Technical datasheet

Novasil® S 651

The flowable 2-component potting silicone with UL 94-V-0

S 651

Characteristics

- 2-component potting silicone
- Flame resistant
- Based on a neutral, condensation curing system
- Excellent flowability
- Cures at room temperature
- Releases alcohol as splitting product during curing.

Fields of application

Renewable energies:

- Potting of junction boxes in the PV-industry

Lighting and electronics industry:

- Potting of electronical structural units
- Waterproof sealing of measuring units
- Potting / coating of electrical circuit boards

Standards and tests

- Licensed according to Flame Classification UL 94-V-0 - File no. E 176319

Technical properties

Single components:
Component A

Colour	black
Viscosity Brookfield at 23°C [mPas]	~ 8000
Density at 23 °C according to ISO 1183-1 [g/cm³]	~ 1,45
Shelf life at 23 °C/50 % RH [months]	9 [1]

1) from production

Component B
OTTOCURE

	S-CA 2325
Colour	transparent [1]
Viscosity Brookfield at 23°C [mPas]	~ 180
Density at + 23 °C [g/cm³]	~ 0,98
Shelf life at 23 °C/50 % RH [months]	9 [2]

1) During storage, the material may discolour a yellowish or brownish colour, even in an unopened container. This is typical of the material and is not a product defect. The technical properties of the material remain unaffected within the guaranteed storage stability.

2) from production

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SEALING & BONDING

Mixed components
With OTTOCURE

	S-CA 2325
Viscosity mixture at +23 °C directly after mixing [mPas]	< 2000
Viscosity mixture at +23 °C 2 minutes after mixing [mPas]	< 7000
Density at 23 °C according to ISO 1183-1 [g/cm³]	~ 1,42
Pot life at 23 °C/50 % RH [minutes]	~ 15
Shore-A-hardness after 2 hours	> 20
Shore-A-hardness after 24 hours	> 35

Vulcanisate:

Density at 23 °C according to ISO 1183-1 [g/cm³]	~ 1,43
Shore-A-hardness according to ISO 868	46 - 51
Temperature resistance from/to [°C]	- 40 / + 150
Tensile strength according to ISO 37, type 3 [N/mm²]	~ 2,0
Tensile expansion according to ISO 37, type 3 [%]	~ 100
Thermal conductivity λ [W/mK]	0,32
Specific inductive capacity according to DIN VDE 0303 T 4 test frequency 40 kHz	3,5
Volume resistance ρ according to DIN IEC 93 [Ω*cm]	5,3 * 10^13
Dielectric strength ED according to DIN EN 60243 [kV/mm]	19

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.

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 curing small amounts of alcohol are released.
Ensure good ventilation during application and curing.
The colour shade can be influenced by temperature and chemicals. These possible changes of the colour shades have no influence on the protective properties of the product.
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.

Application information

Processing temperature from/to [°C]	+10 / +25 [1]
Mixing ratio according to weight (base A : curing agent B)	15 : 1
Mixing ratio according to volume (base A : curing agent B)	10 : 1
Maximum permissible deviation from the mixing ratio [%]	± 10

1) temporarily up to + 30 °C

Avoid entrapment of air during mixing. Therefore we recommend to use a mixing equipment.
As the filling agents in component A can settle down (sedimentation) during storage , it must be stirred up homogeneously in the original packaging prior to mixing it with component B or prior to filling it into the storage containers of a mixing and dosing installation.
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.
Advice for the lay out design of the mixing and dosing installation: we advise the use of stainless steel storage containers and EPDM o-ring sealing. To prevent the diffusion of humidity please use hoses with Teflon coating inside. If you decide to use

different sealing materials, please contact the Application Engineering department.
Please do not use any overpressure to transport component A and B from the storage containers into the mixing and dosing head to avoid air entrapments and bubbles in the mixed material. The storage container of component A must be equipped with a stirring device in order to avoid sedimentation.

Packaging

Packagings and colours on request

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.