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› Siraya Tech Defiant 15 Platinum Silicone Mold Making Kit Instruction Manual

Siraya Tech Defiant 15

Siraya Tech Defiant 15 Platinum Silicone Mold Making Kit Instruction Manual

Model: Defiant 15

1. INTRODUCTION

This manual provides detailed instructions for using the **Siraya Tech Defiant 15 Platinum Silicone Mold Making Kit**. This kit is designed for creating durable and flexible molds with a Shore A 15 hardness, suitable for a wide range of casting applications, including those involving 3D UV resin prints and food-safe items.



Image 1.1: The Siraya Tech Defiant 15 kit, showing Part A (blue bottle) and Part B (white bottle), alongside a small finished silicone mold.

2. SAFETY INFORMATION

Always prioritize safety when working with mold-making materials. Please read and follow these guidelines:

- **Avoid Contact:** Prevent contact with eyes, mouth, and skin.
- **First Aid:** In case of contact, wash affected areas thoroughly with warm water.
- **Ingestion:** If ingested, seek immediate medical attention.
- **Storage:** Keep out of reach of children and pets.
- **Ventilation:** Work in a well-ventilated area.
- **Protective Gear:** Wear appropriate personal protective equipment, such as gloves and eye protection.

3. PRODUCT OVERVIEW

The Siraya Tech Defiant 15 is a two-part platinum-cure silicone system designed for high-fidelity mold creation. Key features include:

- **Shore A 15 Hardness:** Provides a balance of flexibility and durability for easy demolding and long-lasting molds.
- **Exceptional Curing Inhibition Resistance:** Specifically formulated to resist curing inhibition when used with UV resin 3D prints, reducing the need for special coatings.
- **Low Viscosity:** The thin consistency simplifies pouring and minimizes trapped air bubbles, often eliminating the need for a vacuum chamber.
- **Food Safe:** Complies with FDA 21 CFR 177.1520, making it suitable for food-contact applications like candy, chocolate, and ice molds.
- **High Temperature Resistance:** Molds can withstand temperatures up to 200°C (392°F).
- **Easy 1A:1B Mixing Ratio:** Simple volumetric mixing ensures consistent results.



Image 3.1: Overview of Siraya Tech Defiant 15 key features, including 3D printing compatibility and easy mixing.

4. SETUP AND PREPARATION

1. **Workspace:** Prepare a clean, level, and well-ventilated work area. Cover surfaces to protect against spills.
2. **Materials:** Gather all necessary materials: Defiant 15 Part A and Part B, mixing containers, stirring sticks, your master model, and a mold box (if applicable).
3. **Master Model Preparation:**
 - Ensure your master model is clean, dry, and free of dust or debris.
 - For 3D UV resin prints, it is recommended to cure the printed part submerged in water for 30 minutes prior to mold making. This enhances the silicone's resistance to curing inhibition.
 - If using a mold release agent, apply it evenly to your master model and mold box according to the product instructions.
4. **Temperature:** Ensure the ambient temperature is around 25°C (77°F) for optimal curing.

5. OPERATING INSTRUCTIONS

5.1. Mixing

1. **Measure:** Measure equal parts by volume of Part A and Part B into separate clean mixing containers. The ratio is **1A:1B**.
2. **Combine:** Pour both parts into a larger, clean mixing container.
3. **Mix Thoroughly:** Stir the mixture thoroughly for 3-5 minutes, scraping the sides and bottom of the container to ensure complete blending. Incomplete mixing can lead to uncured spots. The silicone has a pot life of approximately **15 minutes**.



Image 5.1: Illustrates the thin viscosity of Defiant 15 silicone as Part A and Part B are poured for mixing.

5.2. Pouring

Slowly pour the mixed silicone into your mold box, starting from the lowest point of your master model. Pour in a thin stream to minimize air entrapment. Allow the silicone to flow over and around your model naturally.

5.3. Curing

Allow the silicone to cure at room temperature (around 25°C / 77°F). The silicone typically fully cures in **4-6 hours**. Avoid disturbing the mold during this period.

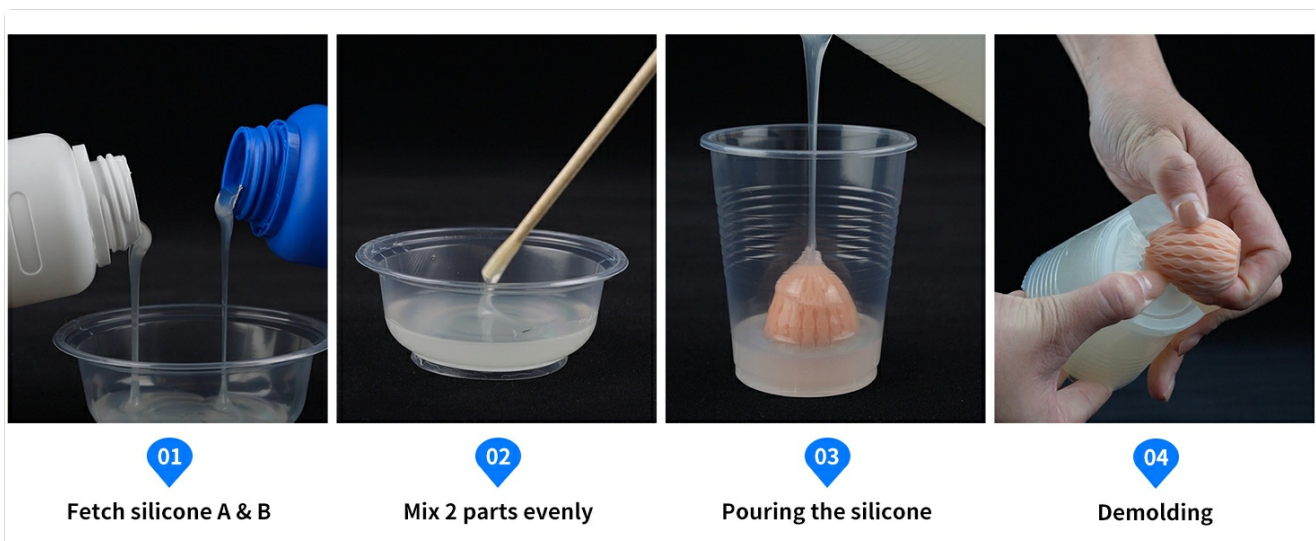


Image 5.2: A visual guide to the mold-making process: 1. Fetch silicone A & B, 2. Mix 2 parts evenly, 3. Pouring the silicone, 4. Demolding.

5.4. Demolding

Once fully cured, carefully demold your master model from the silicone. The flexibility of Defiant 15 allows for easy removal without damaging intricate details.

6. APPLICATIONS

Siraya Tech Defiant 15 is a versatile platinum silicone suitable for numerous applications:

- **Food Applications:** Ideal for creating molds for candy, chocolate, cakes, and ice cubes due to its food-safe properties.
- **Crafting:** Excellent for resin casting, wax, candle, and soap molds.
- **Art & Sculpture:** Well-suited for architectural detailing, statue and figurine making, and general molding applications.
- **3D Printing Projects:** Specifically designed to work with 3D UV resin prints, including Siraya Tech Fast, Build, Blu, Easy, and Sculpt resins.



Image 6.1: Examples of wide applications for Defiant 15 molds, from food to artistic castings.



Image 6.2: Certification indicating Defiant 15 is food safe and skin safe.

7. MAINTENANCE AND STORAGE

- **Cleaning Molds:** Clean cured silicone molds with mild soap and water. Avoid harsh chemicals or abrasive materials.

- **Storage:** Store unused Part A and Part B in their original, tightly sealed containers in a cool, dry place away from direct sunlight.
- **Shelf Life:** Proper storage helps maintain the product's shelf life.

8. TROUBLESHOOTING

8.1. Incomplete Curing (Sticky/Goopy Silicone)

- **Cause:** Incomplete mixing of Part A and Part B, low ambient temperature, or curing inhibition.
- **Solution:**
 - Ensure thorough mixing, scraping container sides and bottom.
 - Work in an environment with an ambient temperature of approximately 25°C (77°F).
 - If using 3D UV resin prints as masters, ensure they are fully cured and, if possible, submerged in water for 30 minutes before mold making to prevent inhibition.



Image 8.1: Visual comparison demonstrating Defiant 15's resistance to UV resin-induced curing inhibition compared to regular platinum silicone.

8.2. Bubbles in Cured Mold

- **Cause:** Rapid mixing, fast pouring, or insufficient degassing.
- **Solution:**
 - Mix slowly and deliberately to avoid incorporating air.
 - Pour the silicone in a thin, steady stream from a height to allow air bubbles to escape.
 - Gently tap the mold box after pouring to encourage bubbles to rise to the surface.

9. SPECIFICATIONS

Product Name	Siraya Tech Defiant 15 Platinum Silicone Mold Making Kit
Model Number	1
Hardness	Shore A 15
Mixing Ratio (by volume)	1A:1B

Pot Life	Approximately 15 minutes
Full Cure Time	4-6 hours (at 25°C / 77°F)
Temperature Resistance	Up to 200°C (392°F)
Food Safe	Yes (FDA 21 CFR 177.1520 compliant)
Product Dimensions	5.51 x 2.95 x 7.87 inches
Item Weight	2.61 pounds

Defiant 15

Mixing Ratio - 1A: 1B

**A hardness index of
Shore A 15**

Fully Cures in 4 - 6 hours

**The Ambient
Temperature at 25C**

Pot Life : About 15 min

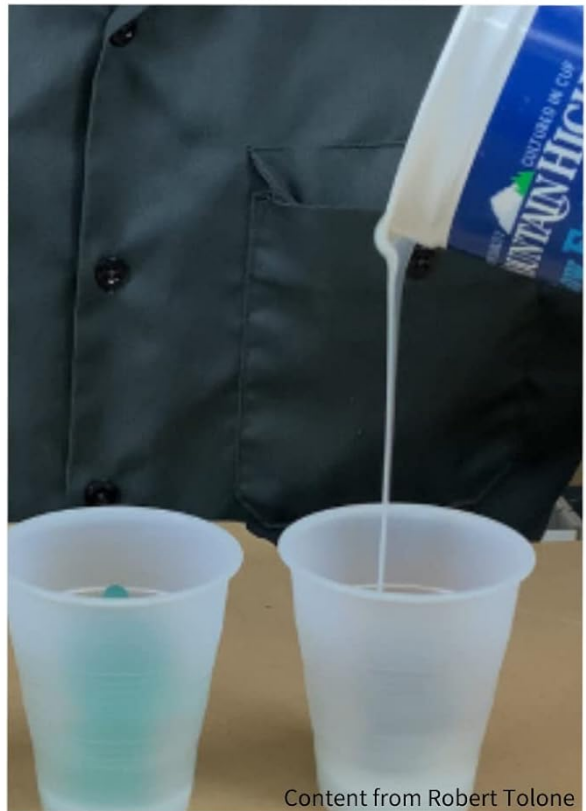


Image 9.1: Key technical specifications for Defiant 15, including mixing ratio, hardness, and cure time.

200°C
**Able to withstand
up to 200°C**



Image 9.2: Illustration of Defiant 15's high temperature resistance up to 200°C.

10. SUPPORT AND CONTACT

For further assistance, technical support, or inquiries regarding the Siraya Tech Defiant 15 Platinum Silicone Mold Making Kit, please contact Siraya Tech customer service. Refer to the product packaging or the official Siraya Tech website for current contact information.

ASK A QUESTION ABOUT THIS MANUAL

Ask about setup, troubleshooting, compatibility, parts, safety, or missing instructions. Manuals+ will review the question and use this page's manual context to help answer it.

Name

Anonymous

Email

you@example.com

After a successful submission, we securely hash the supplied account or form email before sending it to Microsoft Advertising for conversion attribution. [Privacy details](#).

Question

Example: How do I reset this device or fix this error?

Details

Model number, symptoms, what you tried, or the section of the manual you are using.

Submit question

