-1,-6 / EN 1465)	20 MPa approx.
Lap shear strength[2], -30°C / +80°C, at 0.3 mm (CQP 580-1,-6 / EN 1465)	22 / 15 MPa approx.
Lap shear strength[2], 20' 160°C / 40' 200°C, at 0.3 mm (CQP 580-1,-6 / EN 1465)	19 / 18 MPa approx.
Lap shear strength[3], 1.5 mm metal sheet, at 0.3 mm (CQP 580-1,-6 / EN 1465)	30 MPa approx.
Dynamic resistance to cleavage[4] (CQP 580-3,-6 / ISO 11343)	30 N/mm approx.
T-Peel strength[5] (CQP 580-2,-6 / ISO 11339)	9 N/mm approx.
Tensile strength[6] (CQP 580-5,-6 / ISO 527)	30 MPa approx.
Elongation at break[6] (CQP 580-5,-6 / ISO 527)	8% approx.
Glass transition temperature, DMTA (CQP 509 / DIN EN ISO 6721, EN 61006)	105°C approx.
Shelf life, at 23°C (CQP 584-1)	8 months

[1] CQP = Corporate Quality Procedures
[2] DC 04 ZE 75/75 0.8 mm; 2 g/m^2 Anticorit PL 3802-39 S; adhesive layer: 25 x 10 x 0.3 mm; rate of extension: 10 mm/min.
[3] H320 ZE 50/50 1.5 mm; 2 g/m^2 Anticorit PL 3802-39 S; adhesive layer: 25 x 10 x 0.3 mm; rate of extension: 10 mm/min.
[4] DC 04 ZE 75/75 0.8 mm; 2 g/m^2 Anticorit PL 3802-39 S; adhesive layer: 20 x 30 x 0.3 mm; impact speed: 2.0 m/s.
[5] DC 04 ZE 75/75 0.8 mm; 2 g/m^2 Anticorit PL 3802-39 S; adhesive layer 25 x 100 x 0.3 mm; rate of extension: 100 mm/min.
[6] Rate of extension: 2 mm/min.

Description

SikaPower®-492G (LVP) is a one-part, warm-applied, heat-curing high-structural, impact modified adhe-sive based on epoxy.
SikaPower®-492G (LVP) is de-signed for sheet metal assembly work in the body shop and is cured with heat, e.g. in the paint oven, to form a high-performance thermo-set.
SikaPower®-492G (LVP) is manu-factured in accordance with ISO 9001/ 14001 quality assurance system and with the Responsible Care program.

Product Benefits

- One-part
- High strength
- Adheres well to oily substrates
- Very high resistance to washing out
- Suitable for joining different met-als
- Contains fine glass beads
- Distortion-free joining
- Provides protection against cor-rosion
- No damage to substrates
- Contains no solvents, PVC or isocyanates

Areas of Application

SikaPower®-492G (LVP) is suitable for high structural bonding of dif-ferent types of metal. As an adhe-sive product it is designed for use as a hem flange bonding adhesive. The glass beads contained in the adhesive provide a uniform layer of adhesive in the gap and help to reduce excessive material squeeze out. The bonding of oily substrates (standard anti-corrosion treatment and deep drawing oils, approx. 2 g/m^2) is possible because of the oil uptake during the heat curing that is an essential part of the process.

Method of Application

SikaPower®-492G (LVP) is applied in bead form with a recommended dia-meter of 1 to 3 mm. SikaPower®-492G (LVP) is filtered with a mesh size of 300 µm before packaging.

Because the viscosity is temperature-dependent (see Fig. 1) all parts of the application system that are in contact with the adhesive must be heated. We recommend phased temperature increase from 40°C at the follower plate to 55°C at the application unit (nozzle). To prolong the life of the packings and facilitate removal of the cut foil disk we strongly recommend a preheating of the new drum for 15 minutes. This will make it easier to remove the foil. During longer breaks (e.g. over night or at the weekend) the equipment must be cooled down to ambient temperature and switched-off and the system (pump and dosage unit) depressurized.

The glass beads contained in the adhesive do not affect the application with standard application systems.

The time between application and curing must be as short as possible, since any uptake of moisture in the interim (climate-dependent) can cause formation of blisters during heat curing. As a guide to process planning, blister formation was not detected after conditioning of uncured parts at 23°C and 80% relative humidity in joined state for two weeks, a drop in dynamic resistance to cleavage was not detected even after four weeks. However, if suitable conditions cannot be guaranteed, pre-curing for 15 minutes at 160°C (substrate temperature) is necessary.

For advice on project-specific application techniques please contact the Corporate System Engineering department (Sika Services AG). For advice on suitable applications (Technical Service) please contact Sika Automotive GmbH.

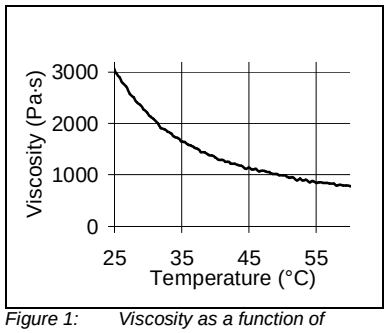

Figure 1: Viscosity as a function of temperature (Equipment: Physica)

Cure Mechanism

SikaPower®-492G (LVP) is cured by heat. The cure-rate depends both on temperature and elapsed time. The most suitable heat sources are convection ovens. The maximum temperature must not exceed 220°C.

Further Information

Copies of the following publications are available on request:

- Material Safety Data Sheet
- Pump specification

Packaging Information

Cartridges	310 ml
Hobbock[1]	23 l
Hobbock	50 l
Drum	195 l

[1)] 280 mm diameter

Value Base

All technical data stated in this Product Data Sheet are based on laboratory tests. Actual measured data may vary due to circumstances beyond our control.

Local Restrictions

Please note that as a result of specific local regulations the performance of this product may vary from country to country. Please consult the local Product Data Sheet for the exact de-scription of the application fields.

Health and Safety Information

For information and advice on the safe handling, storage and disposal of the chemical products, users shall refer to the most recent Material Safety Data Sheet containing physical, ecological, toxicological and other safety-related data.

Legal Notes

Further information available at:
www.sika.ch
www.sika.com

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