



At a Glance

RESION Silicone Casting Rubber Shore 15 is a flexible, tear-resistant and versatile two-component silicone rubber for making moulds, impressions and flexible objects. The material has a simple **1:1 mixing ratio by weight** and cures through a platinum-catalysed addition reaction.

Shore 15 is one of the most versatile grades in the RESION silicone casting rubber range. The material is blue in colour and combines good flexibility with high tear resistance and excellent detail reproduction.

The working time is **approximately 30 minutes at 20°C**, and the curing time is **approximately 8 hours at 20°C**.

Food contact: independently tested and declared compliant. RESION Silicone Casting Rubber Shore 15 has been tested by TÜV SÜD for suitability for food contact applications. When correctly processed and subjected to an additional heat treatment (post-curing), the material can be used for reusable food moulds and baking moulds, among other applications, under the specified conditions of use.

Applications

RESION Silicone Casting Rubber Shore 15 is suitable for producing flexible moulds, detailed impressions and silicone objects. Thanks to its combination of flexibility, tensile strength and tear resistance, the material is suitable for both simple and complex shapes.

Typical applications include:

- Moulds for epoxy resin, casting resin and resin art.
- Detailed casting moulds and reproductions.
- Flexible moulds for decorative objects.
- Silicone moulds for chocolate, confectionery and other food products.
- Reusable baking moulds and food-related applications.
- Flexible technical components.

The product can be used with 3D-printed moulds. Always carry out a small-scale test beforehand to determine whether the mould material and any other materials in contact with the silicone interfere with curing.



For applications requiring greater dimensional stability, silicone casting rubbers with higher Shore A hardness values are also available within the RESION range. Consult the product selection guide to choose the most suitable grade.

Key Features

- Flexible and tear-resistant: hardness of 15 ± 2 Shore A.
- Simple mixing ratio of 1:1 by weight.
- Good tensile strength and high elongation at break.
- Excellent detail reproduction.
- Minimal shrinkage during curing.
- Suitable for complex and reusable moulds.
- Independently tested for food contact.
- Suitable for baking applications up to 200°C under the specified conditions of use.



Technical Specifications

Property	Value
Article number	SR1-15
Product type	Two-component addition-cure silicone rubber
Curing system	Platinum-catalysed
Hardness	15 ± 2 Shore A
Colour	Blue
Component colours	Component A: blue; Component B: white
Mixing ratio by weight	1 part A : 1 part B
Working time at 20°C	Approx. 30 minutes
Curing time at 20°C	Approx. 8 hours
Viscosity of mixed material	2,000 ± 300 mPa·s
Tensile strength	4 MPa
Tear strength	20 kN/m
Elongation	Greater than 700%
Shrinkage	Less than 0.1%
Temperature resistance	200°C
Food contact	Tested; post-curing required

The stated working and curing times are indicative values at 20°C. The technical temperature resistance is separate from the specific test conditions and limitations applicable to food contact.



Processing Instructions

Preparation

Use clean mixing containers and tools. Avoid contamination with substances that may interfere with curing. Refer to the section *Cure Inhibition* for further information.

Stir components A and B thoroughly and separately before weighing. Use separate, clean stirring tools for each component.

Measuring and Mixing

Weigh out equal parts by weight of components A and B. The mixing ratio is **1:1 by weight**. For example, mix 100 grams of component A with 100 grams of component B.

Mix both components thoroughly until a homogeneous mixture is obtained. Regularly scrape the bottom and sides of the mixing container during mixing.

Transfer the mixture into a second, clean mixing container, scraping out the first container thoroughly. Mix again carefully. This procedure helps prevent unmixed residues.

Pouring and Degassing

Slowly pour the mixed silicone rubber into the lowest point of the mould. To ensure accurate reproduction of fine surface details, a thin layer of silicone rubber can first be applied using a brush.

Process the mixture as soon as possible after mixing. At the beginning of the working time, the material has its lowest viscosity, allowing trapped air bubbles to rise more easily.

For the best possible bubble-free results, the mixture can be degassed in a vacuum chamber before pouring. Alternatively, a pressure chamber can be used after pouring to compress any remaining air bubbles.



Curing and Demoulding

Allow the poured silicone rubber to cure undisturbed. At 20°C, the curing time is approximately 8 hours.

Before demoulding, check that the material has cured sufficiently. For new applications, carry out a test casting to determine whether the selected processing method and demoulding time are suitable.

For food contact applications, an additional heat treatment (post-curing) is required after normal curing. Refer to the section *Food Contact Safety and Compliance* for further information.

Cure Inhibition

RESION Silicone Casting Rubber Shore 15 cures through a platinum-catalysed reaction. Certain substances can interfere with this reaction. This is known as cure inhibition.

Do not mix this product with condensation-cure silicones. Do not use mixing containers or tools that have been contaminated with such silicones.

Avoid contact with substances that may interfere with curing, including certain sulphur-, nitrogen- and phosphorus-containing compounds, as well as tin compounds. These substances may be present in certain clays, sealants and other materials that come into contact with the silicone during mould making.

Do not use pigments or other additives unless their compatibility has been established. If in doubt, always carry out a small-scale curing test using the actual materials intended for the application. This also applies when working with 3D-printed moulds.



Additives

Silicone Oil

Silicone oil can be added to reduce the hardness of the cured silicone rubber. Use a low dosage and do not exceed a maximum addition of 15%.

Always carry out a preliminary test to determine whether the modified material meets the requirements of the intended application.

Silicone Thickener

Silicone thickener can be used to increase the viscosity of the liquid silicone rubber, creating a brushable paste. This allows the material to be applied to vertical surfaces and overhead applications, such as moulding decorative ceiling elements.

Important for food contact applications: Adding silicone oil, thickeners or other additives changes the original composition. The existing food contact Declaration of Compliance does not automatically apply to such modified formulations. Suitability must be assessed separately.



Food Contact Safety and Compliance

Independently Tested for Food Contact

RESION Silicone Casting Rubber Shore 15 has been independently tested for suitability for contact with food.

The tests were carried out by TÜV SÜD Products Testing (Shanghai) Co., Ltd., an independent testing laboratory. The silicone rubber was evaluated for substance migration, volatile organic matter, peroxide value, platinum content, heavy metals and potential effects on the smell, taste and appearance of food.

All tests were successfully completed and form the basis of the RESION Silicone Casting Rubber Shore 15 Declaration of Compliance (DoC).

The compliance assessment covers, among others:

- **Regulation (EC) No 1935/2004:** European framework regulation on materials and articles intended to come into contact with food.
- **Council of Europe Resolution AP(2004)5:** Recommendations concerning silicones intended for food contact applications.
- **German LFGB, Sections 30 and 31:** German legal provisions concerning materials intended to come into contact with food.
- **BfR Recommendation XV:** German recommendation concerning silicones intended for food contact.
- **Regulation (EU) 2025/40:** European regulation on packaging and packaging waste, insofar as applicable to the properties tested.

Compliance was assessed for the tested formulation and specified conditions of use. The suitability of the final product depends on correct processing.



Migration Tests

Migration testing determines the extent to which substances can transfer from the silicone material into food or suitable food simulants.

TÜV SÜD tested the material using different simulants representing various types of food.

Test medium	Test conditions	Result	Limit
Distilled water	100°C, 4 hours	< 3 mg/dm ²	10 mg/dm ²
3% acetic acid	100°C, 4 hours	< 3 mg/dm ²	10 mg/dm ²
10% ethanol	100°C, 4 hours	< 3 mg/dm ²	10 mg/dm ²
MPPO (fatty food simulant)	180°C, 2 hours	< 3 mg/dm ²	10 mg/dm ²

All migration tests passed. The measured migration values were below the specified limits.

The tests support the suitability of the material for repeated contact with aqueous, acidic, alcoholic and dry or fatty foods, under the conditions described in the Declaration of Compliance.



Additional Safety Tests

In addition to the migration tests, TÜV SÜD carried out several other assessments.

Test	Test result	Assessment
Peroxide value	Absent	PASS
Volatile organic matter	0.418% (limit 0.5%)	PASS
Total platinum content	< 15 mg/kg (limit 50 mg/kg)	PASS
Lead, cadmium, chromium(VI) and mercury	Not detected above detection limits	PASS
Sensory evaluation	No perceptible differences	PASS

During the sensory evaluation according to DIN 10955:2024-01, the material was tested with dough for one hour at 180°C.

No perceptible transfer affecting appearance, taste or smell was detected.

These results support the suitability of the tested material for the food contact applications described in the Declaration of Compliance.

Suitable for Baking Moulds and Repeated Food Contact

When correctly processed, RESION Silicone Casting Rubber Shore 15 can be used to manufacture reusable moulds and articles intended to come into contact with food.

According to the Declaration of Compliance, the material is suitable for cooking and baking applications up to **200°C**, under normal and reasonably foreseeable conditions of use.

The assessment includes migration testing with a fatty food simulant for 2 hours at 180°C and sensory testing for 1 hour at 180°C.

For baking applications, the Declaration of Compliance specifies typical temperatures between 150°C and 200°C and contact times of up to 2 hours.

Users must verify that their intended application falls within the specified conditions of use.



Post-Curing: Additional Heat Treatment

For food contact applications, an additional heat treatment (post-curing) is required after normal curing.

During post-curing, the fully cured silicone material is exposed to an elevated temperature for a specified period. This treatment is intended to further reduce residual volatile substances and help the material meet the requirements for food contact, including the BfR recommendations.

As a general guideline, we recommend:

- Allow the silicone rubber to cure completely before post-curing.
- Then perform a post-cure treatment for **4 hours at 200°C**.
- Use a well-ventilated oven suitable for this treatment.
- Allow the product to cool before further processing or use.

This is a general guideline. The required heat treatment may depend on the wall thickness, dimensions and geometry of the finished product.

For unusual or critical applications, we recommend contacting Polyestershoppen in advance. We can assist in determining an appropriate heat treatment for the intended application.

The general post-curing guideline does not replace an assessment of the final product. The user remains responsible for demonstrating that the finished article is suitable for its intended use.

Transparency and Available Documentation

At RESION, we believe it is important that professional users can rely on verifiable product properties. For this reason, our statements regarding food contact suitability are based on independent laboratory testing.

We make the relevant documentation available so that customers can review the tests performed, their results and the applicable conditions of use.

The following documents are available for RESION Silicone Casting Rubber Shore 15:

- Technical Data Sheet (TDS).
- Safety Data Sheets (SDS) for the components.
- Declaration of Compliance (DoC) for food contact.
- Independent TÜV SÜD laboratory test report.



The test report and Declaration of Compliance are available in the **Documents** section of the relevant product page.

For professional users, we can provide a complete documentation package containing the relevant product and compliance information for their own quality assurance and product documentation.

Food contact test references:

- Testing laboratory: TÜV SÜD Products Testing (Shanghai) Co., Ltd.
- Test report number: 7216017173.
- Report date: 15 July 2026.
- Declaration of Compliance: RESION Silicone Rubber Shore A15.
- DoC document version: 1.0, issued on 16 July 2026.

User Responsibility

The food contact Declaration of Compliance applies to RESION Silicone Casting Rubber Shore 15 in its original, tested formulation, provided that the material is processed correctly.

The suitability of the final product also depends on the mixing ratio, curing, post-curing, any additives used and the conditions under which the finished article comes into contact with food.

The user remains responsible for assessing and verifying the suitability of the finished article for its specific intended application.

Changes to the formulation, the addition of additives or different processing conditions may affect the validity of the existing Declaration of Compliance.



Custom Formulations for High-Volume Users

For high-volume users, RESION silicone rubbers can be customised to meet specific requirements and production processes. Possible adjustments include colour, working time and curing speed.

Contact Polyestershoppen to discuss your application, desired properties and order quantities. Product specifications and processing instructions for customised formulations are determined separately.

For food contact applications, the suitability of a modified formulation must be assessed separately. A customised formulation is not automatically covered by the existing food contact Declaration of Compliance.

Safety and Handling

Wear suitable protective gloves and safety glasses when processing the material.

Before use, consult the current Safety Data Sheets (SDS) for components A and B for information on safe handling and personal protection.

Storage and Shelf Life

Store the components in a dry, dark environment. Close the containers tightly after use to prevent moisture absorption and protect the material from UV light.

Under these storage conditions, the silicone rubber has a shelf life of at least 2 years.

Technical Support

For questions regarding processing or curing, consult the online silicone rubber troubleshooting guide on the Polyestershoppen website.

For additional technical assistance, product selection, food contact applications or custom formulations, please contact Polyestershoppen.