

## Platinum Cured Silicone Rubber

### Addition Cured Silicone Rubber

#### 1. DESCRIPTION

BKSilicone® BK-A Series is a high-performance, two-component platinum-cure silicone elastomer that cures at room temperature via an addition-catalyzed reaction.

This series has been used and validated in BKSilicone's own factory for many years as a standard production material for silicone mold manufacturing. It features a 1:1 mixing ratio by weight, low initial viscosity with natural self-degassing behavior, and fast room-temperature curing, enabling efficient processing with minimal equipment.

#### 2. FEATURES

1. Platinum-catalyzed addition cure system.
2. Simple 1:1 mix ratio by weight.
3. Low viscosity and good flowability.
4. Clean curing with no chemical shrinkage.
5. High elasticity and good tear strength.
6. Excellent resistance to casting resins, wax, and gypsum.



#### 3. APPLICATIONS

- Silicone mold making for candles, wax, resin, and gypsum.
- Casting of polyurethane, epoxy, and polyester resins.
- Concrete and architectural molds.
- Rapid prototyping and small-batch production.



Cake Silicone Mold



Chocolate Silicone Mold



Soap Silicone Mold



Candle Silicone Mold

## 4. TECHNICAL DATA

Physical Property	BK-A05	BK-A15
<b>Unvulcanized Physical Properties @ 23°C/75°F</b>		
Physical State	Liquid	Liquid
Form	Viscous	Viscous
Odor	No Odors	No Odors
Part A Color	Translucent	Translucent
Part B Color	Translucent	Translucent
Part A Viscosity, mPa·s	900	900
Part B Viscosity, mPa·s	2,500	2,500
Specific Gravity, g/cm <sup>3</sup>	1.03-1.05	1.03-1.05
<b>Part A and Part B mixed @ 23°C/75°F</b>		
Mix Ratio by Weight (A:B)	1:1	1:1
Working Time, Minutes	15	15
Curing Time, Hours	2	2
<b>Typical Properties of Cured Rubber @ 24 Hrs 23°C/75°F</b>		
Hardness, Shore A Durometer	5	15
Tear Strength, N/mm	10	15
Tensile Strength, Mpa	2.5	2.0
Elongation, %	680	500
Shrinkage, %	≤0.1	≤0.1
Heat Resistance, °C (°F)	250 (482)	250 (482)

**Custom Colors:** The standard product is translucent. Pigment is added to Part B for custom colors. Appearance depends on the Part A base:

- (1) **Translucent:** Part A (translucent) + Part B (pigmented)
- (2) **Opaque (solid):** Part A (white base) + Part B (pigmented)

## 5. PROCESSING INSTRUCTIONS

- (1) **Surface Preparation:** Ensure the master model is clean, dry, and free of grease. Seal porous surfaces.
- (2) **Weighing:** Accurately weigh Part A and Part B at a 1:1 ratio.
- (3) **Mixing:** Mix thoroughly, scraping sides and bottom of the container.
- (4) **Pouring:** Pour slowly from a single point to minimize air entrapment.
- (5) **Curing:** Allow to cure at room temperature. Heat may be applied to accelerate curing.

## 6. Viscosity Evolution & Working Window

Typical viscosity behavior after mixing at 23 °C:

- **0–4 minutes:** Viscosity remains stable at approximately 1500–2000 mPa·s. Excellent flowability and natural bubble release.
- **5–10 minutes:** Viscosity increases to approximately 2000–8000 mPa·s. Bubble release slows; vacuum degassing is recommended.
- **10–15 minutes:** Viscosity exceeds 8000 mPa·s. Natural bubble release is no longer effective, and air may remain trapped.

For best results, pouring should be completed within the low-viscosity working window.

## 7. CURE INHIBITION WARNING

- (1) Platinum-cure silicones are sensitive to contamination. Curing may be inhibited by sulfur-containing materials, tin-cure silicones, amines, latex gloves, and certain resins.
- (2) Always perform a small test cure when working with unfamiliar materials.

## 8. STORAGE & SAFETY

- **Shelf Life:** 12 months from date of manufacture when stored unopened at 15–25 °C.
- **Safety:** Not classified as hazardous. Follow standard industrial hygiene practices.

## 9. PACKAGE

Our addition-cured 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
40 kg	20 kg	20 kg
400 kg	200 kg	200 kg
2000 kg	1000 kg	1000 kg

## 10. SAFETY & HANDLING PRECAUTIONS

- Please read the Material Safety Data Sheet (MSDS) carefully before use.
- Keep out of reach of children.
- Use only with adequate ventilation. Avoid prolonged contact with skin and eyes.
- In case of eye contact, rinse immediately with clean water for at least 15 minutes and seek medical attention if irritation persists.
- In case of skin contact, remove material using a waterless hand cleaner, then wash thoroughly with soap and water.

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