

## PRODUCT DATA SHEET

# SikaPower®-1554

## MULTIPURPOSE TOUGHENED THIXOTROPIC STRUCTURAL ADHESIVE

## TYPICAL PRODUCT DATA (FURTHER VALUES SEE SAFETY DATA SHEET)

Properties	SikaPower®-1554 A	SikaPower®-1554 B
Chemical base	Epoxy	Amine
Color (CQP001-1)	Black	Beige
	mixed	Black
Density	1.4 g/cm <sup>3</sup>	1.2 g/cm <sup>3</sup>
	mixed, calculated	1.3 g/cm <sup>3</sup>
Mixing ratio	A:B by volume	1:1
	A:B by weight	10:9
Viscosity (CQP029-4)	at 0.1 s <sup>-1</sup>	400 Pa·s <sup>A</sup>
		450 Pa·s <sup>A</sup>
Consistency	mixed	Thixotropic paste
Application temperature	15 – 30 °C	
Pot-life (CQP021-1)	30 minutes <sup>A</sup>	
Open time (CQP580-1, -6 / ISO 4587)	40 minutes <sup>A, B</sup>	
Shore D hardness (CQP023-1 / ISO 7619-1)	80	
Tensile strength (CQP543-1 / ISO 527)	28 MPa <sup>A, C</sup>	
E-Modulus (CQP543-1 / ISO 527)	2 300 MPa <sup>A, C</sup>	
Elongation at break (CQP543-1 / ISO 527)	2.2 % <sup>A, C</sup>	
Tensile lap-shear strength (CQP046-9 / ISO 4587)	24 MPa <sup>A, B, C</sup>	
Glass transition temperature (CQP509-1 / ISO 6721)	63 °C <sup>C</sup>	
Shelf life	12 months <sup>D</sup>	

CQP = Corporate Quality Procedure

<sup>A)</sup> 23 °C / 50 % r. h.<sup>B)</sup> adhesive thickness: 1 mm / substrate: GFR-epoxy<sup>C)</sup> cured for 1 day at 40 °C<sup>D)</sup> storage between 15 and 25 °C**DESCRIPTION**

SikaPower®-1554 is a multipurpose two-component structural epoxy adhesive, which cures at room temperature. It is a non-sagging, thixotropic paste, developing high strength to form a rigid bond with a large number of substrates. When cured, the product shows elevated mechanical properties as well as good ageing resistance.

**PRODUCT BENEFITS**

- Good adhesion to a wide range of substrates without primer
- High strength and structural performance
- Good resistance under different environmental conditions
- Non-sagging up to 10 mm, suitable for vertical applications
- Accelerated curing with heat
- Low shrinkage

**AREAS OF APPLICATION**

SikaPower®-1554 is a versatile structural adhesive for industrial applications. It is particularly suitable for composite bonding (e.g., FRP and SMC) and for bonding metallic structures or inserts in transportation and general industry.

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

## CURE MECHANISM

SikaPower®-1554 cures by chemical reaction of the two components at room temperature. The cure rate is accelerated at higher temperatures, e.g. using ovens or infrared lamps. The final glass transition temperature, as well as the tensile and shear strengths, may be increased with higher curing temperature. The lap-shear strength [MPa] build-up of SikaPower®-1554 at different curing temperatures can be seen in the following table.

Curing Time	23 °C	40 °C	80 °C
0.5 h	-	-	3
1 h	-	-	15
4 h	0.7	10	21
16 h	8	21	
24 h	12	24	
48 h	17		
7 d	21		
14 d	24		

Table 1: Lap-shear strength build-up on GFR-Epoxy (bondline 1 mm)  
Grey = Final strength

## ADHESION RESULTS

The following table summarizes typical lap-shear strength values on different substrates. These results are indicative only. Due to the diversity of substrates, preliminary tests are mandatory.

Substrate <sup>A</sup>	Strength	FM <sup>B</sup>
Aluminum	16 MPa	C
Mild Steel	20 MPa	C
Stainless Steel	20 MPa	C
GRF-Epoxy	24 MPa	C
GFR-Polyester	7 MPa	S
SMC	8 MPa	S
ABS	4.5 MPa	A
Powder Coat	13 MPa	S

Table 2: Adhesion results (bondline 1 mm cured 14 days at 23 °C)

<sup>A)</sup> Pretreatment: abrading and cleaning

<sup>B)</sup> Failure mode: Adhesion, Cohesive, Substrate

## METHOD OF APPLICATION

### Surface preparation

Surfaces must be clean, dry and free from grease, oil and dust. Surface treatment depends on the specific nature of the substrates and is crucial for a long lasting bond. All pre-treatment steps must be confirmed by preliminary tests on original substrates considering specific conditions in the assembly process.

### Application

SikaPower®-1554 is dispensed from pails with adequate 2-component equipment or from 1:1 dual cartridges with adequate manual or pneumatic guns. In order to achieve a proper mixing a Nordson Square Turbo Mixer 180A-824 (for 200 ml cartridges) or a 295-620 (for 50 ml cartridges) is required.

Cartridge use: Extrude adhesive without mixer to equalize the filling levels. Attach the mixer and dispose of the first few cm of the bead before the application.

### Removal

Uncured SikaPower®-1554 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

## PACKAGING INFORMATION

SikaPower®-1554

Dual cartridge	50 ml 200 ml
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## 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

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