



EZ~Spray™ 45

Sprayable Urethane Rubber Compound

PRODUCT OVERVIEW

EZ~Spray™ 45 is a polyurethane rubber for spraying through the EZ~Spray™ Junior Cartridge System. Refer to EZ~Spray™ Junior 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.

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 a mold for casting a variety of materials.

	<u>Properties</u>	<u>Viscosity</u>	<u>G/CC</u>	<u>Cu.In./Lb.</u>	<u>Mix Ratio</u>
	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 . . . Store and use at room temperature (72°F/22°C). This product has a limited shelf life and should be used as soon as possible. Wear safety glasses, long sleeves and rubber gloves to minimize contamination risk. Model surface should also be at room temperature. 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.

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 Smooth-On) 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 Smooth-On or from your local Smooth-On Distributor. **~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.

***Do Not Attempt To Spray Rubber Or Plastic Without First
Consulting The EZ~Spray Junior Video & Manual***

Safety . . . Materials should be stored and used in a warm environment (72° F / 22° C). Spraying should be done in a well-ventilated area. **Breathing protection:** Anyone in the spray area must wear an independent air supplied hood or NIOSH approved breathing mask, latex gloves and long sleeve garments to minimize skin contact.

Applying

Curing

Applying A Support Shell

After A Material Cartridge Is Loaded & Prepared . . . depress trigger and begin spraying.

Applying The Rubber . . . This product must be sprayed in layers. Generally, 4 layers (minimum 3/8"-1/2" or 1 cm 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 10 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 delaminating may result.

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.

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 apply on a hard, durable and lightweight plastic shell.

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.

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 Smooth-On or your local distributor. 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 Smooth-On 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 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. **Breathing protection:** Anyone in the spray area must wear an independent air supplied hood or NIOSH approved breathing mask, latex gloves and long sleeve garments.

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.

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