



Smooth-Cast® 300 Series

Bright White, Ultra Low Viscosity Liquid Plastics

PRODUCT OVERVIEW

The Smooth-Cast® 300 Series of liquid plastics are ultra-low viscosity casting resins that yield castings that are **bright white and virtually bubble free**. Vacuum degassing is not necessary. They offer the convenience of a one to one mix ratio (one part A to one part B by volume). The differences between them are pot life and demold time.

These resins readily accept fillers (such as URE-FIL® 3 from Smooth-On) and can be pigmented (Smooth-Cast® 325 accepts pigments better than the SC 300 series). Fully cured castings are tough, durable, machinable and paintable. They resist moisture and mild solvents. Applications for Smooth-Cast® Liquid Plastics include reproducing small to medium size sculptures, cold cast bronze castings, making prototype models, special effect props and decorative jewelry. Those interested in making roto cast pieces should refer to the Smooth-Cast® ROTO® technical bulletin.

TECHNICAL OVERVIEW

Product	Color	Mix Ratio By Volume	Durometer	Pot Life	Demold Time <small>(Depending on mass)</small>	Shrinkage
Smooth-Cast® 300Q	White	1A : 1B <small>(100A:90B by weight)</small>	Shore 70D	30 seconds	4 - 5 minutes	.01 in./in.
Smooth-Cast® 300				3 minutes	10 minutes	.01 in./in.
Smooth-Cast® 305				7 minutes	30 minutes	.0065 in./in.
Smooth-Cast® 310				15 - 20 minutes	2 - 4 hours	.0065 in./in.
Components		Color	Viscosity	S.G. g/cm3	S.V. cu. in./lb.	
Mixed Part A + B		White	80 cps	1.05	26.6	
Shore D Hardness: 70			Ultimate Tensile Strength: 3,000 psi			

Surface Preparation

Preparing To Mix

Measuring

Preparation – Materials should be stored and used in a warm environment (72° F / 22° C). These products have a limited shelf life and should be used as soon as possible. All liquid urethanes are **moisture sensitive** and will absorb atmospheric moisture. Mixing tools and containers should be clean and made of metal, glass or plastic. Mixing should be done in a well-ventilated area. Wear safety glasses, long sleeves and rubber gloves to minimize contamination risk. **Because no two applications are quite the same, a small test application to determine suitability for your project is recommended if performance of this material is in question.**

Applying A Release Agent – A release agent is necessary to facilitate demolding when casting into or over most surfaces. Use a release agent made specifically for mold making (Universal® Mold Release or Mann's Ease Release® 200 available from Smooth-On or your Smooth-On distributor). A liberal coat of release agent should be applied onto all surfaces that will contact the plastic. **~IMPORTANT:** To ensure thorough coverage, lightly brush the release agent with a soft brush over all surfaces. Follow with a light mist coating and let the release agent dry for 30 minutes.

Most silicone rubber molds usually do not require a release agent unless casting silicone into the mold. Applying a release agent, however, will prolong the life of the mold.

Mixing – **Stir or shake both Part A & Part B thoroughly before dispensing.** After dispensing equal amounts of Parts A and B into mixing container (100A:90B by weight) and mix **thoroughly**. Stir and deliberately making sure that you scrape the sides and bottom of the mixing container several times. Be careful not to splash low viscosity material out of the container.

Measuring**Mixing****Applying****Curing****Performance**

IMPORTANT: Shelf life of product is drastically reduced after opening. Remaining product should be used as soon as possible. Immediately replacing the lids on both containers after dispensing product will help prolong the shelf life of the unused product. **XTEND-IT® Dry Gas Blanket** (available from Smooth-On) will significantly prolong the shelf life (up to 4 times longer) of unused liquid urethane products.

Pouring – For best results, pour your mixture in a single spot at the lowest point of the containment field and let the mixture seek its level. This will help minimize air entrapment.

Curing – Warning: Fumes, which may be visible as this product starts to “gel” and cure, will dissipate with adequate ventilation. Only use this product with room size ventilation and do not inhale/breathe fumes. Castings will be extremely hot immediately following cure and may burn the skin. Let cool to room temperature before handling. SC 300 will cure in 7 - 10 minutes (SC 305 in 30 – 40 minutes and SC 310 in 2 - 4 hours) depending on mass and mold configuration. Post curing (heating your casting to 150°F/65°C) for 4 – 6 hours increases physical properties performance.

Performance – Cured castings are rigid and durable. They resist moisture, moderate heat, solvents, dilute acids and can be machined, primed/painted or bonded to other surfaces (any release agent must be removed). If machining cured material, wear dust mask or other apparatus to prevent inhalation of residual particles. Castings can be displayed outdoors after priming and painting. Unpainted castings will yellow over time - more quickly when exposed to ultra-violet light. Because no two applications are quite the same, a small test application to determine suitability is recommended if performance of this material is in question.

Safety First!**Safety First!****Safety First!****Smooth-Cast® 300 PART A:****WARNING: IRRITANT TO EYES, SKIN & MUCOUS MEMBRANES.**

Contains Methylene Diphenyl Isocyanate. Do not get in eyes, mucous membranes or on skin. Do not take internally. Do not breathe fumes. Use only with adequate ventilation. Wear chemical-resistant gloves and eye protection when using this product. First Aid: In case of eye contact, flush thoroughly with water for 15 minutes and get immediate medical attention. In case of skin contact, wash thoroughly with soap and water. If irritation persists, get medical attention. If swallowed, do not induce vomiting. Drink 1-2 glasses of water and get immediate medical attention. If vapors are inhaled or if breathing becomes difficult, remove person to fresh air. If symptoms persist, get medical attention. **Keep Out Of Reach Of Children.**

Smooth-Cast® 300 PART B:

CAUTION: In case of eye contact, flush with water for 15 minutes. If irritation persists, get medical attention. For skin contact, wash with soap and water. **Keep Out Of Reach Of Children.**

CAUTION: HOT! When combined, parts A & B generate heat in excess of 212°F (100°C) which could cause burns to the skin. Let cured plastic cool before handling. **Keep Out Of Reach Of Children.**

Important: The information contained in this bulletin is considered accurate. However, no warranty is expressed or implied regarding the accuracy of the data, the results to be obtained from the use thereof, or that any such use will not infringe upon a patent. User shall determine the suitability of the product for the intended application and assume all risk and liability whatsoever in connection therewith.

Call Us Anytime With Questions About Your Application

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