



# PMC - 860

Polyurethane Rubber Compound



## PRODUCT OVERVIEW

PMC-860 is a new Shore 60A urethane rubber mold compound that has excellent performance properties. Mixed 2 parts A to 1 part B by weight or volume, PMC-860 cures at room temperature with negligible shrinkage to a durable rubber that will last. PMC-860 has good dimensional stability and exceptional abrasion resistance. It is ideal for production casting of concrete, hard plasters and polyester (polyesters are best used with Permalease release products – see reverse side of TB).

## TECHNICAL OVERVIEW

**Key Values:** ~*Mixing Ratio:* Two Parts A to One Part B by weight or volume ~*Shore A Hardness:* 60  
~*Pot Life:* 20 minutes ~*Cure Time/Demold:* 16 hours at room temperature. ~*Color:* Opaque White

Properties	Viscosity	G/CC	Cu. In./Lb.
Mixed A+B	2,000 cps	1.03	26.9
Ultimate Tensile Strength..	> 900 psi	Elongation At Break . . . . .	> 600%
Die C Tear Strength . . .	160 pli	Shrinkage . . . . .	negligible
Compression Set % . . . . .	20		

### Preparing Your Model

### Applying A Release Agent

**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 TCS, Inc) will seal porous surfaces like gypsum or wood and have minimal effect on surface detail and texture. Spray shellac is suitable for sealing modeling clays that contain sulfur (Roma Plastalina) or moisture. Sulfur-free and non-water based clays require release agent only. 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

**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 (such as Universal Mold Release - available from TCS, Inc). 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.

**Need Technial Help? Call (212)367-7561**

### 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 (72° F / 23° C).

**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 TCS, Inc) 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 cured mold, vacuum degassing will further reduce entrapped air.

***Pouring                      Curing                      Mold Performance***

***Mold Performance & Storage*** - Fully cured molds made 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. 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.

***Using The Mold . . .*** 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** (liquid plastics) is a spray release made specifically for mold making (Universal Mold Release). Be sure to follow directions for proper application of release agent. Prior to casting **gypsum plasters**, sponge the mold with a soap solution for better plaster flow and easy release. **Especially for releasing concrete**, use water based release concentrate called **“IN & OUT”**. For releasing **Polyester**, a barrier coat followed by a release agent is required. Permaseal SMC (barrier coat) followed by Permaseal 600 release agent will yield multiple castings and prevent rapid deterioration of the mold. Permaseal products are available from TCS, Inc.

***Curing . . .*** Allow the mold to cure overnight (at least 16 hours) at room temperature (77 F/25 C) before demolding. Cure time can be reduced with mild heat or by adding “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.

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.

***SAFETY FIRST!***

*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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