



# C - 1515 / C - 1520

## Semi-Rigid Urethane Casting Resins

### PRODUCT OVERVIEW

C-1515 is a fast setting two-component urethane that cures in minutes to a semi-rigid plastic. It has a pot life of 3 minutes and demold of 20 minutes. With a Shore A value of 95, C-1515 is used for a variety of industrial applications that call for fast mold making, model duplication or high impact resistance. Castings (fully cured) are tough, durable and exhibit good heat and chemical resistance. **Applications for C-1515 & 1520** include producing fast setting molds, making quick mold impressions, fast model duplication for prototype and design projects, mechanical parts, high impact tooling, holding fixtures, durable miniatures and special effects.

**C - 1520 is essentially the same material**, but offers a longer pot life (10 minutes) and demold (45 minutes).

### TECHNICAL OVERVIEW

**Key Values:** ~**Mixing Ratio:** 100 Parts A to 120 Parts B by weight. ~**Color:** Black ~**Shore A Hardness:** 95  
 ~**Pot Life:** C-1515 - 3 min. \ C-1520 - 10 min. ~**Demold Time:** C-1515 - 20 min. \ C-1520 - 45 min.

**Description:** C-1515 (and C-1520) consists of two liquid components, Part A (Yellow Label) and Part B (Blue Label). When combined in a mixing ratio of 100 Parts A to 120 Parts B by weight, it cures to a semi-rigid elastomer.

<i>PROPERTIES*</i>	<i>COLOR</i>	<i>VISCOSITY</i>	<i>S.G. g/cm<sup>3</sup></i>	<i>MIX RATIO</i>
PART A	Clear Amber	520 cps	1.15	100pbw
PART B	Black	1,200 cps	1.14	120 pbw
Mixed	Black	-	-	-

Ultimate Tensile Strength . . . . . 1,800 PSI. Tear Strength . . . (Die "C") . . . . . 200 pli  
 Shore Hardness . . . . . 95 A Elongation At Break . . . . . 125% Shrinkage . . . . . C-1515/ .0023 in/in  
 C-1520/ .0033 in/in  
 \*Ultimate properties reached overnight.

### MIXING C - 1515 or C - 1520

**Preparation . . .** Materials should be stored and used in a warm environment (72° F / 23° C). Your mixing tools and containers should be clean and made of metal, glass or plastic. To minimize the introduction of harmful moisture to your mix or unused product, do not use wooden utensils or paper containers. As with most two-component urethane products, mixing should be done in a well-ventilated area. Wearing latex gloves and long sleeve garments will help minimize skin contact.

**Applying A Release Agent . . .** If you are unsure about surface compatibility, a trial casting on a surface finish similar to the final mold or model should be made to avoid damage to the working surface. Polyurethane, latex or metal molds should be dry and require a coat of suitable release agent. Universal Mold Release (available from Smooth-On) is ideal for this purpose. A liberal coat of release agent should be applied onto all surfaces that will contact the plastic. 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.

**Before Mixing . . . Part B (blue label) must be stirred well before use.**

**Mixing . . .** The components (Parts A and B) should be at room temperature (77 F / 25 C). Using an accurate scale, Pour 100 Parts A (yellow label) as measured by weight into a container. Add 120 Parts B (blue label) and mix thoroughly. Make sure that you scrape the bottom and sides of your container several times. **Remember, product sets up quickly. The higher the mass concentration, the faster the material gels and cures. Do not delay between mixing and pouring.**

**IMPORTANT:** Shelf life of product is drastically reduced after opening. Remaining product should be used as soon as possible. **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 C - 1515 and C - 1520**

**Pouring . . .** For best results, pour your mixture in a single spot at the lowest point of the mold or container and let the mixture seek its level. If encapsulating an object, do not pour the mixture directly over the object. Let the mixture seek its own level around and over the object. This will help minimize air entrapment.

**Performance . . .** Cured castings of C-1515 and C-1520 are semi-rigid, durable and exhibit negligible shrinkage. They also resist moisture, moderate heat, solvents and dilute acids. Mold release must be removed prior to painting or bonding the cured piece. 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 for this or any Smooth-On product should be read before using and is available upon request. All Smooth-On products are safe to use if directions are read and followed carefully.

**Be Careful . . .** Part A (Yellow Label) contains methylene diisocyanate. Vapors, which can be significant if prepolymer is heated or sprayed, 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 seek 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 seek immediate medical attention. Remove from skin with soap and water. When mixing with Part A, follow precautions for handling isocyanates.

**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 patent. User shall determine the suitability of the product for his/her intended application and assume all risk and liability whatsoever in connection therewith.

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