

PRODUCT DATA SHEET

Sikaflex[®]-554 PowerCure

Accelerated STP adhesive for assembly bonding

TYPICAL PRODUCT DATA (FURTHER VALUES SEE SAFETY DATA SHEET)

Chemical base	Silane Terminated Polymer
Color (CQP001-1)	White, black
Cure mechanism	Moisture-curing ^A
Density	depending on color 1.44 kg/l (12.0 lb/gal)
Non-sag properties	Good
Application temperature	ambient 5 – 40 °C (41 – 104 °F)
Open time (CQP526-1)	20 minutes ^B
Shrinkage (CQP014-1)	2 %
Early tensile lap-shear strength (CQP046-1 / ISO 4587)	(see table 1)
Shore A hardness (CQP023-1 / ISO 48-4)	55
Tensile strength (CQP036-1 / ISO 527)	3.5 MPa (510 psi)
Elongation at break (CQP036-1 / ISO 527)	500 %
Tear propagation resistance (CQP045-1 / ISO 34)	20 N/mm (110 pli)
Tensile lap-shear strength (CQP046-1 / ISO 4587)	2.5 MPa (360 psi)
Service temperature (CQP509-1 / CQP513-1)	-50 – 90 °C (-58 – 194 °F)
Shelf life (CQP016-1)	9 months ^C

CQP = Corporate Quality Procedure

^A Provided by PowerCure^B 23 °C (73 °F) / 50 % r. h.^C stored below 25 °C (77 °F)**DESCRIPTION**

Sikaflex[®]-554 PowerCure is an accelerated elastic Silane Terminated Polymer (STP) adhesive system especially designed for bonding large components in industrial assembly. It bonds well to a wide range of substrates with minimal pretreatment.

PRODUCT BENEFITS

- Good adhesion to a wide variety of substrates without primer
- Very good weathering resistance
- Passes DIN EN 45545-2 R1/R7 HL3
- Fast curing by PowerCure Technology
- Solvent-, isocyanate-, phthalate- and PVC free
- Capable of withstanding dynamic stresses

AREAS OF APPLICATION

Sikaflex[®]-554 PowerCure is suitable for joints that will be subjected to dynamic stresses. Suitable substrate materials are metals, particularly aluminum, metal primers, paint coatings, sheet steel, ceramic materials and certain plastics. It bonds well to a wide range of substrates with minimal pre-treatment. Seek manufacturer's advice and perform tests on original substrates before using Sikaflex[®]-554 PowerCure on materials prone to stress cracking. Sikaflex[®]-554 PowerCure is suitable for experienced professional users only. Tests with actual substrates and conditions have to be performed ensuring adhesion and material compatibility.

PRODUCT DATA SHEET

Sikaflex[®]-554 PowerCure
Version 03.01 (04 - 2022), en_US
012201255540001010

CURE MECHANISM

Sikaflex®-554 PowerCure cures by reaction with the accelerator and largely independent from atmospheric moisture. For typical strength build-up data at 23 °C see table below.

Time [h]	Lap-Shear Strength [MPa]
2	0.25 (35 psi)
4	0.7 (100 psi)
8	1.2 (170 psi)
24	2 (290 psi)

Table 1: Strength build-up Sikaflex®-554 PowerCure

CHEMICAL RESISTANCE

Sikaflex®-554 PowerCure is generally resistant to fresh water, seawater, diluted acids and diluted caustic solutions; temporarily resistant to fuels, mineral oils, vegetable and animal fats and oils; not resistant to organic acids, glycolic alcohol, concentrated mineral acids and caustic solutions or solvents.

METHOD OF APPLICATION

Surface Preparation

Surfaces must be clean, dry and free from grease, oil, dust and contaminants. 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

Setup the PowerCure Dispenser according to the PowerCure User Manual. If the application is discontinued for more than 5 minutes, the mixer needs to be replaced. Sikaflex®-554 PowerCure can be processed at temperatures (climate and product) between 5 °C and 40 °C (41 °F and 104 °F) but changes in reactivity and application properties have to be considered. The optimum temperature for substrate and sealant is between 15 °C and 25 °C (59 °F and 77 °F). Consider that the viscosity will increase at low temperature.

For easy application, condition the adhesive at ambient temperature prior to use. The open time is significantly shorter in hot and humid climate. The parts must always be installed within the open time. To ensure a uniform thickness of the bondline it is recommend to apply the adhesive in form of a triangular bead (see figure 1).

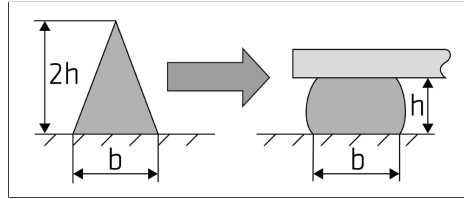


Figure 1: Recommended bead configuration

Tooling and finishing

Tooling and finishing must be carried out within the open time of the adhesive. We recommend the use of Sika® Slick. Other finishing agents or lubricants must be tested for suitability and compatibility.

Removal

Uncured Sikaflex®-554 PowerCure may 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 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
- Sika Pre-treatment Chart
For Silane Terminated Polymers (STP)
- PowerCure User Manual and Quick Reference Guide
- General Guidelines
Bonding and Sealing with 1-component Sikaflex®

PACKAGING INFORMATION

PowerCure Pack	600 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.

ENVIRONMENTAL, HEALTH AND SAFETY

For further information and advice regarding transportation, handling, storage and disposal of chemical products, user should refer to the actual Safety Data Sheets containing physical, environmental, toxicological and other safety related data. User must read the current actual Safety Data Sheets before using any products. In case of an emergency, call CHEMTREC at 1-800-424-9300, International 703-527-3887.

LEGAL DISCLAIMER

Prior to each use of any product of Sika Corporation, its subsidiaries or affiliates ("SIKA"), the user must always read and follow the warnings and instructions on the product's most current product label, Product Data Sheet and Safety Data Sheet which are available at usa.sika.com or by contacting SIKA's Technical Service Department via email at tsmh@us.sika.com. Nothing contained in any SIKA literature or materials relieves the user of the obligation to read and follow the warnings and instructions for each SIKA product as set forth in the current product label, Product Data Sheet and Safety Data Sheet prior to use of the SIKA product. SIKA warrants this product for one year from date of installation to be free from manufacturing defects and to meet the technical properties on the current Product Data Sheet if used as directed within the product's shelf life. User determines suitability of product for intended use and assumes all risks. User's and/or buyer's sole remedy shall be limited to the purchase price or replacement of this product exclusive of any labor costs. **NO OTHER WARRANTIES EXPRESS OR IMPLIED SHALL APPLY INCLUDING ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. SIKA SHALL NOT BE LIABLE UNDER ANY LEGAL THEORY FOR SPECIAL OR CONSEQUENTIAL DAMAGES. SIKA SHALL NOT BE RESPONSIBLE FOR THE USE OF THIS PRODUCT IN A MANNER TO INFRINGE ON ANY PATENT OR ANY OTHER INTELLECTUAL PROPERTY RIGHTS HELD BY OTHERS.** Sale of SIKA products are subject to the Terms and Conditions of Sale which are available at <https://usa.sika.com/en/group/SikaCorp/termsandconditions.html> or by calling +1 800-933-7452.

PRODUCT DATA SHEET

Sikaflex®-554 PowerCure
Version 03.01 (04 - 2022), en_US
012201255540001010

Sika Corporation

30800 Stephenson Highway
Madison Heights, MI 48071
U.S.A.
Telephone: +1 248-577-0020
Email: tsmh@us.sika.com
www.sikausa.com

