

# Feather Lite™

## Lightweight Urethane Casting Resin



www.smooth-on.com

### PRODUCT OVERVIEW

**Feather Lite™** is a heavily filled low-density urethane casting resin. Cured plastic is lightweight (it floats in water!) and has a much lower density than other casting resins. **Feather Lite™** features a convenient 1A:1B by volume mix ratio and mixes easily (pre-mixing of parts A & B is necessary). Cured plastic is strong and can be carved, machined, drilled, sanded, etc. **Feather Lite™** can be pigmented with SO-Strong™ color tints prior to casting and finished castings can be painted. And because this product is low-density, it yields more plastic per pound/kg. than other casting resins, the cost per casting is low. **Feather Lite™** can be used for a variety of art or industrial design related applications including reproducing sculpture, making fishing lures, prototype model making, casting doll heads and figures, etc.

### PROCESSING RECOMMENDATIONS

**Preparation** - Store and use at room temperature (73°F/23°C). These products have a limited shelf life and should be used as soon as possible. Environmental humidity should be as low as possible. Good room size ventilation is essential. Wear safety glasses, long sleeves and rubber gloves to minimize contamination risk. Use in a low humidity environment (below 50% RH). Mixing containers should have straight sides and a flat bottom. Mixing sticks should be flat and stiff with defined edges for scraping the sides and bottom of your mixing container.

#### TECHNICAL OVERVIEW

Mix Ratio: 1A:1B by volume	
Mixed Viscosity, cps: 410	(ASTM D-2393)
Specific Gravity, g/cc: 0.67	(ASTM D-1475)
Specific Volume, cu. in. /lb.: 41.3	(ASTM D-1475)
Pot Life: 8.5 min.	(ASTM D-2471)
Demold Time: 2 hours	
Color: Beige	
Shore D Hardness: 58	(ASTM D-2240)
Ultimate Tensile, psi: 2,160	(ASTM D-638)
Tensile Modulus, psi: 156,000	(ASTM D-638)
Elongation @ Break: 1.6%	(ASTM D-638)
Flexural Strength, psi: 3,440	(ASTM D-790)
Flexural Modulus, psi: 164,300	(ASTM D-790)
Compressive Strength, psi: 3,070	(ASTM D-695)
Heat Deflection Temp: 140°F/60°C	(ASTM D-648)
Compressive Modulus, psi: 53,700	(ASTM D-695)
Shrinkage, in./in.: 0.003 in./in.	(ASTM D-2566)

All values measured after 7 days at 73°F / 23°C

**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. Most silicone rubber molds usually do not require a release agent. Using a release agent, however, will prolong the life of the mold.

**IMPORTANT:** Apply release agent to all surfaces that will contact the rubber. To ensure thorough coverage, lightly brush the release agent with a soft brush over all surfaces of the model. Follow with a light mist coating and let the release agent dry for 15 minutes.

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.

#### MIXING & MEASURING...

**Mixing** - Material is heavily filled and the filler will separate from the liquid during storage. When you first open containers, you will see powder on top that must be thoroughly pre-mixed with liquid on bottom. **You MUST stir both Part A & Part B well before using - Pre-mix both parts in their original containers 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, Feather Lite™ sets up quickly. Do not delay between mixing and pouring.**

#### POURING, CURING & PERFORMANCE...

**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 - Important:** Use this product with at least room size ventilation or in proximity to a forced outlet air vent and do not inhale/breath fumes. Fumes, which may be visible with a significant mass concentration, will quickly dissipate with adequate ventilation.

**IMPORTANT:** Shelf life of product is 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 of unused liquid urethane products.

## Safety First!

The Material Safety Data Sheet (MSDS) for this or any Smooth-On product should be read prior to use and is available upon request from Smooth-On. All Smooth-On products are safe to use if directions are read and followed carefully.

### Be careful.

**Part A (Yellow Label)** contains methylene diphenyl 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 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 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.

**Curing** - Castings with significant mass may be hot to the touch and irritate skin immediately following cure. Let casting cool to room temperature before handling.

Demold time of the finished casting depends on mass and mold configuration. Low mass or thin-walled castings will take longer to cure than castings with higher mass concentration.

**Post Curing** - Post curing a casting is not necessary but will increase physical properties and performance. Allow material to cure for recommended cure time at room temperature followed by 4 - 6 hours at 150°F/65°C. Allow casting to come to room temperature before handling.

**Performance** - Cured castings of Feather Lite™ are lightweight, 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 Feather Lite™, 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 for your project is recommended if performance of this material is in question.**



**Call Us Anytime With Questions About Your Application**

**Toll-free: (800) 381-1733 Fax: (610) 252-6200**

The new [www.smooth-on.com](http://www.smooth-on.com) is loaded with information about mold making, casting and more.