

Novasil® S 142

The 1-component acetate silicone for the coating of baking trays

S 142

Characteristics

- ▶ 1-component acetate-curing sealing silicone
- ▶ Free-flowing
- ▶ Especially matched viscosity
- ▶ Dilutable for spray coating
- ▶ Excellent temperature resistance up to + 250 °C
- ▶ Excellent adhesion on many substrates, partly in combination with primer
- ▶ High mechanical capability



Fields of application

Laminating / Coating:

- ▶ Coating of various components, e. g. baking trays

Heating, ventilation and plant construction:

- ▶ Bonding and sealing of structural components exposed to high temperatures like heat exchangers

Standards and tests

- ▶ The product was successfully tested according to the requirements of volatility and extraction test of Bundesamtes für Risikobewertung (BfR), chapter XV (silicones) and the US Food and Drug Administration (FDA), 21 CFR 177.2600. Mandatory precondition for an application according to these regulations is a suitable pretreatment of the vulcanizate in order to remove extractable and volatile residues.

Technical properties

| | |
|---|-----------------|
| Skin-forming time at 23 °C/50 % RH [minutes] | ~ 10 |
| Curing in 24 hours at 23 °C/50 % RH [mm] | ~ 2 |
| Processing temperature from/to [°C] | + 5 / + 40 |
| Viscosity (Brookfield, Sp.07, 50 UPM) [mPas] | ~ 70000 |
| Density at 23 °C according to ISO 1183-1 [g/cm³] | ~ 1,1 |
| Shore-A-hardness according to ISO 868 | ~ 32 |
| Stress expansion modulus at 100 % according to ISO 37, type 3 [N/mm²] | ~ 0,7 |
| Tensile expansion according to ISO 37, type 3 [%] | ~ 480 |
| Tensile strength according to ISO 37, type 3 [N/mm²] | ~ 2,7 |
| Temperature resistance from/to [°C] | - 40 / + 250 |
| Shelf life at 23 °C/50 % RH for cartridge/foil bag [months] | 12 ¹ |
| Shelf life at 23 °C/50 % RH for pail/drum [months] | 9 ¹ |

1) from production

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.

While curing small amounts of acetic acid 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.

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

When using aluminium sheets, we recommend mechanically removing the surface right before coating (e.g. sandblasting, grinding off, etc.) and to blow it off in order to achieve sufficient adhesion.

The adhesive/sealant has to be diluted in order to do a spray-coating - Cyclohexan for example is suitable for this purpose. We advise to dilute the silicone with the solvent in a ratio of 2 : 1. A lamination strength of approx. 100 µm should be reached in two to three coating steps. After air drying for about 1 hour it is imperative to condition the coating at +220 °C - according to experience the content of volatile substances is only below the statutory limits after 4 hours.

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

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.