Brush-On™ Series

Brushable Polyurethane Rubber Compounds

www.smooth-on.com

PRODUCT OVERVIEW

Smooth-On's **Brush-On™ Series** of mold rubbers are extremely versatile and are famous for their abrasion resistance and high tear strength. They have the convenience of a one-to-one mix ratio and are easy to mix and apply with a brush or spatula. **Brush-On™ 35, 40, 50 & 60** paint onto vertical surfaces without sagging and will cure with negligible shrinkage to durable rubbers that perform and last in production. Each will capture exact detail from any original model.

Brush-On™ 35 is the softest of the series and offers the most flexibility and is used for models with deep undercuts. **Brush-On™ 35 & 40** can be inverted and used to make glove molds. **Brush-On™ 50** and **Brush-On™ 60** possess superior abrasion resistance and tear strength and are ideal for casting concrete and hard plasters in applications where less flexibility is required. These products are compatible. For example, you can apply two coats of **Brush-On™ 40** and back it up with two coats of **Brush-On™ 50 or 60**. All three rubbers are suitable for reproducing sculpture, architectural restoration and production casting of concrete.

TECHNICAL OVERVIEW

	A:B Mix Ratio by Volume	A:B Mix Ratio by Weight	Mixed Viscosity (ASTM D-2393)	Specific Gravity (g/cc) (ASTM D-1475)	Specific Volume (cu. in./lb.)	Color	Shore A Hardness (ASTM D-2240)	Tensile Strength (ASTM D-412*)	Elongation at Break % (ASTM D-412)	Die C Tear Strength (ASTM D-624)
Brush-On™ 35	1:1 pbv	100:67 pbw	Brushable	1.29	21.5	Grey-Green	35A	335 psi	1,000%	57 pli
Brush-On™ 40	1:1 pbv	100:125 pbw	Brushable	1.17	23.7	Off-White	40A	300 psi	1,000%	60 pli
Brush-On™ 50	1:1 pbv	100:125 pbw	Brushable	1.17	23.7	Off-White	50A	500 psi	400%	80 pli
Brush-On™ 60	1:1 pbv	100:125 pbw	Brushable	1.18	23.5	Off-White	60A	630 psi	400%	80 pli

Pot Life: 20 minutes ***Cure Time:*** Overnight/16 hours ***Shrinkage:*** < .001 in./in.

* All values measured at room temperature (73°F/23°C)

PROCESSING RECOMMENDATIONS

START BY PREPARING YOUR MODEL...

Preparation - Materials should be stored and used in at room (73°F/23°C). Humidity should be low. These products have a limited shelf life and should be used as soon as possible. Wear safety glasses, long sleeves and rubber gloves to minimize contamination risk. Good ventilation (room size) is necessary. Mixing sticks should be flat and stiff with defined edges for scraping the sides and bottom of your mixing container.

Some Materials 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™ or One Step™ (available from Smooth-On) are fast drying sealers suitable for sealing porous surfaces without interfering with surface detail. Shellac is suitable for rough contours. A high quality spray shellac is suitable for sealing modeling clays that contain sulfur or moisture (water based). Thermoplastics (polystyrene) must also be sealed with shellac or PVA.

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

Non-Porous Surfaces - Metal, glass, hard plastics, sulfur free clays, etc. require only a release agent.

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). A liberal coat of release agent should be applied onto all surfaces that will contact the rubber.

IMPORTANT: 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 dry for 30 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.**

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 (SDS) 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.

KEEP OUT OF REACH OF CHILDREN.

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 SDS .

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.

MEASURING & MIXING...

Liquid urethanes are **moisture sensitive** and will absorb atmospheric moisture. Mixing tools and containers should be clean and made of metal, glass or plastic. Materials should be stored and used in a warm environment (73°F/23°C).

Brush-On™ 40, 50 and 60 - Part B is a paste and Part A is a liquid.

Brush-On™ 35 - Part A is a paste and Part B is a liquid.

Fill a container to the top with paste, making sure to eliminate any large voids. Level off the top of the container and remove any excess material. The paste should then be thoroughly emptied into a larger container that will act as your mixing container. Next, fill the original measuring container to the top with liquid and empty it into the mixing container. After dispensing paste and liquid into mixing container, mix thoroughly for 3 minutes making sure that you scrape the sides and bottom of the mixing container several times. Eliminate all color streaks

APPLYING, CURING & PERFORMANCE...

Applying The Rubber - This product must be applied in layers. Mold makers generally find that four to six layers (minimum 3/8") thickness is suitable for a working mold. Using a stiff brush, the first coat of rubber should be applied in a thin layer to capture intricate detail. Use dabbing strokes, especially around undercuts, to reduce entrapped air. Subsequent coats will add strength to the mold. Let the first coat dry for 30-40 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. Note: Although not necessary, adding a small amount of SO-Strong™ liquid color pigment to every other mix of rubber will help you distinguish one layer from the next. This will ensure that you apply a thorough coating each time and help build uniform layers.

Curing - Allow rubber to cure overnight (at least 16 hours) at room temperature (73°F/23°C) before demolding. Cure time can be reduced with mild heat or by adding Smooth-On "Kick-It™" Cure Accelerator. Do not cure rubber where temperature is less than 65°F/18°C.

Post Curing - After rubber has cured at room temperature, heating the rubber to 150°F (65°C) for 4 to 8 hours will increase physical properties and performance.

Apply A Support Shell - Once the mold is fully cured, a rigid support shell (mother mold) is needed to support the rubber mold during casting. Plasti-Paste™ II is a trowelable plastic which is ideal as a mother mold material.

Using The Mold - If using as a mold material, a release agent should be applied to the mold before each casting. The type of release agent to use depends on the material being cast. The proper release agent for **wax, liquid rubber or thermosetting materials** (i.e. Smooth-On liquid plastics) is a spray release made specifically for mold making (available from Smooth-On or your distributor). Prior to casting **gypsum plaster materials**, sponge the mold with a soap solution for better plaster flow and easy release. In & Out™ II Water Based Release Concentrate (available from Smooth-On) is recommended for releasing abrasive materials like **concrete**.

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.). 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.

SMOOTH-ON SINCE 1895

Call Us Anytime With Questions About Your Application.

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

www.smooth-on.com is loaded with information about mold making, casting and more.