



# Brush-On<sup>tm</sup> Series

Brushable Rubber Compounds

## 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<sup>TM</sup> 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<sup>TM</sup> 40 is the softest of the series and offers the most flexibility and is used for models with deep undercuts. Brush-On<sup>TM</sup> 40 can be inverted and used to make glove molds. Brush-On<sup>TM</sup> 50 and Brush-On<sup>TM</sup> 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<sup>TM</sup> 40 and back it up with two coats of Brush-On<sup>TM</sup> 50 or 60. All three rubbers are suitable for reproducing sculpture, architectural restoration and production casting of concrete.

## TECHNICAL OVERVIEW

Product	Shore A Hardness	Mix Ratio By Volume	A+B Mixed Viscosity	Specific Volume	Tear Strength	Elongation At Break
Brush-On 40	40	1A : 1B	Varies	23.6 cu.in./lb.	60 pli	>1000%
Brush-On 50	50	1A : 1B	Varies	19.0 cu.in./lb.	80 pli	400%
Brush-On 60	60	1A : 1B	Varies	19.0 cu.in./lb.	80 pli	400%
~Pot Life: 20 Minutes		~Cure Time/Demold: Overnight/16 hours				
~Color: Off-White		~Shrinkage: Negligible				

## Start By Preparing Your Model –

**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** (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.

**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.

## Measuring & Mixing . . .

**Measuring & Mixing** the components requires two containers. Materials should be stored and used in a warm environment (72° F / 23° C). The first will be used for measuring out equal amounts of Part A and Part B. The second should be large enough to contain equal amounts of both components and allow thorough mixing. Mixing tools and containers should be clean and made of metal, glass or plastic. **IMPORTANT:** Shelf life of product is drastically reduced after opening. Remaining product should be used as soon as possible. Immediately replacing the lids on both containers after dispensing product will 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.

**Mixing.** . . Part B is a paste with the consistency of cake frosting. Fill a container to the top with this 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 container to the top with Part A (liquid) and empty it into the mixing container. After dispensing equal amounts of Parts A and B into mixing container, **mix thoroughly for 3 minutes** making sure that you **scrape the sides and bottom of the mixing container several times.**

**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 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

## Mold Performance

**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 – 150°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 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.

Softening Brush-On 40 with SO-Flex Flexibilizer				
	TO ATTAIN SHORE A 25		TO ATTAIN SHORE A20	
Proportions	By Volume	By Weight	By Volume	By Weight
Brush-On 40 Part A	1 cup	80 grams	1 cup	80 grams
Brush-On 40 Part B	1 cup	100 grams	1 cup	100 grams
SO-Flex Flexibilizer	¼ cup	25 grams	½ cup	50 grams
<b>After 24 Hours</b>				
Shore A		25		20
Ultimate Tensile Strength		240 psi		166 psi
Die C Tear Strength		48 pli		36 psi

**Procedure:** Mix BO 40 Part B (paste) thoroughly with required amount of SO-Flex before adding Part A. Adding SO-Flex makes mixing easier, but also may cause the rubber to flow off the model. Remember, apply at least 4 **thin layers** of rubber (not thick) to model surface, allowing each layer to become "tacky" before applying the next layer.

*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 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.

**For Technical Help:** Tel. (800) 762-0744 Fax. (610) 252-6200 Website: [www.smooth-on.com](http://www.smooth-on.com)