BUILDING TRUST

PRODUCT DATA SHEET

Sikaflex®-668 PowerCure

Accelerated high-performance assembly, glazing adhesive and sealant for rail applications

TYPICAL PRODUCT DATA (FURTHER VALUES SEE SAFETY DATA SHEET)

Chemical base	Polyurethane (Purform®)
Colour (CQP001-1)	Black
Cure mechanism	Moisture-curing [A]
Density (uncured)	1.3 kg/l
Non-sag properties (CQP061-1)	Very good
Application temperature	10 – 35 °C
Open time (CQP526-1)	40 minutes [B]
Early tensile lap-shear strength (CQP046-1 / ISO 4587)	(see table 1)
Shrinkage (CQP014-1)	1 %
Shore A hardness (CQP023-1 / ISO 48-4)	60
Tensile strength (CQP036-1 / ISO 527)	8 MPa
Elongation at break (CQP036-1 / ISO 527)	500 %
Tear propagation resistance (CQP045-1 / ISO 34)	12 N/mm
Tensile lap-shear strength (CQP046-1 / ISO 4587)	5 MPa
Service temperature (CQP509-1 / CQP513-1)	-50 – 90 °C
Shelf life (CQP016-1)	9 months [C]

CQP = Corporate Quality Procedure [A] provided by PowerCure [B] 23 °C / 50 % r. h. [C] stored below 25 °C

DESCRIPTION

Sikaflex®-668 PowerCure is based on Purform®, a polyurethane with less than 0.1% monomeric diisocyanate for better health protection and occupational safety. Sikaflex®-668 PowerCure is an accelerated adhesive system specifically designed for the rail industry. The curing of Sikaflex®-668 PowerCure is accelerated by Sika's PowerCure Technology which makes it largely independent of atmospheric conditions. It is suitable for assembly bonding and glazing applications. Its good resistance to weathering and to a wide variety of cleaning agents makes it an ideal solution for use in exterior joints in the rail industry.

PRODUCT BENEFITS

- Less than 0.1 % monomeric diisocyanate for better health protection and occupational safety
- Very good weathering stability
- Resistant to a wide variety of cleaning agents
- Passes EN45545 R1/R7 HL3, NFPA 130, BSS 7239
- Fast-curing by PowerCure Technology
- Phthalate-free

AREAS OF APPLICATION

Sikaflex®-668 PowerCure is designed for assembly and direct-glazing applications in rail, the commercial vehicle industry and for the repair market. It exhibits very good tooling and application properties. With its superior resistance to a wide range of cleaning agents combined with outstanding weathering resistance, it can be used for exterior joints.

Curing of Sikaflex®-668 PowerCure is accelerated by Sika's PowerCure Technology which makes it largely independent of atmospheric conditions.

Seek manufacturer's advice and perform tests on original substrates before using Sikaflex®-668 PowerCure on materials prone to stress cracking.

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

Sikaflex®-668 PowerCure cures by reaction with moisture provided by the accelerator paste and is largely independent from atmospheric moisture. For typical strength build up data see table below.

Time [h]	Strength [MPa]
2	1
3	2.5
4	3
6	4

Table 1: Tensile lap-shear strength at 23 °C / 50 % r.h.

CHEMICAL RESISTANCE

Sikaflex®-668 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.

It is resistant to a wide range of rail cleaning agents if used according to the guidelines of the manufacturer. Some rail cleaning agents contain aggressive chemicals such as phosphoric acids which may influence the durability of Sikaflex®-668 PowerCure significantly. Therefore it is of highest importance to limit the exposure time to a minimum, observe correct dilution of cleaning agent and to perform a thorough rinsing after the cleaning process. Test newly introduced cleaning agents.

The above information is offered for general guidance only. Advice on specific applications will be given on request.

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.

Note: The maximum primer flash-off time is limited to 8 hours for Sikaflex®-668 PowerCure at temperatures above 30 °C. The primer must then be reactivated with Sika® Aktivator-100 prior the bonding process.

Application

Setup the PowerCure Dispenser according to the PowerCure User Manual. If the application is discontinued for more than 10 minutes, the mixer needs to be replaced. Sikaflex®-668 PowerCure can be processed between 10 °C and 35 °C but changes in reactivity as well as application properties need to be considered. The optimum temperature for substrate and sealant is between 15 °C and 25 °C.

The open time is significantly shorter in hot and humid climate. The parts must always be joined within the open time. As a rule of thumb, a change of + 10 °C reduces the open time by half.

To ensure a uniform thickness of the bondline it is recommend to apply the adhesive in form of a triangular bead (see figure 1).

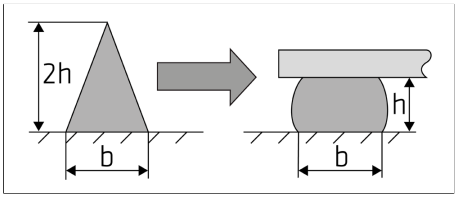


Figure 1: Recommended bead configuration

Tooling and finishing

Tooling and finishing must be carried out within the open time of the adhesive. It is recommended using Sika® Tooling Agent N. Other finishing agents must be tested for suitability and compatibility.

Removal

Uncured Sikaflex®-668 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 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
- General Guideline
  Bonding and Sealing with 1-component Sikaflex®
- PowerCure User Manual and Quick Reference Guide

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.

HEALTH AND SAFETY INFORMATION

User must read the most recent corresponding Safety Data Sheets (SDS) before using any products. The SDS provides information and advice on the safe handling, storage and disposal of chemical products and contains 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 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.

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