

Novasil® S 49

The 2-component silicone adhesive for industrial purposes

S 49

Characteristics

- ▶ Neutral, condensation-curing 2-component silicone adhesive and sealant based on alkoxy
- ▶ Excellent weathering, ageing and UV-resistance
- ▶ Excellent primerless adhesion on numerous substrates - even when exposed to water
- ▶ Reduced cycle times - due to the fast curing bonded parts can be further processed extremely soon
- ▶ Very good temperature resistance
- ▶ High adhesion strength
- ▶ Non-corrosive
- ▶ Low odour

Fields of application

Renewable energies:

- ▶ Glass frame bonding of hot water collectors
- ▶ Elastic bonding of frames to PV-modules
- ▶ Adhesion and sealing of junction boxes

Domestic appliances industry:

- ▶ Bonding of door pillars, brackets and mouldings

Lighting and electronics industry:

- ▶ Elastic bonding and sealing of lamp casings
- ▶ Elastic bonding and sealing of electrical and electronic components

General Industry:

- ▶ Elastic bonding and sealing for industrial purposes with a permanent temperature of up to + 180 °C

Standards and tests

- ▶ UL 94 Flame Classification HB, RTI 105 °C, File No. E 176319

Technical properties

Single components:

Component A

Colour	white
Viscosity at 23 °C	pasty
Density at 23 °C according to ISO 1183-1 [g/cm ³]	~ 1,31
Shelf life at 23 °C/50 % RH [months] ¹	8

1) from production

Component B

OTTOCURE

	S-CA 2160	S-CA 2340	S-CA 2465	S-CA 2030	S-CA 2105
Colour	black	black	black	black	grey
Viscosity at 23 °C	pasty	pasty	pasty	pasty	pasty

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SEALING & BONDING

Density at 23 °C according to ISO 1183-1 [g/cm ³]	~ 1,23	~ 1,23	~ 1,23	~ 1,23	~ 1,17
Shelf life at 23 °C/50 % RH [months] ¹	6	9	6	9	6

1) from production

**Mixed components
With OTTOCURE**

	S-CA 2160	S-CA 2340	S-CA 2465	S-CA 2030	S-CA 2105
Colour	black	black	black	black	grey
Viscosity at 23 °C	pasty	pasty	pasty	pasty	pasty
Pot life at 23 °C/50 % RH [minutes]	2 - 7	7 - 15	7 - 15	10 - 30	10 - 20
Shore-A-hardness after 1 hour	> 22	> 5	> 5	0	> 5
Shore-A-hardness after 2 hours	> 27	> 15	> 15	> 10	> 15
Shore-A-hardness after 24 hours	> 40	> 36	> 35	> 35	> 35
Time until handling [min] ¹	< 20	< 60	< 60	< 120	< 90

1) The build-up of the adhesion and the realisation of sufficient strength for the further handling of the bonded components depend on the material, the adhesion geometry and the surface to be bonded. Generally speaking sufficient strength for the further handling of the bonded components is reached after the advised curing time at room temperature. Full load-bearing capacity of the adhesion is only reached after 24 hours of curing. A shorter curing time can be achieved by raising the temperature to +60 °C.

Vulcanisate:

Density at 23 °C according to ISO 1183-1 [g/cm ³]	~ 1,30
Shore-A-hardness according to ISO 868	~ 42 - 47
Tensile strength according to ISO 37, type 3 [N/mm ²]	~ 2 - 3
Tensile expansion according to ISO 37, type 3 [%]	~ 200 - 500
Stress expansion modulus at 100 % according to ISO 37, type 3 [N/mm ²]	~ 1,0
Dielectric strength ED according to DIN EN 60243-1 [kV/mm]	≥ 15
Volume resistance ρ according to DIN IEC 93 [Ω*cm]	10 ^ 14
Temperature resistance from/to [°C]	-50 / +180
Shrinkage of volume according to ISO 10563 [%]	~ 4

These data are not suitable for the issue of specifications. Please contact OTTO-CHEMIE before issuing specifications.

Pretreatment

The adhesive surfaces must be cleaned and any contamination such as release agents, preservatives, grease, oil, dust, water, old adhesives/sealants and other substances impairing adhesion must be removed.

The adherent surfaces have to be clean, free from fat, dry and sustainable.

The demands on elastic sealings and bondings depend on the respective exterior influences. Extreme fluctuations in temperature, tensile or shear forces, repeated contact with water etc. demand high requirements of a bonding. In such cases it is advisable to apply primer in order to achieve a resilient bonding. Please consult our technical department.

Important information

Before applying this product the user has to ensure that the materials in the area of contact (solid, liquid and gaseous) are compatible with it and also amongst each other and do not damage or alter (e. g. discolour) each other. As for the materials that will be used at a later stage in the surrounding area of the product the user has to clarify beforehand that the substances of content or evaporations do not lead to an impairment or alteration (e. g. discolouration) of the product. In case of doubt the user should consult the respective manufacturer of the material.

Paints, lacquers, plastics and any other coatings must be compatible to the adhesive/sealant.

Constructional details of the adhesion must be agreed upon by our technical department.

During curing small amounts of alcohol are released.

Application information

Processing temperature from/to [°C]	+10 / +25 ¹
Mixing ratio according to weight (base A : curing agent B)	10,6 : 1 ²
Mixing ratio according to volume (base A : curing agent B)	10 : 1
Maximum permissible deviation from the mixing ratio [%]	± 10
Recommended following plate pressure, component A [bar]	2 - 3
Recommended following plate pressure, component B [bar]	< 1,5
Maximum temperature during curing [°C]	+60

1) temporarily up to + 30 °C

2) with grey B component 11.0 : 1

Processing of 2-component adhesives and sealants out of side-by-side cartridges:

First of all remove the lids of both component's chambers. Place cartridge into the pistol. Squeeze out material, until material comes out of both chambers. Wipe off material and attach the static mixing nozzle with help of the union nut. Check homogeneity of the mixture.

Avoid entrapment of air during mixing. Therefore we recommend to use a mixing equipment.

For seals in the mixing and dosing system that are in direct contact with the adhesive/sealant, we recommend using (plasticiser-free) EPDM seals or even more resistant FFKM seals. If other sealing materials are used, please consult our Application Technology department.

Component A does not react with air humidity and is stable under normal conditions (23 °C, 50 % RH).

Component B is sensitive to moisture and therefore must be protected from moisture.

In order to achieve optimal adhesion and good mechanical characteristics, the entrapment of air in the joint must be avoided.

Processing/smoothing: The adhesive/sealant has to be smoothed within pot life in order to ensure close contact with joint edges/substrates. OTTO Smoothing Agent shall not be used.

Due to the many possible influences during and after application, the customer always has to carry out trials first.

Please observe the recommended shelf life which is printed on the packaging.

We recommend to store our products in unopened original packagings dry (< 60 % RH) at temperatures of +15 °C up to +25 °C. If the products are stored and / or transported at higher temperatures / air humidity for longer periods (some weeks), a diminution of durability or a change of material characteristics may arise.

To make sure the mixing is correct the user has to carry out accompanying quality checks during application. The according necessary tests have to be gathered from the document "Accompanying Quality Checks for the processing of 2-component Silicones", which is available from our technical department.

Packaging

490 ml side-by-side plastic cartridge

<input type="radio"/> with OTTOCURE S-CA 2030	S49-43-2030-C04
<input type="radio"/> with OTTOCURE S-CA 2105	on request
<input type="radio"/> with OTTOCURE S-CA 2160	on request
<input type="radio"/> with OTTOCURE S-CA 2340	on request
Pieces per packaging unit	9
Pieces per pallet	540

1 OTTO static mixing nozzle MFQX 10-24T is supplied with each cartridge

Further delivery forms available on request

Due to typographical reasons the colours shown below may differ from the original colours of the products.

Safety precautions

Please observe the material safety data sheet.

After curing, the product is odourless.

Disposal

Information about disposal: Please refer to the material safety data sheet.

Warranty information

The above information and our technical application advice, whether verbal, in writing or by means of tests, are provided to the

best of our knowledge, but are non-binding, including with regard to any third-party property rights. The information in this publication does not exempt the processor from carrying out their own tests on our products with regard to their suitability for the intended processes and purposes. The application, use and processing of our products and the products manufactured on the basis of our technical application advice are beyond our control and are therefore the sole responsibility of the processor. If the application for which our products are used is subject to an official authorisation requirement, the user is responsible for obtaining these authorisations. We reserve the right to adapt the product to technical progress and new developments. For the rest, we refer to our General Terms and Conditions, in particular with regard to any liability for defects. You can find our GTC at www.otto-chemie.de.