SILPAK RU-448

Performance Polyurethane Rubber

RU-448 A/B is a 45 shore A hardness, polyurethane RTV elastomer that cures to a rubber material with excellent tear strength and abrasion resistance. It has a simple 1:1 mix ratio and low viscosity for easy processing.

Features

- Excellent tear resistance and elongation
- Easy to process
- Rapid mold cycle

Applications

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

- Concrete texture and stamp pads
- Rubber molds and parts
- Concrete form liners
- Prototype rubber parts

Physical and Handling Properties

Property	Value
Color	Yellow
Mix Ratio, by weight	1A : 1B
Initial Mixed Viscosity, cP	3,000
Hardness, Shore A	45
Gel Time, min	30
Demold Time, hr	16
Specific Gravity	1.02
Tensile Strength, psi	650
Elongation, %	800
Tear Resistance, pli	90

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

Polyurethane RTVs will adhere to most surfaces. A proper mold release must be used on all surfaces. **Silpak ER 2300** is recommended. Wood, plaster, stone, pottery, masonry or any porous surface must be sealed with lacquer or clear shellac prior to applying release. PartAll Film #10 or shellac is suitable for sulfur and water-based clays. Allow 24 hours to dry before preparing master with mold release. Plaster masters can release air when pouring larger molds due to some heat generated. Venting the base of your master by drilling several ¼" holes will release the air downward to avoid air entrapment in the mold cavity. Polyurethane RTV cures to a flexible rubber at the cure time noted above.

Mixing

Weigh or measure appropriate amounts of A and B in container. Select a clean, dry plastic container for mixing. Avoid using wood or paper products, which could cause cure problems. Weigh the proper ratio A to B and mix well, scraping sides and bottom of mixing container to ensure a thorough mix. Avoid whipping in air while mixing. An airless Jiffy Mixer blade works well for large batch mixing.

Curing

Pour mixture over master slowly allowing material to fill void and push air out of cavity. A vacuum chamber can be used to remove excess air bubbles before pouring, but usually not necessary. After mixture is poured a light mist of **Silpak ER-2300** can be sprayed on top surface to break tension bubbles. Urethane RTV will cure to solid rubber at above cure time. Urethane rubber that is colder than 75°F will cure slower. During colder weather material may be heated in a hot water bath (place container in plastic bags first) and the master model should be warmed. Accelerated cures can be reached by heating the mold and material at 100-150°F for 4 to 6 hrs. Cold weather or off-ratio material can produce unacceptable rubber results.

Brush On Molds

A material with low sag may be obtained by mixing in **Silpak PE Mini Fibers**. Various ratios of 5-10% can be used to achieve different thickness and flow control. A mold can be made with only four coats applied within an hour, which can be brushed or troweled onto surface. A mold release should be used to separate the mother mold from rubber mold. It is recommended that you first apply a detail coat with unfilled RTF to attain surface detail of the master.

Using the Mold

The use of a release aids demolding and is recommended prior to each casting. Release selection is based on material that is to be cast. **Silpak CO-1** or similar release is recommended for casting concrete. No release is necessary for wax or plaster products. Avoid using solvent based release agents which can cause mold swelling and distortion.

Storage & Shelf Life

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. Shelf life of materials when kept in unopened, sealed containers, at the recommended storage conditions, is six months. 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.