



# PMC - 870

Industrial Liquid Rubber Compound

## PRODUCT OVERVIEW

PMC-870 is a new Shore 70A addition to our line of industrial liquid rubber products (such as PMC-780 and PMC-790) used for a variety industrial and casting applications. Mixed two parts A to one part B by weight, PMC-870 pours easily and cures at room temperature to a solid Shore 70A rubber that has exceptional performance characteristics and dimensional stability.

It is suitable for production casting of abrasive materials such as concrete (pre-cast concrete, making concrete stamping pads, etc.) and gypsum plasters with high exotherms. It is also suitable for rubber mechanical parts of varying configurations (gaskets, wheels, pullies) as well as ball mill liners and vibration/shock pads.

## TECHNICAL OVERVIEW

**Key Values:** ~Mixing Ratio: 2A : 1B by weight. ~Shore A Hardness: 70  
~ Pot Life: 30 minutes ~Cure Time/Demold: Overnight/16 hrs. ~Color: Light Amber

Properties	Viscosity	G/CC	Cu. In./Lb.	Tensile Strength	Mix Ratio
Part A	-	-	-	-	200 pbw
Part B	-	-	-	-	100 pbw
Mixed	3,000 cps	1.04	26.5	750 psi	-

Elongation At Break . . . 750%  
100% Modulus . . . 250 psi

Die C Tear Strength . . . 200 pli  
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 TCS, Inc) is a fast drying sealer suitable for sealing porous surfaces without interfering with surface detail. Shellac is suitable for rough contours.

**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 (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.

### 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 kg. 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 the cured rubber, vacuum degassing will further reduce entrapped air. A pressure casting technique using a pressure chamber can yield totally bubble free castings. Contact TCS, Inc for further information about vacuum degassing or pressure casting.

### ***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 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.

**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 a 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.

**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 TCS, Inc with questions about this material relative to your application.

### **SAFETY FIRST!**

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*The Material Safety Data Sheet for this or any other product should be read before using and is available at [www.SCULPT.com](http://www.SCULPT.com). All Smooth-On products are safe to use with proper handling and precautions. Read and follow directions carefully.*

**Be Careful.** Part B is a TDI pre-polymer. Vapors, which can be significant if pre-polymer is heated or sprayed, may 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 soap and water. Pre-polymers contain trace amounts of TDI, which if ingested, must be considered a potential carcinogen. Refer to the MSDS for this product. Avoid skin contact by wearing long sleeve garments and latex gloves. If skin contact is made, remove immediately with soap and water. If eye contact is made, flush eyes with water for 15 minutes and seek immediate medical attention.

**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 a patent. User shall determine the suitability of the product for its intended applications and assumes all risk and liability whatsoever in connection therewith.

***Call Us Anytime With Questions About Your Application.***

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