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Urethane RTV RU-455 A/B Product Data Sheet

Product Description and Applications

RU-455 A/B—55 A Shore is a liquid, two-component, 100% solids Urethane Elastomer RTV that is easily processed. This system provides a firm, semi-flexible, durable and abrasion resistant rubber compound. Use for creating molds, especially large molds where dimensional stability is required to avert distortion, and rubber parts. Molds are used to cast concrete, wax, and plaster parts. Also makes molds that are compatible for casting Silicone Platinum RTV.

Available Sizes: Pint Kit (2 lbs) Qrt Kit (4 lbs) Gal Kit (16 lbs) 5 Gal Kit (80 lbs)

Unique Characteristics

- Easy to Process with 1-1 Mix Ratio
- Dimensionally Stable—Minimal Shrinkage
- Excellent Strength Properties—High Tear Resistance

TYPICAL PHYSICAL PROPERTIES

(For Components)	Component A	Component B
Viscosity (cps):	5000	4000
Mix Ratio, By Weight:	100	100
Color:	Yellow/Clear	Amber

(For Cured Material)	Test Method	Results
Shore A Hardness:		55
Tensile Strength (psi):	ASTM D-638	406
Elongation %:	ASTM D-638	480
Tear Resistance (pli):	ASTM D-624	130
Specific Gravity:		1.05
Coverage:		27 in ³ /lb

REACTIVITY DATA

Gel Time:	10 Minutes
De-Mold Time:	2-4 Hours
Cure Time:	12-16 Hours

Preparation of Master

Urethane RTVs will adhere to most surfaces. A proper mold release must be used on all surfaces—*MR-150* or *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 & 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 generation from mold RTV. Venting the base of your master by drilling several ¼" holes will release the air downward to avoid air release into mold cavity. Urethane RTV cures to a flexible rubber in above cure times.

Mixing

Before adding A to B, urethane B should be stirred or shaken thoroughly to assure that any separated material is remixed. 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 isn't usually required. After mixture is poured a light mist of *ER-2300* can be sprayed on top of the 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 pre-determined time. Cold weather or off-ratio material can result in unacceptable rubber results.

Brush On Molds

A material with low sag may be obtained by mixing in a powder—*PE Mini Fibers*. Various ratios of 5% to 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. **Recommended a *DETAIL COAT* (Unfilled RTV) be applied first to attain surface detail.

Casting RTV

Mold release is required when using Urethane RTV as a casting material because of their innate adhesive properties. For epoxy, polyester, and properly dried and sealed plaster molds use release agent—*ER-2300 or MR 150* before each casting. If using Silicone RTV Rubber molds, *Platinum Based Silicone* is recommended. Avoid using Tin Based Silicone RTVs, which may cause unsatisfactory results, i.e. tackiness or gumminess on rubber part's surface. To expedite cure, especially for thin section parts under ¼", post cure part @ 100F for 1-2 hours.

Storage/Shelf Life

A and B components must be stored in their original, unopened containers at temperatures between 65F and 85F. 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. Once containers are opened, material should be used in a short time period. Pre-test any aged material before using. Molds or parts should be cleaned with a soap solution and completely dried prior to storing them in a dry, cool environment. Avoid stacking or exposing them to environmental elements—UV and moisture.

Handling and Safety

Use proper equipment—gloves, glasses and apron when using materials. Avoid direct contact with skin and eyes. If skin contact occurs, clean area with waterless hand cleaner or isopropyl alcohol. For eye contact, flush eye with water for 15 minutes and call physician. Use materials under adequate ventilation. *See *MSDS/SDS* for further information.

THE INFORMATION AND DATA CONTAINED HEREIN ARE BASED ON INFORMATION WE BELIEVE RELIABLE. EACH USER OF THE MATERIAL SHOULD THOROUGHLY TEST ANY APPLICATION AND INDEPENDENTLY CONCLUDE SATISFACTORY PERFORMANCE BEFORE COMMERCIALIZING. SUGGESTIONS OF USES SHOULD NOT BE TAKEN AS INDUCEMENTS TO INFRINGE ON ANY PARTICULAR PATENT.