

SILPAK RU-365

Polyurethane Mold Rubber

RU-365 A/B is a 65 shore A hardness, polyurethane RTV elastomer that cures to a flexible rubber material with excellent tear strength and abrasion resistance and high elongation. It has a 1A :1B mix ratio and low viscosity for easy processing.

Features

- Excellent Abrasion and Tear Resistance
- Easy to Process 1:1 mix ratio
- Durable, Easy Releasing molds for casting plasters and waxes
- High Elongation enables easy demolding and reduces mold damage when used in high volume casting applications
- Makes Tough, long-lasting molds

Applications

Applications include the following or any application where a flexible rubber part is required.

- Concrete texture and stamp pads
- Rubber molds and parts
- Casting plaster, concrete, and wax
- Concrete form liners
- Prototype rubber parts

Physical and Handling Properties

Property	Value
Color	Tan
Mix Ratio, by weight	1A : 1B
Initial Mixed Viscosity, cP	2,000
Hardness, Shore A	65
Gel Time, min	20
Demold Time, hr	16
Specific Gravity	1.04
Tensile Strength, psi	1124
Elongation, %	880
Tear Resistance, pli	210

Values listed above are typical and not intended for use in specifications.

Proper Use and Safety

Read all instructions and safety data sheets prior to use. Consult safety data sheets for all recommended safety precautions.

Master Preparation

Porous models, such as wood, plaster, stone, pottery or masonry must be sealed. Multiple coats of paste wax dried and buffed will seal most surfaces. Potters soap can be used as a sealer for plaster. Lacquer, paint, PVA, and Pol-Ease® 2350 Release Agent also work well as sealers for many surfaces. The properly sealed model should then be coated with a release agent (e.g., MR-150, Pol-Ease® 2300 Release Agent). Alternatively, PolyCoat, a sealer and semi-permanent release agent, can be used on most porous or non-porous models. Porous models must be vented from beneath to prevent trapped air from forming bubbles in the rubber.

Models made of sulfur-containing modeling clay (e.g., Roma Plastilina) should be sealed with shellac. [CAUTION: When shellac is used as the sealer, it must be thoroughly coated with release agent because polyurethane rubbers bond tenaciously to shellac.]

Non-porous models (e.g., metals, plasticine, wax, glazed ceramics, fiberglass and polyurethanes) should be coated with release agent such as MR-150, Pol-Ease® 2300 Release Agent or PolyCoat.

If there is any question about the compatibility between the liquid mold rubber and the prepared model surface, perform a test cure on an identical surface to determine that complete curing and good release are obtained.

Mixing

Before use, be sure that Parts A and B are at room temperature and that all tools are ready. Surface and air temperatures should be above 60°F during application and for the entire curing period.

Check mix ratio. Weigh Part B into a clean metal or plastic mixing container and then weigh the appropriate amount of Part A into the same container. Mix thoroughly. Hand mixing with a Poly Paddle is best to avoid mixing air into the rubber. While mixing, scrape the sides and bottom several times to ensure thorough mixing. Pour the rubber as soon after mixing as possible for best flow and air bubble release. Vacuum degassing helps to provide bubble-free molds but is usually not necessary.

Curing

Allow rubber to cure at room temperature, 77°F (25°C). Carefully demold after approximately 16 hours. Final cure properties are obtained in about seven days, but molds may be used with care after curing for 24-48 hours. Heat accelerates the cure -- low temperatures slow the cure. Avoid curing in areas where the temperature is below 60°F (15°C).

Both Parts A and B react with atmospheric moisture and, therefore, should be resealed or used up as soon as possible after opening. Before resealing, Poly Purge, a heavier-than-air, dry gas, can be sprayed into open containers to displace moist air and extend storage life. For 55-gallon drums of Parts A and B, affix Drierite® cartridges on the small bung during dispensing to protect product from moist air entering the drum.

Softening the Rubber

Add Poly 74/75 Part C Softener to RU-365 for a lower viscosity mix and a softer cured rubber. When using Part C, cure time is longer and there is some loss of strength in the rubber and increased tendency to shrink after repeated castings. Determine the quantity of Part C required through experimentation.

Accelerating the Cure

Cure time can be shortened with the addition of an Accelerator, such as Poly 74/75 Part X, or by adding heat. Exercise caution when using Part X since the rapid onset of gelling may trap air bubbles on or near the surface of the model. Heat also accelerates the cure. It is recommended not to exceed 140°F (60°C).

Using the Mold

Typically, no release agent is necessary when casting plaster or wax with Silpak RU-365 molds. For casting plaster: sponge, dip or spray the mold with Pol-Ease® Mold Rinse and then pour plaster on the wet mold to reduce air bubbles in the plaster and aid release. For casting resin, first spray the mold with Pol-Ease® 2300 Release Agent or PolyCoat. For casting concrete, use a form release, such as Pol-Ease® 2650 or 2601. Avoid solvent-containing releases since they can cause mold distortion (i.e., shrinkage or swelling).

After repeated casting with certain resins, plaster and concrete, molds may shrink slightly since these materials extract oils from the mold. The proper selection of release agent and/or barrier coat can minimize this effect. If shrinkage becomes evident, a light application of Pol-Ease® Mold Dressing can help to restore the mold to its original dimensions.

Silpak RU-365 molds can last many years if stored undistorted on a flat surface in a cool, dry location out of direct sunlight. UV resistance of Poly rubbers can be improved by adding Poly UV Additive. At 0.5% of the total weight of the liquid mix, UV Additive reduces the characteristic surface degradation caused by sunlight and other UV sources.

Storage & Shelf Life

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Part A and B must be stored in their original, tightly closed containers to protect from moisture and foreign materials. Storage area should be maintained at temperatures between 64-86°F. Use products within six months. Part Bs darken with age, but product performance is not affected. Containers should not be opened until ready or use. Once opened, storage life can be extended with the use of purging gas, such as nitrogen.

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