



# EZ~Spray™ 45

Sprayable Urethane Rubber Compound

## PRODUCT OVERVIEW

**EZ~Spray™ 45** is a new polyurethane rubber developed specifically for spraying through the EZ~Spray™ Machine. Refer to EZ~Spray™ Machine manual prior to spraying this product. **EZ~Spray™ 45** can be sprayed onto vertical surfaces for making molds or is good for making fast molds of large surface areas. After a suitable thickness is attained, EZ~Spray™ 45 cures overnight with negligible shrinkage to a durable mold rubber. Rubber is also suitable for special effects applications and comes in a “pigmentable” version: **EZ~Spray™ 45 F/X**.

Application of a support shell is achieved by spraying *Smooth-On’s EZ~Spray™ Plastic* over the rubber mold after it has fully cured. **EZ~Spray™ 45** is suitable for casting a variety of materials including wax, gypsum, urethane/epoxy resins, concrete, etc.

## TECHNICAL OVERVIEW

**Key Values:** ~**Mixing Ratio:** One to One by volume ~**Shore A Hardness:** 45

~**Pot Life:** 20 minutes ~**Cure Time/Demold:** 16 hrs. ~**Color:** Light Blue

**Description:** EZ~Spray 45 consists of two components, Part A (Yellow Label) and Part B (Blue Label). When combined in a mix ratio of one to one by volume, EZ~Spray 45 self-thickens and cures overnight to a rubber that makes an excellent mold for casting a variety of materials.

Properties	Viscosity	G/CC	Cu.In./Lb.	Mix Ratio	
Part A	1450				
Part B	645				
Mixed A+B	varies	1.025	27.0	1:1 by volume	
Elongation at Break . . . . .	375%	Die C Tear Strength . . . . .	100 pli	100% Modulus . . . . .	160 psi
Ultimate Tensile . . . . .	510 psi	Shrinkage . . . . .	Negligible		

### Start By Preparing Your Model –

**Some Surfaces Must Be Sealed . . .** To prevent adhesion between the rubber and model surface, models made of porous materials (gypsum plasters, concrete, wood, stone, etc.) must be sealed prior to applying a release agent. **Superseal** (available from TCS, Inc) is a fast drying sealer suitable for sealing porous surfaces without interfering with surface detail. Shellac is suitable for rough contours and modeling clays that contain sulfur or moisture (water based). Non-Porous models made of metal, glass, acrylic, pvc, other hard plastics and sulfur-free clays require only a release agent which should be allowed to dry before applying the rubber.

**In all cases,** the sealing agent should be applied and allowed to completely dry prior to applying a release agent.

**Applying A Release Agent . .** Polyurethanes are adhesive. A release agent is required to facilitate demolding. You can purchase a suitable release agent (Universal Mold Release) from TCS, Inc. **~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.

**If there is any question** about the effectiveness of a sealer/release agent combination, a small-scale test should be made on an identical surface for trial.

### **Do Not Attempt To Spray Rubber Or Plastic Withough First Reading The EX-Spray Machine Manual!!**

**Preparation . . .** Materials should be stored and used in a warm environment (72° F / 23° C). Spraying should be done in a well-ventilated area. **Breathing protection:** Wear an independent air supplied hood or NIOSH approved breathing mask, latex gloves and long sleeve garments to minimize skin contact is strongly recommended.

## ***Mixing and Applying EZ~Spray 45 . . .***

**Mixing . .** After dispensing equal amounts of Parts A and B into spray machine hoppers, open hopper valves and follow instructions on EZ~Spray Machine Flow Chart and manual. **Rubber will turn from a dark blue to a light blue as it gels. This is an indicator that a proper mix is being achieved.**

**Applying The Rubber . . .** This product must be sprayed in layers. Moldmakers generally find that four to six layers (minimum 3/8") thickness is suitable for a working mold. The first layer, the detail coat, is a thin layer to capture model detail. Subsequent coats will add strength to the mold. Spray undercuts and recesses first. Let the first coat dry for two minutes at room temperature or when it becomes "tacky" before adding the next coat. Repeat until the necessary thickness is achieved. Do not allow rubber to fully cure between layers, as delamination may result. **Anytime you stop spraying, purge mixing head with solvent immediately.**

**Apply Support Shell . . .** After all layers of rubber fully cure (overnight) a support shell should be applied over the rubber mold. This will prevent the mold from distorting when casting into it. Use *Smooth-On's EZ~Spray™ Plastic* to spray on a hard, durable and lightweight plastic shell. Follow directions given in the EZ~Spray™ Machine manual and flowchart.

**Curing . . .** Allow the mold to cure overnight (at least 16 hours) at room temperature (77 F/25 C) before demolding. Do not cure rubber where temperature is less than 65 F /18 C. Post curing the rubber after rubber has cured at room temp. (applying heat – 145°F/60°C for 4 – 6 hours) will increase physical properties and performance significantly.

**Using The Mold . . .** A release agent facilitates demolding and should be applied to the mold before each casting. The type of release agent to use depends on the material being cast. Universal Mold Release is good for releasing resins recommended for most applications and is available from TCS, Inc. The mold should be sprayed with the release agent, brushed over all surface areas and allowed to dry before casting. To ensure thorough coverage, lightly brush the release agent with a soft brush over all surfaces of the model (especially areas of intricate detail). Apply a second thin mist coating and let dry for 15 minutes casting.

**Mold Performance & Storage** - Fully cured molds are tough, durable and will perform if properly used and stored. The physical life of the mold depends on how you use it (materials cast, frequency, etc.). Casting abrasive materials such as concrete will eventually erode mold detail, while casting non-abrasive materials (wax) will not affect mold detail. Using the right release agent is essential in all cases. Contact TCS, Inc to discuss your particular application. Before storing, the mold should be cleaned with a soap solution and wiped fully dry. Two part (or more) molds should be assembled. Molds should be stored on a level surface in a cool, dry environment. Do not stack molds, expose them to moisture or UV light.

*The Material Safety Data Sheet (MSDS) for this or any other product should be read prior to use and is available at [www.SCULPT.com](http://www.SCULPT.com). All Smooth-On products are safe to use if directions are read and followed carefully.*

**Be careful.** Part A is a TDI prepolymer. Vapors, which can be significant if material 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 waterless hand cleaner followed by soap and water. Prepolymers contain trace amounts of TDI which, if ingested, must be considered a potential carcinogen. Refer to MSDS. Part B is irritating to the eyes and skin. 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 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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