



## Product Family Technical Data Sheet

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# Food Grade Silicone for Mold Making

## SGS tested to FDA 21 CFR 177.2600

### 1. DESCRIPTION

Food grade silicone is a high-purity, platinum-cured silicone rubber for making reusable food-contact molds. It is non-toxic, odorless, and BPA-free, and has been tested with reference to FDA 21 CFR 177.2600.

With a simple 1:1 mix ratio, its platinum-catalyzed addition-curing system produces no reaction by-products during curing. Once fully cured, the material provides ultra-low shrinkage, excellent tear strength, fine detail reproduction, and stable thermal performance, making it suitable for both low-temperature freezing and high-temperature baking applications.



**Food Contact Note:** For food-contact mold making, use clean tools and containers, follow the specified mix ratio, allow full cure, avoid unverified fillers or pigments, and wash the cured mold before first food contact.

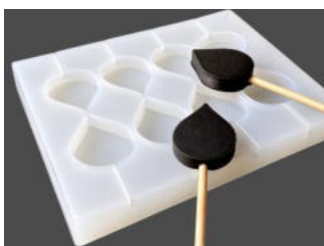
### 2. FEATURES

- Food Safe:** Non-toxic, odorless, and tested with reference to FDA 21 CFR 177.2600.
- Thermal Stability:** Suitable for freezing and high-temperature baking applications.
- Detail Reproduction:** Captures fine textures and mold details with low shrinkage.
- High Tear Strength:** Supports clean demolding and repeated use.



### 3. APPLICATIONS

The main value of food grade silicone lies in its combination of food-contact safety, balanced flexibility for easy demolding, and repeat-use durability. It is widely used for making reusable food-safe molds for chocolate, candy, fondant and cake decoration, popsicles, ice, butter, and similar applications.



Chocolate Mold



Candy Mold



Cake Mold



Fondant Mold

## 4. TECHNICAL DATA

Physical Property	RTV-4100	RTV-4105	RTV-4110	RTV-4115	RTV-4120
<b>Unvulcanized Physical Properties @ 25°C/77°F</b>					
Physical State	Liquid	Liquid	Liquid	Liquid	Liquid
Form	Viscous	Viscous	Viscous	Viscous	Viscous
Odor	No Odors	No Odors	No Odors	No Odors	No Odors
Part A Color	Translucent	Translucent	Translucent	Translucent	Translucent
Part B Color	Translucent	Translucent	Translucent	Translucent	Translucent
Part A Viscosity, mPa·s	2,800	4,000	4,000	4,000	4,700
Part B Viscosity, mPa·s	2,100	2,800	2,800	2,800	4,200
Specific Gravity, g/cm <sup>3</sup>	1.03-1.05	1.03-1.05	1.03-1.05	1.05-1.07	1.05-1.07
<b>Part A and Part B mixed @ 25°C/77°F</b>					
Mix Ratio by Weight (A:B)	1:1	1:1	1:1	1:1	1:1
Working Time, Minutes	35	35	35	35	35
Curing Time, Hours	4	4	4	4	5
<b>Typical Properties of Cured Rubber @ 24 Hrs 25°C/77°F</b>					
Hardness, Shore A Durometer	0 (C)	5	10	15	20
Tear Strength, N/mm	9.0	11.0	25.0	26.0	27.0
Tensile Strength, Mpa	1.5	2.0	4.0	5.0	5.0
Elongation, %	550	540	510	450	550
Shrinkage, %	≤0.2	≤0.1	≤0.1	≤0.1	≤0.1
Heat Resistance, °C (°F)	250 (482)	250 (482)	250 (482)	250 (482)	250 (482)

## 5. PROCESSING NOTES

- (1) Always use Part A and Part B from the same model and batch to ensure consistent performance.
- (2) Before committing to a large project, it is highly recommended to conduct a small test to confirm the silicone's suitability with your specific materials and process.
- (3) Do not use the silicone at temperatures below 15°C (60°F), as this can significantly slow down or prevent proper curing.

### Cure Inhibition Warning

Food grade silicone may not cure properly if it comes into contact with incompatible materials. Before making food-contact molds, keep the mold master and mixing tools away from the following:

- **Sulfur materials:** sulfur-based clays, natural rubber, and latex gloves.
- **Tin-cure residues:** tin-cured silicone and contaminated tools or containers.
- **Some resins and additives:** certain 3D printed UV resin surfaces, amine-containing systems, and unverified modifiers.
- **Unverified pigments or fillers:** incompatible colorants, powders, release agents, or other additives.

## 6. SAFETY PRECAUTIONS

- (1) Food grade silicone is considered non-toxic and generally safe for skin contact. No special precautions are required. For personal comfort or hygiene, vinyl gloves are recommended. Avoid using latex gloves, as they may cause cure inhibition.
- (2) For molds intended for food contact, wash the cured mold thoroughly with soap and warm water before its first use.
- (3) Keep out of reach of children. Adult supervision is required.

## 7. STORAGE & SHELF LIFE

- (1) **Storage Conditions:** Store the product at room temperature (15-25°C / 60-77°F) in a dry area. Keep away from direct sunlight.
- (2) **Shelf Life:** The product has a shelf life of 24 months from the date of manufacture when stored under the recommended conditions. Storing at higher temperatures may reduce the usable shelf life.
- (3) **Opened Containers:** Once opened, containers should be tightly resealed immediately after use to protect the material from contamination and moisture.
- (4) **Beyond Shelf Life:** Food grade silicone may become more viscous over time, but it should not normally develop abnormal odor or reaction by-products. If used beyond its stated shelf life, test first whether it can still be mixed evenly and cured normally before formal use.

## 8. PACKAGE

Our food safe silicone is supplied in matched kits containing Part A and Part B. We offer the following standard sizes:

Total Kit Size	Part A	Part B
2 kg	1 kg	1 kg
10 kg	5 kg	5 kg
50 kg	25 kg	25 kg
400 kg	200 kg	200 kg
2000 kg	1000 kg	1000 kg

**Note:** We offer custom packaging services for OEM/ODM.