明辉联 MINGHUILINK

Product Family Technical Data Sheet

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Transparent Silicone Rubber

Addition Cured Silicone Rubber

1. DESCRIPTION

Transparent silicone rubber is an addition-cure (platinum-catalyzed) silicone rubber compound. It is a high-viscosity two-component (RTV-2) silicone system consisting of Part A and Part B.

The material is designed for a 1:1 or 10:1 mix ratio by weight, curing at room temperature; heating can accelerate processing. Once cured, it forms a flexible, durable rubber with high transparency, high tear strength, and excellent dimensional stability due to very low shrinkage, making it ideal for molds requiring transparency and high precision.

2. FEATURES

1. Transparent; supports visual alignment, parting line placement, and precise block mold cutting.
2. Excellent tear and tensile strength.
3. Very low shrinkage (≤0.1%) with high dimensional stability.
4. Excellent detail reproduction.
5. Heat resistant up to 250 °C (482 °F).

3. APPLICATIONS

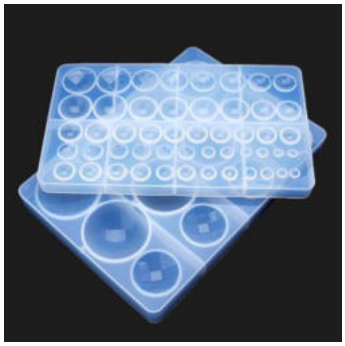
Transparent silicone is valued for applications where visibility of the master model is critical. Its high transparency supports precise parting line placement during cutting, and its flowability helps achieve complete fill when casting intricate parts, making it well suited for complex mold making in prototyping, jewelry design, and other high precision or artistic applications.

The material's high tear strength and dimensional stability support the production of durable, reusable molds that capture very fine detail when casting materials such as epoxy resins, polyurethane, and wax.

Lost Wax Process

Diamond Clear Mold

Rapid Prototyping



Resin Silicone Mold

4. TECHNICAL DATA

4.1 Silicone Rubber - 1:1

Product Name	Hardness (Shore A)	Mix Ratio by Weight	Pot Life (Minute)	Cure Time (Hour)	Part A Viscosity (Cps)	Tear Strength (N/mm)	Tensile Strength (Mpa)	Elongation at Break (%)
RTV-5110	10±2	1A:1B	40-50	5-7	35,000±5,000	8.0±0.5	2.0±0.5	450±50
RTV-5120	20±2	1A:1B	40-50	6-8	40,000±5,000	10.0±0.5	2.5±0.5	400±50
RTV-5130	30±2	1A:1B	40-50	8-10	55,000±5,000	13.0±0.5	3.0±0.5	350±50
RTV-5140	40±2	1A:1B	40-50	8-10	60,000±5,000	14.0±0.5	3.5±0.5	300±50

4.2 Silicone Rubber - 10:1

Product Name	Hardness (Shore A)	Mix Ratio by Weight	Pot Life (Minute)	Cure Time (Hour)	Part A Viscosity (Cps)	Tear Strength (N/mm)	Tensile Strength (Mpa)	Elongation at Break (%)
RTV-5210	10±2	10A:1B	40-50	5-7	40,000±5,000	8.0±0.5	2.0±0.5	450±50
RTV-5220	20±2	10A:1B	40-50	6-8	50,000±5,000	10.0±0.5	2.5±0.5	400±50
RTV-5230	30±2	10A:1B	40-50	8-10	75,000±5,000	13.0±0.5	3.0±0.5	350±50
RTV-5240	40±2	10A:1B	40-50	8-10	80,000±5,000	14.0±0.5	3.5±0.5	300±50

Notes on Technical Data

(1) Test Conditions: All data is based on tests conducted at 25°C (77°F) and 50% relative humidity.

(2) Mix Ratio Criticality: This series requires a precise mix ratio by weight. Altering the amount of platinum catalyst (Part B) will not significantly change the cure speed but may compromise the final physical properties of the cured rubber. Accurate measurement is critical.

5. PROCESSING NOTES

(1) Always conduct a small scale test to confirm suitability for your project. Use Part A and Part B from the same kit and batch.

(2) Do not cure below 20 °C (68 °F). For minimal shrinkage, cure at room temperature; gentle heating (40–60 °C) can be used to accelerate curing.

(3) For best transparency, keep maximum mold wall thickness at 20 mm or less.

(4) The platinum catalyst is sensitive to contaminants; ensure models and tools are clean and free of moisture and cure inhibitors such as sulfur (e.g., clays, latex), tin/organotin (condensation cure silicones), and amines (some epoxy/UV resins).

6. SAFETY PRECAUTIONS

(1) Transparent liquid silicone rubber is generally considered non hazardous and non toxic under normal conditions of use; follow standard industrial hygiene practices. When handling, wear vinyl gloves; avoid latex gloves, which may inhibit cure.

(2) In case of eye contact, rinse with clean water for at least 15 minutes and seek medical attention.

(3) This product has not been tested or approved for medical or pharmaceutical applications and is not recommended for such uses.

(4) Keep out of reach of children.

7. STORAGE & SHELF LIFE

(1) **Recommended Storage:** Store in original containers in a cool, dry place at room temperature (15-25°C / 60-77°F). Keep away from direct sunlight.

(2) **Shelf Life:** This product has a shelf life of 12 months from the date of manufacture when stored correctly. Storing at higher temperatures may reduce the usable shelf life.

(3) **Opened Containers:** Once opened, containers must be tightly resealed immediately after use.

(4) **Beyond Shelf Life:** If the product is stored beyond its specified shelf life, it is not necessarily unusable. However, it is the user's responsibility to test and confirm its performance for the intended application before use.

8. PACKAGE

Our transparent liquid 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
1.1 kg	1 kg	100 g
5.5 kg	5 kg	500 g
22 kg	20 kg	2 kg
220 kg	200 kg	20 kg
2 kg	1 kg	1 kg
10 kg	5 kg	5 kg
50 kg	25 kg	25 kg
400 kg	200 kg	200 kg

Note: Part B for 10:1 ratio products is priced accordingly as part of the kit.