



SMOOTH-CAST® 320, 321 & 322

Off-White Ultra-Low Viscosity Liquid Plastics

PRODUCT OVERVIEW

The Smooth Cast® 320 Series consists of new ultra-low viscosity casting resins that yield virtually bubble-free castings. SC 320 Series resins yield castings that are off-white, and are sister products to our popular SC 300 Series of Bright White Plastics. SC 320 Series resins are easier to color tint using SO-Strong® color tints.

Easy to mix and pour, these resins offer the convenience of a one to one mix ratio (one part A to one part B by volume).

The Smooth Cast® 320-Series resins readily accept pigments and fillers (such as URE-FIL® 3, 5 and 7 from Smooth-On). These products are ideal for creating cold cast metal effects. Fully cured castings are tough, durable, machinable and paintable. They resist moisture and mild solvents. Applications for SC 320 Series resins include reproducing small to medium size sculptures, cold cast bronze, making prototype models, special effect props, decorative jewelry, etc.

TECHNICAL OVERVIEW

Key Values: ~*Mixing Ratio:* One to One by volume. ~*Color:* Off-White ~*Durometer:* Shore 70D

	<u>Pot Life</u>	<u>Demold Time</u> (depending on mass)	<u>Shrinkage</u>
Smooth-Cast® 320	3 minutes	7-10 minutes	.01 in./in.
Smooth-Cast® 321	7-9 minutes	30 minutes	.007 in./in.
Smooth-Cast® 322	10-20 minutes	2-4 hours	.007 in./in.

COMPONENTS	COLOR	VISCOSITY	S.G. g/cm ³	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		

Applying A Release Agent

Mixing

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 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 . . . Shake or stir both Part A & Part B before dispensing. After dispensing equal amounts of Parts A and B into mixing container, **mix thoroughly.** Stir slowly 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. **Remember, SC 320 and SC 321 set up quickly.** Do not delay between mixing and pouring.

Pouring

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 320 will cure in 7-10 minutes (SC 321 in 30 minutes and SC 322 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 and 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!

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The material safety data sheet (MSDS) for this or any Smooth-On product should be read before using and is available on request. All Smooth-On products are safe to use if directions are read and followed carefully.

Be careful. Part A (Yellow Label) contains methylene diphenyldiisocyanate. Vapors, which can be significant if prepolymer is heated or sprayed, may cause lung damage and sensitization. Use only with adequate ventilation. Contact with skin and eyes may cause severe irritation. Flush eyes with water for 15 minutes and get immediate medical attention. Remove from skin with soap and water. Part B (Blue Label) is irritating to the eyes and skin. Avoid prolonged or repeated skin contact. If contaminated, flush eyes with water for 15 minutes and get immediate medical attention. Remove from skin with soap and water. When mixing with Part A, follow precautions for handling isocyanates. If machining cured castings, wear dust mask or other apparatus to prevent inhalation of residual particles.

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 a copyright or patent. User shall determine suitability of the product for the intended application and assume all associated risks and liability.

Call Us Anytime With Questions About Your Application.

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