

# Sikasil SG-18

## Structural silicone adhesive

### Technical product data

|                                   |                          |   |
|-----------------------------------|--------------------------|---|
| Chemical base                     |                          | 1-C polyurethane  |
| Color                             | (CQP <sup>1</sup> 001-1) | Black   |
| Cure mechanism                    |                          | Moist curing  |
| Cure type                         |                          | Neutral   |
| Density (uncured)                 | (CQP 006-4)              | 1.48 kg/L approx.                                       |
| Non-sag properties                |                          | < 2mm   |
| Application temperature           | (product & substrate)    | 5°C - 40°C  |
| Skin time <sup>2</sup>            | (CQP 019-2)              | 30 min. approx.   |
| Tack free <sup>2</sup>            | (CQP 019-1)              | 90 min. approx.   |
| Open time <sup>2</sup>            | (CQP 526-1)              | 30 min. approx.   |
| Curing speed                      | (CQP 049-1)              | (See diagram 1)   |
| Shore A hardness                  | (CQP 023-1 / ISO 868)    | 44 approx.  |
| Tensile strength                  | (CQP 036-1 / ISO 37)     | 1.8 N/mm <sup>2</sup> approx.                           |
| Elongation at break               | (CQP 036-1 / ISO 37)     | 350% approx.  |
| Tear propagation resistance       | (CQP 045-1 / ISO 34)     | 6 N/mm approx.  |
| 100% modulus <sup>3</sup>         | (CQP 036-1 / ISO 37)     | 1.1 N/mm <sup>2</sup> approx.                           |
| Movement accommodation capability | (ASTM C 719)             | ± 12.5%   |
| Thermal resistance                | (CQP 513-1)              | 180°C (356°F) approx. (Long term)                       |
|                                   |                          | 4 hr 220°C (428°F) approx. (Short term)                 |
|                                   |                          | 1 hr 250°C (482°F) approx. (Short term)                 |
| Service temperature               |                          | -40 - 150°C approx. (-40 - 302°F)                       |
| Moisture vapor transmission rate  | (CQP 520-2 / ISO 12572)  | 16 g H <sub>2</sub> O/m <sup>2</sup> ·24 h·2 mm approx. |
| Shelf life (storage below 25°C)   | (CQP 016-1)              | 12 months   |

<sup>1</sup> - CQP (Corporate quality procedure), <sup>2</sup> - 23°C / 50% RH, <sup>3</sup> - For further values: see Calculation Value Sheet

#### Description

Sikasil SG-18 is a neutral-curing silicone adhesive with excellent adhesion to a wide range of substrates.

Sikasil SG-18 is manufactured in accordance with ISO 9001 quality assurance system and the responsible care program.

#### Product Benefits

- Meets requirements of EOTA ETAG 002, EN 13022 and ASTM C 1184
- Outstanding UV and weathering resistance
- Bonds well to glass, metals and coated metals

#### Areas of application

Sikasil SG-18 can be used as structural glazing adhesive and for other bonding applications where superior resistance to UV radiation, high temperatures and weathering is required.

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





### Cure mechanism

Sikasil SG-18 cures by reaction with atmospheric moisture. The reaction thus starts at the surface and proceeds to the core of the joint. The curing speed depends on the relative humidity and the temperature (see diagram 1 below). Heating above 50°C to speed-up the vulcanization is not advisable as it may lead to bubble formation. At low temperatures the water content of the air is lower and the curing process proceeds more slowly.

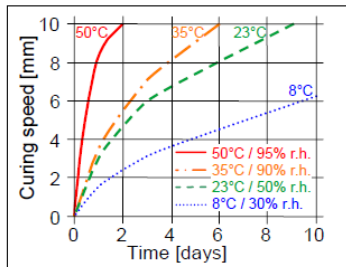


Diagram 1: Curing speed 1-C-Sikasil®

### Application limits

All Sikasil WS, FS, SG, IG, WT and other engineering silicone sealants and adhesives are compatible with each other. Sikasil SG, IG and WT sealants and adhesives are compatible with SikaGlaze IG sealants. All other sealants have to be approved by Sika before using them in combination with Sikasil SG-18. Where two or more different reactive sealants are used, allow the first to cure completely before applying the next. Sikasil SG, IG and WT sealants and adhesives may only be used in structural glazing or window bonding applications by experienced professionals and after a detailed examination and written approval of the corresponding project details by the Technical Service Department of Sika Industry.

The compatibility of gaskets, backer rods, setting blocks and other accessory materials with Sikasil SG-18 must be tested in advance.

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 oil, grease and dust.

Advice on specific applications and surface pretreatment methods is available from the Technical Service Department of Sika Industry.

#### Application

After suitable joint and substrate preparation, Sikasil SG-18 is gunned into place. Joints must be properly dimensioned as changes are no longer possible after construction. Basis for calculation of the necessary joint dimensions are the technical values of the adhesive and the adjacent building materials, the exposure of the building elements, their construction and size as well as external loads. Joints deeper than 15 mm should be avoided.

For more information please contact the Technical Service Department of Sika Industry.

#### Tooling and finishing

Tooling and finishing must be carried out within the skin time of the sealant or adhesive. When tooling freshly applied Sikasil SG-18 press the adhesive to the joint flanks to get a good wetting of the bonding surface. No tooling agents may be used.

#### Removal

Uncured Sikasil SG-18 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 should be washed immediately using Sika® Handclean Towel or a suitable industrial hand cleaner and water. Do not use solvents!

#### Overpainting

Sikasil SG-18 is an elastic adhesive and cannot be overpainted.

### Further Information

Copies of the following publications are available on request:

- Material Safety Data Sheets
- Different "Application Guidelines"
- Calculation Value Sheet

### Packaging Information

|        |        |
|--------|--------|
| Unipac | 600 mL |
| Drum   | 280 kg |

### Value Bases

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.

### Health and Safety Information

For information and advice regarding transportation, handling, storage and disposal of chemical products, users should refer to the actual Material Safety Data Sheets containing physical, ecological, toxicological and other safety-related data.

### Legal Notes

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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