SILPAK R-1318

Heavy Undercut, General Purpose, Tin RTV Silicone System

R-1318 is a 15 A Shore Tin Base (condensation cure), two-component, room temperature cure (RTV) rubber designed with high elongation and flexibility properties for making molds of parts with undercuts. It is also used as a general purpose, high strength rubber used for soft rubber parts.

Features

- Produces mold with high elongation and flexibility for heavy undercuts
- Excellent physical properties with high tear resistance
- Produces molds with long working life

Applications

Use molds to cast polyester, urethane, epoxy, low melt metal (350°F), thermoplastics (polyvinyl), wax, soap, plaster, and any material where a release free casting is required.

- Production molds
- Production parts

Physical and Handling Properties

Property	Value
Color	White Base / Green Activator
Mix Ratio, by weight	100 Base : 10 Activator
Initial Viscosity, Part A, cP	20,000
Initial Viscosity, Part B, cP	50
Initial Mixed Viscosity, at 77°F, cP	12,000
Pot Life, min	60
Demold Time, hr	15-24
Specific Gravity	1.18
Hardness, Shore A	15
Tensile Strength, psi	260
Elongation, %	550
Tear Resistance, pli	96

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.

Mixing & Curing

Activator should be shaken prior to use. Add the activator to the base. The addition of 10% activator (by weight) has a pot life of 60 minutes and is ready for de-molding after 15-24 hours. R-1318 activator has a trace of pigment for a visual check of adequate mixing. Degassing material is always recommended. Immediately after mixing, place the material in a vacuum chamber to remove trapped air and allow enough room for expansion as vacuum is drawn, as much as four times its original volume. Remove from vacuum chamber and pour very gently into cavity so as not to re-incorporate air into the material. After the mold has been removed from the master, it should be left for 24 hours to develop its maximum mechanical strength.

Brush On Molds

For brush-on molds use **Silpak R-1324th Blue Activator** in place of the pour activator. Additional layers can continue to use **Silpak R-1324th** or switch to **Silpak R-1300th** with **Silpak PE-ESS-5F Mini.** Mix a small batch and paint on the first layer, ensuring that the entire model is covered. Material will drip and pool around the base of model so a dam made of clay or cardboard should be made to contain leaks. Once material has gelled, 30-45 minutes later, the brush on coat can be applied. Continue to build mold wall thickness by applying one coat after another, about an hour apart. This may take several coats, but the goal is to achieve a mold wall thickness of 3/8 to 1/2 inch. It is recommended when building a brush-on mold to complete it within 24 hours to avoid any adhesion problems between layers. Keep mold covered to avoid dust contamination that could affect the adhesion between coats. Hot summer weather could shorten work time. Once rubber mold has been completed and is fully cured, the process of building a support mold made of plaster (**Silpak Castshell**), fiberglass (**Silpak SLR-22**) or urethane plastic (**Silpak Trowel On 60**) to hold the thin rubber mold bladder is undertaken. **Note:** Also available is **Silpak Thix 5170 Additive** to create brush-on, low sag, rubber bladders.

Fast Cure

To quick cure, add **Rapid Set Additive** at time of mixing. Add 4-16 drops per pound of silicone for 1-6 hour cure time. Note: The addition of **Rapid Set Additive** will shorten shelf life of the rubber.

Storage and Shelf Life

Base and Activator 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.