

SILPAK RU-435TH

Brush-On Polyurethane Liquid Rubber

RU-435TH A/B—35 A Shore is a brushable mix that cures to a soft, elastic rubber. This liquid rubber is excellent for making brush-on molds. Silpak RU-435TH consists of two parts (A and B) that immediately thicken to a brushable or trowellable consistency after mixing. Once cured, this urethane RTV provides a strong, durable mold with excellent, high tear resistance and good elongation. This non-sag product is especially useful for application to vertical or overhead surfaces. The rubber molds are suitable for casting plaster, concrete and waxes, as well as limited casting with polyester, epoxy and polyurethane resins. Since RU-435TH bonds well to many surfaces, it can also be used as an adhesive and a sealant.

Features

- Easy 1 to 1 Mix Ratio
- Thickens to a Brushable Consistency
- Non-sag
- Tough and Strong
- Color coded mix indication
- Good Dimensional Stability

Applications

The rubber molds are suitable for casting plaster, concrete and waxes, as well as limited casting with polyester, epoxy and polyurethane resins. *Since RU-435TH bonds well to many surfaces, it can also be used as an adhesive and a sealant.*

- Casting Wax
- Casting Concrete
- Casting Plaster
- Adhesive
- Sealant

Physical and Handling Properties

Property	Typical Value
Cured Color	Light Blue
Mix Ratio, by weight	1A:1B
Initial Mixed Viscosity, at 77°F, cP	Thixotropic
Shore Hardness	A35
Pour Time	10-15 min.
Demold Time at 73°F	16 hrs.
Specific Volume (in ³ /lb)	27.5
Specific Gravity	1.02
Tensile Strength, psi	440
Elongation, %	625
Die C Tear Strength (pli)	70

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.

Preparation of Master

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. Pottery 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., 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 Pol-Ease® 2300 Release Agent or PolyCoat.

Mixing & Curing

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.

Weigh Parts A and B into a suitable, clean container. Volume measurement can be used but is never as accurate as weighing. Mix thoroughly, scraping the sides and bottom of the container until the mix is uniform in color and consistency. Carefully apply the mixed Silpak RU-435TH over a dry, properly prepared model. When brushing Silpak RU-435TH, allow the first coat to cure enough so that the second coat will not disturb it (usually about 1 hour), and then apply the second coat being careful to cover any thin spots in the first coat. Do not allow prior layers to cure completely before applying subsequent coats. Too thick a layer of rubber causes difficulty when turning a mold back on itself during demolding. Allow rubber to cure at room temperature prior to demolding or building the mold shell. Strength continues to develop for several days.

RECOAT TIME: 30- 60 Minutes

Rubber molds can be reinforced with Tietex® Fabric, which is strong and wets out better than other fabrics. To reduce tearing, Tietex® can be laminated at the top of a mold seam or strips can be laid around the perimeter of a mold. Embed the fabric in the second or third coat of rubber while it is still tacky and then cover with a subsequent coat of rubber, which should be as fluid as possible for best penetration of the fabric. Ensure that the Tietex® is not too close to the model surface, so that the weave pattern does not show through to the face of the mold.

Thicker Mixes For Filling Undercuts: If needed, Silpak RU-435TH Liquid Rubber can be made even thicker by stirring Fumed Silica or Poly Fiber II into the mixed Parts A and B.

Using Mold

In most cases, no release agent is necessary for casting plaster, cement and waxes in Silpak RU-435TH rubber molds; however, a release agent or barrier coat is needed when casting epoxy, polyurethane or polyester resins. If a Silpak RU-435TH mold is to be turned inside out like a sock, lubricate its outside surface with soapy water or petroleum jelly, so that it slides over itself easily. A shell or mother mold can be made of plaster, polyester resin and fiberglass, or Poly 15-Series Liquid Plastic filled with Poly Fiber II or fiberglass). If the shell is built with Polytek plastics or other resin, the rubber must be thoroughly coated with paste wax then Pol-Ease® 2300 Release Agent. This will help prevent the plastic from sticking to the rubber. A plaster shell must be sealed with potter's soap, shellac, lacquer or wax to prevent mold distortion during storage or use.

Silpak RU-435TH molds can be stored for years in a cool, dark, dry place in a non-porous mother mold to maintain shape. Cured Silpak RU-435TH rubber should not be exposed to sunlight. Silpak RU-435TH rubbers should not come in contact with skin or foods.

Storage & Shelf Life

A and B components must be stored in their original, unopened containers at temperatures between 65°F and 85°F. Shelf life of materials when kept in unopened sealed containers, at the recommended storage conditions, is 6 months. Containers should not be opened until ready for use. Use products within six months. Part Bs darken with age, but product performance is not affected.

SAFETY: Before use, thoroughly read Safety Data Sheets and product labels. Follow safety precautions and directions.

Part A: Keep out of reach of children. Do not breathe fumes, vapors, mists, or spray. Use adequate general or local exhaust ventilation to minimize exposure levels. If needed, a NIOSH-approved respirator with organic vapor cartridge may be used. If inhaled, remove victim to fresh air and keep at rest in a position comfortable for breathing. Wear impervious gloves, such as butyl rubber or nitrile rubber. Wash contaminated clothing before reuse. Wash skin thoroughly with soap and water after handling. Wear eye protection, such as chemical safety glasses/goggles. If in eyes, rinse cautiously with water for several minutes, removing contact lenses if present and easy to do. Store in a well-ventilated place and keep container tightly closed.

Part B: Keep out of reach of children. Do not breathe fumes, vapors, mists, or spray. Use with adequate general or local exhaust ventilation to minimize exposure levels. If needed, a NIOSH-approved respirator with organic vapor cartridge may be used. If inhaled, remove victim to fresh air and keep at rest in a position comfortable for breathing. Wear impervious gloves, such as butyl rubber or nitrile rubber. Wash contaminated clothing before reuse. Wash skin thoroughly with soap and water after handling. Wear eye protection, such as chemical safety glasses/goggles. If in eyes, rinse cautiously with water for several minutes, removing contact lenses if present and easy to do. If eye irritation occurs, get medical attention. If swallowed, rinse mouth and get medical attention.

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