

# Novasil® S 56

The high temperature-resistant silicone adhesive and sealant for industrial purposes

S 56

## Characteristics

- ▶ Neutral-curing 1-component silicone sealant and adhesive, MEKO-free
- ▶ Excellent weathering, ageing and UV-resistance
- ▶ Very high mechanical strength, resistance to notches, tension and tearing
- ▶ High adhesive power
- ▶ Excellent adhesion on many substrates, partly in combination with primer
- ▶ Very good resistance during Damp Heat Test (1,000 h +85 °C / 85 % RH)
- ▶ Excellent temperature resistance from -40 °C up to +250 °C (1)
- ▶ Non-corrosive
- ▶ Resistant to motor oil and lubricating oil

## Fields of application

### Renewable energies

- ▶ Elastic bonding of frames to PV-modules
- ▶ Adhesion and sealing of junction boxes

### Domestic appliances industry:

- ▶ Adhesion of baking oven-inside pane
- ▶ Application of elastic sealings, e. g. on the oven door
- ▶ Bonding of fixing brackets, mouldings, oven glass doors, door handles

### Heating, ventilation and plant construction:

- ▶ Sealing of moulded boilers and smoke gas cabinets
- ▶ Bonding of glass doors in stoves

### General Industry:

- ▶ Elastic bonding and sealing for industrial purposes with a permanent temperature of up to + 250 °C
- ▶ Suitable for Formed In Place Gaskets (FIPG) oilsump front wall cover, thermostat housings, valve covers, axle covers etc.

## Standards and tests

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

## Technical properties

Skin-forming time at 23 °C/50 % RH [minutes]	~ 5
Curing in 24 hours at 23 °C/50 % RH [mm]	~ 2 - 3
Processing temperature from/to [°C]	+ 5 / + 40
Viscosity at 23 °C	pasty, stable
Density at 23 °C according to ISO 1183-1 [g/cm³]	~ 1,1
Shore-A-hardness according to ISO 868	~ 40
Stress expansion modulus at 100 % according to ISO 37, type 3 [N/mm²]	~ 0,95
Tensile expansion according to ISO 37, type 3 [%]	~ 350

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SEALING & BONDING

Tensile strength according to ISO 37, type 3 [N/mm <sup>2</sup> ]	~ 2,9
Temperature resistance from/to [°C]	- 40 / + 250 <sup>1</sup>
Temperature resistance only temporarily (up to 2 hours if loaded daily) [°C]	+ 275 <sup>1</sup>
Shrinkage of volume according to ISO 10563 [%]	~ 4
Dielectric strength ED according to DIN EN 60243 [kV/mm]	≥ 15
Volume resistance p according to DIN IEC 93 [Ω*cm]	10 ^ 14
Shelf life at 23 °C/50 % RH for cartridge/foil bag [months]	12 <sup>2</sup>
Shelf life at 23 °C/50 % RH for pail/drum [months]	12 <sup>2</sup>

1) Tested with Novasil S 56 black

2) from production

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

## Pretreatment

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

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 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.

During the curing process of the material reaction products of the crosslinker are released.

Ensure good ventilation during application and curing.

The required vulcanization time prolongs with increasing thickness of the silicone layer. One-component silicones are not suitable for full-area bonding, unless there are specific structural conditions that require such full-area application. If one-component silicones are to be used for thickness layers of more than 15 mm please contact our technical department beforehand.

Avoid contact with materials which contain bitumen and which release solvents, e. g. butyl, EPDM, neoprene, insulating- and bituminous paint.

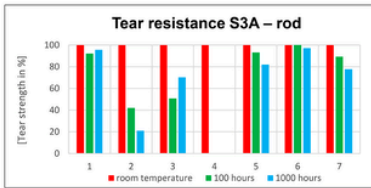
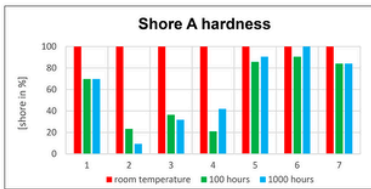
Not suitable for the potting of junction boxes of pv-modules. We generally advise against use in closed housings

Upon processing out of jerry cans or drums with the help of a dosing equipment it is to be considered, that the product contains abrasive fillers. This has to be observed when selecting the valves, conductions and pumps. Our technical department can give further information regarding this subject.

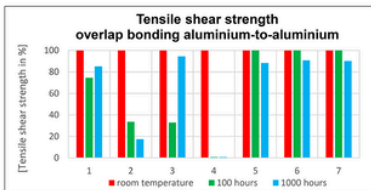
Repair by adhesion on electrical devices are to be carried out by service personell of the manufacturer only.

Silicones are usually serviceable over a wide temperature range for long periods of time. The interaction of factors such as the frequency of temperature changes, the heating rate, the air intake, etc. causes a complex time- and temperature-dependent thermal behaviour. Therefore, the behaviour at both the lower and upper end of the temperature spectrum (specified in the technical data) should be tested close to the application in order to check the individual suitability in the application.

## Media resistance



**Medium 1:** Engine oil at +105°C  
**Medium 2:** Engine oil at +150°C  
**Medium 3:** Water/glycol at +105°C  
**Medium 4:** Water/glycol at +150°C  
**Medium 5:** Cold degreasing agent at room temperature  
**Medium 6:** Brake fluid at room temperature  
**Medium 7:** Drilling coolant at room temperature



### Application information

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

### Packaging

	310 ml cartridge
● black	S56-04-C04
● stainless steel	S56-04-C197
Pieces per packaging unit	20
Pieces per pallet	1200

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](http://www.otto-chemie.de).