BUILDING TRUST

PRODUCT DATA SHEET

SikaPower®-4720

2-component high-strength panel adhesive

TYPICAL PRODUCT DATA (FURTHER VALUES SEE SAFETY DATA SHEET)

Properties		SikaPower®-4720 A	SikaPower®-4720 B
Chemical base		Epoxy	Amine
Color (CQP001-1)		Black	Tan
Density		1.08 kg/l	1.13 kg/l
Mixing ratio	A:B by volume	2 : 1	
Non-sag properties		Good	
Application temperature		10 – 30 °C	
Open time (CQP580-1, -6)		60 minutes [A]	
Mixer open time		30 minutes [A]	
Clamp time (CQP580-1, -6)	time to reach 1 MPa	4.5 hours [A/B]	
Curing time	80 % of strength	24 hours [A]	
Shore D hardness (ASTM D-2240)		80	
Tensile strength (CQP580-5)		24 MPa	
Youngs - modulus (CQP580-1, -6)		1900 MPa	
Elongation at break (ASTM D-638)		3 %	
Impact peel (CQP580-1, -3)		12 N/mm	
Glass transition temperature (ASTM E-1640)		73 °C	
Thermal resistance (CQP 513-1)	1 hour	190 °C	
Service temperature		-30 – 120 °C	
Shelf life		24 months	

CQP = Corporate Quality Procedure

[A] 23 °C / 50 % r.h.

[B] Substrate 0.8 mm steel type DC04

DESCRIPTION

SikaPower®-4720 is a 2-component high-strength epoxy adhesive with very good adhesion properties on a wide variety of substrates. It is specifically designed for metal and composite panel bonding. The glass beads guarantee a uniformed and optimal bond line thickness of 0.25 mm. The adhesive cures at room temperature to form a rigid bond.

PRODUCT BENEFITS

- High strength adhesion performance
- Good adhesion to a wide variety of substrates without primer
- Long open time
- Fast curing property
- No running or dripping
- Can be spot welded (uncured)
- Engineered for optimum bond line thickness
- Accelerated curing with heat
- Low odor
- Very good corrosion protection
- Solvent free

AREAS OF APPLICATION

SikaPower®-4720 is suitable for panel bonding with exposure to high dynamic stress areas such as door skins, rear body panels, roof skins or quarter panels. Use for body structure parts only in combination with spot welds or rivets, following vehicle manufacturers recommendation. Common substrates are metals, particularly aluminum (incl. anodized and rolled), cold rolled steel and FRP-substrates.

Metal sheets assembled with SikaPower®-4720 (in uncured stage) can be spot welded.

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

The curing of SikaPower®-4720 takes place by chemical reaction of the 2 components.
For indications of typical strength build-up consult the table below.

Time [h]	Lap-shear strength [MPa]			
	10 °C	23 °C	30 °C	60 °C
1	-	-	-	13
2	-	-	2.7	Final strength 14 [MPa]
4	-	0.7	12	
4.5	-	1.2		
6	-	3		
8	0.1	6		
24	6	12		
48	12			

Table 1: Lap shear strength SikaPower®-4720

METHOD OF APPLICATION

Surface Preparation

Abrade metals surfaces to bare metal, clean and degrease with Acetone or Heptane. Additional surface treatment depends on the specific nature of the substrates and the manufacturer process.

Application

SikaPower®-4720 is dispensed from 2 in 1 u–TAH cartridges with adequate piston guns. In order to achieve a proper mixing a quadro MGQ 10-19D mixer is required. At low temperatures (10 °C) cartridge needs to be warmed up prior the application to increase extrusion speed.
Extrude adhesive without mixer to equalize the filling levels, attach the mixer and dispose of the first few cm of the bead.
For corrosion protection, apply and tool the adhesive in a thin layer on both substrates covering all grinded areas. Apply an adhesive bead on one side 5 mm from the edge to reduce the material squeeze out (except the spot weld points).
Mount the spare part and add clamps at the corners first. Fix it with rivets or spot welding if required or place clamps every 10 cm. One side application will reduce the open time and final strength up to 50 % and can decrease the corrosion protection.
For detailed description of handling the cartridge and mixer as well as application process, refer to the Panel Replacement Guide, which is available via the Technical Department of Sika Industry.
SikaPower®-4720 can be applied at temperature between 10 °C and 30 °C. This temperature range is valid for the product, substrates and ambitent conditions.

Curing

SikaPower®-4720 cures at ambient conditions. The curing speed depends on temperature. 10 °C higher temperatures would result approx. in doubling the curing speed and reducing the open time by 50 %. Curing speed can be accelerated by temperature (max. 85 °C) using infrared laps or ovens.

Removal

Uncured SikaPower®-4720 can be removed from tools and equipment with Sika® Remover-208 or another suitable solvent. Once cured, the material can only be removed mechanically. Hands and exposed skin have to be washed immediately using hand wipes such as Sika® Cleaner-350H or a suitable industrial hand cleaner and water.
Do not use solvents on skin.

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
- Panel Replacement Guide

PACKAGING INFORMATION

Coaxial Cartridge	195 ml
Side-by-Side Cartridge	220 ml

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 enduse 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 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.