

Novasil® S 690

The high temperature-resistant 2-component silicone adhesive

S 690



Characteristics

- ▶ Condensation-curing 2-component silicone adhesive and sealant based on acetic acid
- ▶ Fast curing even in thick layers
- ▶ Reduced cycle times - curing can be sped up significantly by inducing warmth
- ▶ High adhesion strength
- ▶ Very good temperature resistance



Fields of application

Domestic appliances industry:

- ▶ Bonding and sealing of glass ceramic hobs
- ▶ Adhesion of angle brackets for oven panels and oven panes

Heating, ventilation and plant construction:

- ▶ Sealing of moulded boilers and smoke gas cabinets

General Industry:

- ▶ Elastic bonding and sealing for industrial purposes with a permanent temperature of up to + 250 °C
- ▶ Elastic bonding and sealing in the motor area
- ▶ Bonding of materials made of silicone, e.g. sealingstrips

Standards and tests

- ▶ Certified according to NSF 51, Food Zone Non-Contact (suitable for use in equipment which processes or prepares food, maximum application temperature +250°C)
- ▶ In line with customer requirements, Novasil® S 690 has been tested for the emission of volatile compounds under real conditions, and complies with the stipulations of the Ordinance (EU) no. 1935/2004 of the European Parliament and the Council dated 27 October 2004 pertaining to materials and objects coming into contact with foodstuffs
- ▶ Tested according to UL test standard 746C - "Standard for polymeric materials - Use in electrical equipment evaluations", temperature in use + 130°C, File no.: E479863 (tested using OTTOCURE S-CA 2195)

Technical properties

Single components:

Component A

Colour	anthracite
Viscosity at 23 °C	pasty, stable
Density at 23 °C according to ISO 1183-1 [g/cm³]	~ 1,17
Shelf life at 23 °C/50 % RH [months]	12 ¹

1) from production

Component B

OTTOCURE

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SEALING & BONDING

	S-CA 2195
Colour	anthracite
Viscosity at 23 °C	pasty, stable
Density component A at 23 °C according to ISO 1183-1 [g/cm³]	~ 1,28
Shelf life at 23 °C/50 % RH [months]	12 ¹

1) from production

**Mixed components
With OTTOCURE**

	S-CA 2195
Colour	anthracite
Viscosity at 23 °C	pasty, stable
Pot life at 23 °C/50 % RH [minutes]	~ 5 - 10
Shore-A-hardness after 1 hour	> 10
Time until handling [min]	45 ¹

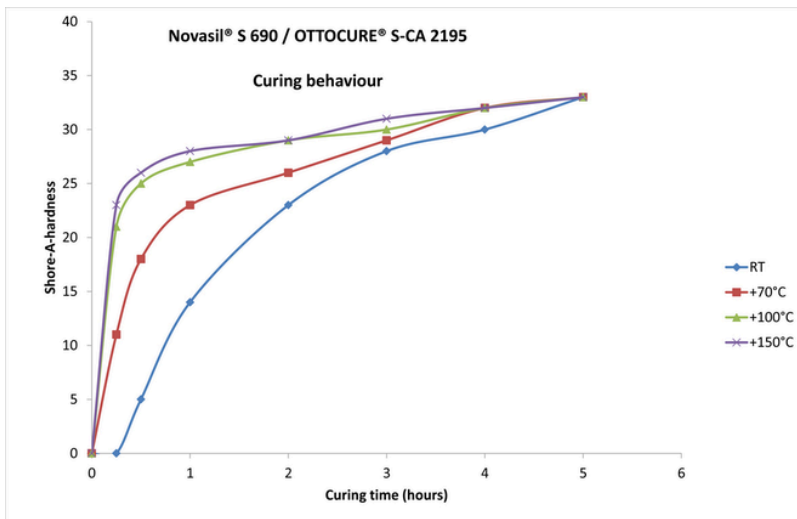
1) The build-up of the adhesion and the realisation of sufficient strength for the further handling of the bonded components depend on the material, the adhesion geometry and the surface to be bonded. Generally speaking sufficient strength for the further handling of the bonded components is reached after the advised curing time at room temperature. By adding heat (up to +150 °C max.) the cross-linking reaction can be sped up significantly.

Vulcanisate:

Density at 23 °C according to ISO 1183-1 [g/cm³]	~ 1,19
Shore-A-hardness according to ISO 868	~ 51
Temperature resistance from/to [°C]	- 40 / + 250 ¹
Tensile strength according to ISO 37, type 3 [N/mm²]	~ 3,7
Tensile expansion according to ISO 37, type 3 [%]	~ 400
Stress expansion modulus at 100 % according to ISO 37, type 3 [N/mm²]	~ 1,2
Shrinkage of volume according to ISO 10563 [%]	~ 4

1) temporarily up to + 300 °C

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.

Ensure good ventilation during application and curing.

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

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)	9 : 1
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

1) temporarily up to + 30 °C

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 is sensitive to atmospheric humidity and therefore must be protected from moisture.

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

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


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	
 anthracite	S690-43-2195-C67
Pieces per packaging unit	4
Pieces per pallet	240

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.