Simpact® 60A

Tough 60A Urethane

www.smooth-on.com

PRODUCT OVERVIEW

Simpact® 60A is a low odor, fast-setting Shore 60A urethane that offers very high tear strength, impact resistance and wear resistance. **Simpact® 60A is phthalate free, mercury free and MOCA free.**

Mixed 1A : 1B by volume, **Simpact® 60A** pours easily. **Working time is 5 minutes**, **handling time is 2 hours** and **full cure time is 48 hours** at room temperature.

Cured rubber has exceptional performance characteristics and dimensional stability. **Simpact® 60A** can be colored with SO-Strong® or Ignite® colorants. **Simpact® 60A** is suitable for making impact resistant props, prototypes and display pieces.

PROCESSING RECOMMENDATIONS

PREPARATION... These products have a limited shelf life and should be used as soon as possible. This material should be stored and used at room temperature (73°F/23°C). This material is moisture sensitive, so relative humidity should be below 50%. Wear safety glasses, long sleeves and rubber gloves to minimize contamination risk. Room size ventilation is necessary.

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 or Mann's Ease Release® 200 available from Smooth-On or your Smooth-On distributor). A liberal coat of release agent should be applied onto all surfaces that will contact the plastic.

TECHNICAL OVERVIEW

Mix Ratio by Volume: 1A : 1B	
Mix Ratio by Weight: 100A : 94B	
Mixed Viscosity (cps): 1,100	(ASTM D-2393)
Specific Gravity (g/cc): 1.08	(ASTM D-1475)
Specific Volume (cu. in. /lb.): 25.7	
Pot Life: 5 minutes (73°F/23°C)	(ASTM D-2471)
Handling time: 2 hours (73°F/23°C)	
Full Cure: 48 hours (73°F/23°C)	
Color: White	
Shore Hardness: 60A	(ASTM D-2240)
Tensile Strength (psi): 990	(ASTM D-412)
100% Modulus (psi): 312	(ASTM D-412)
Elongation @ Break: 400%	(ASTM D-412)
Die C Tear Strength (pli): 142	(ASTM D-624)
Shrinkage: .007 in./in.	(ASTM D-2566)

* All values measured after 7 days at 73°F/23°C

IMPORTANT: To ensure thorough coverage, apply release and brush with a soft brush over all surfaces. Follow with a light mist coating and let the release agent dry for 30 minutes.

Smooth-On silicone rubber molds usually do not require a release agent unless casting silicone into the mold. Applying a release agent will prolong the life of the mold.

Selecting A Mold Rubber - Pour into a urethane rubber mold (release agent required) or a silicone rubber mold. To prevent cure inhibition, post-cure newly made tin silicone molds for 8 hours at 60°C/150°F and let cool prior to casting. If you are unsure about surface compatibility, a trial casting should be made.

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.

MEASURING & MIXING...

Liquid urethanes are **moisture sensitive** and will absorb atmospheric moisture resulting in bubbles in the cured rubber. Mixing tools and containers should be clean and made of metal or plastic.

Shelf life of product is drastically reduced after opening. Immediately replacing the lids on the containers after dispensing product will prolong the shelf life of the unused product. **XTEND-IT® Dry Gas Blanket** (available from Smooth-On) will prolong the shelf life of unused liquid urethane products.

IMPORTANT: **Pre Mix the Part B before using every time.**

After dispensing equal amounts of Parts A and B by volume into mixing container, mix thoroughly for at least 60 seconds making sure that you scrape the sides and bottom of the mixing container several times.

Safety First!

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 an MDI 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 MDI 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.

Hand Mixing - After weighing and dispensing the required amounts of Parts A and B into mixing container, mix thoroughly for at least 60 seconds making sure that you scrape the sides and bottom of the mixing container several times. Pour entire quantity into a new, clean mixing container and mix again as directed above.

Mechanical Mixing - drill mix using a Turbine mixer or equal for 30 seconds followed by careful hand mixing for 30 seconds as directed above. Then, pour entire quantity into a new, clean mixing container and repeat mixing procedure.

Be Aware - material pot life is 5 minutes at 73°F/23°C. Pot life at elevated temperatures will be less. Do not delay between mixing and pouring.

Although this product is formulated to minimize air bubbles when cured, vacuum degassing will further reduce entrapped air. A pressure casting technique using a pressure chamber can yield totally bubble free castings. Contact Smooth-On or your distributor for information about vacuum degassing or pressure casting.

POURING, CURING, & PERFORMANCE...

Pouring - For best results, pour your mixture in a single spot at the lowest point of the containment field. Let the rubber seek its level **A uniform flow will help minimize entrapped air.**

Curing - Allow casting to cure for at least 2 hours at room temperature (73°F/23°C) before demolding. Do not cure rubber in temperatures less than 65°F/18°C. This material will reach full cure in 48 hours at 73°F/23°C.

Heat Curing - Allow casting to cure for 24 hours at room temperature (73°F/23°C). Heat cure casting at 175°F/60°C for 6 hours. Allow casting to cool to room temperature before handling.

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.

Call Us Anytime With Questions About Your Application.

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

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