



# SMOOTH-CAST 316 UV

UV Resistant Liquid Plastic

## PRODUCT OVERVIEW2

Smooth Cast 316 UV is a new low viscosity casting resin that yields castings that are **bright white and resistant to ultra violet light**. Castings will darken slightly over time. Demold time is about 16 hours (depending on mass and mold configuration). SC 316 UV is mixed 100:90 parts by weight, but also offers the convenience of a one to one mix ratio (one part A to one part B by volume). Low viscosity ensures minimal bubble entrapment. **CAUTION: NOT FOR HOME USE. THIS PRODUCT IS FOR INDUSTRIAL USE ONLY. Proper ventilation, a NIOSH Approved Respirator and Protective Clothing are required to minimize the risk of inhalation and dermal sensitization. If breathing is affected or a dermal rash develops, immediately cease using this product and seek medical attention. Read MSDS before using.**

SC 316 UV readily accepts fillers (such as URE-FIL 3 from Smooth-On) and can be pigmented. Fully cured castings are tough, durable, machinable, and paintable. They resist moisture and mild solvents. Applications for SC 316 UV include reproducing small to medium size sculptures, architectural ornaments, making prototype models, special effect props, decorative jewelry, and many more.

## TECHNICAL OVERVIEW

**Key Values:** ~*Mixing Ratio:* 100:90 parts by weight    ~*Color:* White    ~*Durometer:* Shore 80D\*  
                   ~*Pot Life:* 20 minutes                                ~*Demold Time:* 16 hours (depending on mass).

**Description:** SC 316 UV consists of two liquid components, Part A (Yellow Label) and Part B (Blue Label). When combined in a mixing ratio of 100:90 parts by weight, SC 316 UV cures overnight to a solid and durable plastic.

COMPONENTS	COLOR	VISCOSITY	S.G. g/cm <sup>3</sup>	S.V. cu. in./lb.
Mixed Part A + B*	White	600 cps	1.036	26.7
<i>Elongation @ Break:</i> >10%		<i>Ultimate Tensile Strength:</i> 2,500 psi		
<i>Modulus:</i> 400,000 psi		<i>Shrinkage:</i> .001 in./in.		
* Ultimate Properties Attained After One Week				

**Preparation . . .** Materials should be stored and used in a warm environment (72° F / 23° C). 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. Wearing eye protection, latex gloves and long sleeve garments to minimize skin contact is strongly recommended.

**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 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 Part A & Part B before using.** Materials should be stored and used in a warm environment (72° F / 23° C). The proper mixing ratio is 100A:90B by weight. You must use an accurate scale (gram scale) to weigh these components properly. Dispense the required amount of Part A into a mixing container. Weigh out the appropriate amount of Part B and combine with Part A. Material can be mixed 1A:1B by volume. Because this product is packaged by weight, however, you will end up with excess Part B after material is fully consumed. **IMPORTANT:** Shelf life of product is drastically reduced after opening. Immediately replace container lids after dispensing. Use remaining product as soon as possible.

## 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 . . .** SC-316 UV is ready for demold in about 16 hours depending on mass and mold configuration. Non-hazardous fumes, which may be visible as this product starts to “gel” and cure, will dissipate with adequate (room size) ventilation. Post curing (heating casting to 150°F/65°C) for 4 – 6 hours increases physical properties and performance.

**Performance . . .** Cured castings of SC-316 UV are rigid and durable. They will darken slightly when exposed to UV light, but will not yellow. 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 SC-316 UV, wear dust mask or other apparatus to prevent inhalation of residual particles. 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!

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) is a modified aliphatic diisocyanate. 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 SC-316 UV, 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 Anytime With Questions About Your Application.**

Toll-Free: (800) 762-0744 Fax: (610) 252-6200

Visit Us At Our Website: [www.smooth-on.com](http://www.smooth-on.com)

Ask About Our Urethane and Silicone Moldmaking Products.