



ReoFlex_™ Series

Liquid Urethane Rubber

PRODUCT OVERVIEW

New ReoFlex_™ urethane rubbers are “next generation” products to our popular PMC-121 Series and offer superior physical and performance properties. ReoFlex_™ urethanes are available in 30A, 40A, 50A and 60A Shore hardnesses and feature convenient one-to-one by volume mix ratios. Vacuum degassing is not necessary and ReoFlex_™ rubbers cure with negligible shrinkage to a durable rubber that will last in production.

Which ReoFlex_™ For Your Project - Wet Or Dry? ReoFlex_™ rubbers are available as either “wet” or “dry” consistencies.

ReoFlex_™ – Wet: cured rubber exudes an oil to aid in demolding concrete and gypsum plasters. It will enhance abrasion resistance and increase the production life of the mold. An external release agent is still recommended when casting concrete.

ReoFlex_™ – Dry: cured rubber is dry and suitable for casting wax, gypsum and resins.

ReoFlex_™ mold rubbers are used for a variety of applications including making molds to reproduce sculpture and architectural elements, as well as for making special effects, toys and prototypes. These rubbers will meet the stringent demands of production casting of wax, plasters, concrete and resins. Vibrant colors can be achieved by adding So-Strong[™] Color Tints, available from Smooth-On.

TECHNICAL OVERVIEW

	Shore A	Mix Ratio	Color	Spec. Vol.	Spec. Grav.	Mixed Viscosity	Tear (C) (pli)	Elong. At Break	Tensile Strength
ReoFlex 30 *	30	1:1 pbv	Tan	27.5	1.1 g/cc	1,500 cps	82 pli	1,000%	450 psi
ReoFlex 40 *	40	1:1 pbv	Red	27.2	1.02 g/cc	1,500 cps	85 pli	1,000%	490 psi
ReoFlex 50 *	50	1:1 pbv	Green	27.4	1.01 g/cc	2,000 cps	120 pli	435%	580 psi
ReoFlex 60 *	60	1:1 pbv	Off-White	26.7	1.04 g/cc	1,800	132 pli	581%	782 psi

~ Pot Life: 30 Minutes

~ Cure Time/Demold: Overnight/16 hours

Shrinkage: Negligible

* Available “Dry,” or “Wet,” which exudes an oil for improved release to aid in demolding plasters and concrete.

Start By Preparing Your Model -

Preparation . . . Store and use at room temperature (72°F/23°C). Environmental humidity should be as low as possible. Good ventilation (room size) is necessary. Wear long sleeve garments and rubber gloves to minimize skin contact.

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. Sonite Wax or shellac is suitable for rough contours. Modeling clays that contain sulfur or water must be sealed with SuperSeal_™ or shellac. 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 the release agent dry for 30 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 . . .

Liquid urethanes are **moisture sensitive** and will absorb atmospheric moisture. Mixing tools and containers should be clean and made of metal 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.

Important: Pre-Mix the Part B before using. After dispensing equal amounts of Parts A and B into mixing container, mix thoroughly for at least 3 minutes making sure that you scrape the sides and bottom of the mixing container several times.

If Mixing Large Quantities (16 lbs./7 kgs. or more) at one time, use a mechanical mixer (i.e. Squirrel Mixer or equal) for 3 minutes followed by careful hand mixing for one minute as directed above. Then, pour entire quantity into a new, clean mixing container and do it all over again.

Although this product is formulated to minimize air bubbles in your the cured rubber, vacuum degassing prior to pouring rubber will further reduce entrapped air

Pouring

Curing

Performance

For best results, pour your mixture in a single spot at the lowest point of the containment field. Let the rubber seek its level up and over the model. **A uniform flow will help minimize entrapped air.** The liquid rubber should level off at least 1/2" (1.3 cm) over the highest point of the model surface.

Curing . . . Allow rubber to cure overnight (at least 16 hours) at room temperature (72 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 – Optional . . . Following an overnight cure, heating the rubber to 150° F (65° C) for 4 to 8 hours will increase physical properties and performance.

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). Polyester (Fiberglass & Resin) requires use of a mold conditioner/release combination to protect the mold. Permaseal SMC and Permaseal 650 (from Smooth-On) are suitable for this application. Prior to casting **gypsum plaster materials**, sponge the mold with a soap solution for better plaster flow and easy release. **In & Out Water Based Release Concentrate** (available from Smooth-On) is recommended for releasing abrasive materials like **concrete**.

Performance & Storage - Fully cured rubber is tough, durable and will perform if properly used and stored. The physical life of the rubber depends on how you use it. Contact Smooth-On directly with questions about this material relative to your application.

Safety First!

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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

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