

IsoMold UMR 711

IsoMold UMR 711 is a two-part polyurethane molding system. IsoMold UMR 711 is mixed one-to-one by volume and cures at room temperature to a hard (shore A70±4), dark amber rubber. IsoMold UMR 711 is used to make molds of detailed masters that do not contain undercuts. Some of the most common uses of IsoMold UMR 711 are diaphragms, dust boots, gaskets, liners, flexible molds, foundry patterns, wear pads, and concrete stamp pads.

APPLICATIONS

- Concrete Stamp Pads
- Diaphragms
- Dust Boots
- Flexible Molds
- Foundry Patterns
- Gaskets
- Liners
- Wear Pads

PRODUCT ADVANTAGES

- Convenient mixing ratio (s)
- Mercury Free

*Values given are not intended to be used in specific preparation

Component Properties

| | |
|-------------------------------------|-----------------|
| Color - ISO | Light Amber |
| Color - POL | Opaque Red |
| Specific Gravity - 74°F, ISO | 1.088 |
| Specific Gravity - 74°F, POL | 1 - 1.12 |
| Viscosity - ASTM D-2196 - 74°F, ISO | 2000 - 4000 cps |
| Viscosity - ASTM D-2196 - 74°F, POL | 1000 - 1600 cps |

Reactivity Profile

| | |
|----------------------------------|-----------------|
| Ratio by Weight - ISO:POL | 104:100 |
| Ratio by Volume - ISO:POL | 1:1 |
| Mix Time - by Hand | 1 - 3 Minutes |
| Pot Life - 100g | 12 Minutes |
| Gel Time - 100 gram sample, 74°F | 15 - 25 Minutes |
| Demold Time | 24 Hours |
| Cure Time | 5 Days |
| Reversion Temperature | 270 °F |

Typical Physical Properties

| | |
|------------------------------------|-----------------|
| Hardness - ASTM D2240 - Shore A | 66 - 74 Shore A |
| Tear Strength - ASTM D624, Die C | 260 pli |
| Split Tear - ASTM D470 | 30 pli |
| Tensile Modulus - ASTM D412 - 100% | 402 psi |
| Tensile Modulus - ASTM D412 - 200% | 528 psi |
| Tensile Modulus - ASTM D412 - 300% | 716 psi |
| Elongation - ASTM D412 | 400 % |
| Rebound, Bayshore % - ASTM D2632 | 56 % |
| Shrinkage | 0.004 in/in |
| Compound Specific Gravity | 1.06 |

RECOMMENDED HANDLING INSTRUCTIONS

Isotec® International's Recommended Application and Handling Instructions

- Use only in well-ventilated areas.
- Wear chemically resistant rubber gloves, safety glasses, and an apron.
- Avoid prolonged or repeated contact with skin.
- In case of skin contact, wipe affected area with isopropyl alcohol, followed by soap and water.
- In case of eye contact, flush eyes with water for 15 minutes and consult a physician.
- If swallowed or comes into contact with eyes, seek medical attention immediately.

To achieve the best results:

- Remove any air bubbles entrained in the resin or mixture with a vacuum.

- Thoroughly scrape the sides and bottoms of all mixing containers.
- Accurately measure the materials at the correct ratio.
- Ensure the ISO and POL are at or near normal Room Temperature (~72° F) prior to use.

Instructions for Use

Prepare Master and Mold Housing

First, clean and dry your master thoroughly. If the master has a porous surface (clay, concrete, plaster, etc.) or is made of sulfur-based clay, you must seal it. You can use polyurethane varnish, polyurethane sealant, or paste wax to seal your master. Next, anchor your master and seal the base so that IsoMold UMR 711 does not leak under your master. A hot glue gun works to anchor and seal the base at the same time. Also, you should seal all of your mold housing connections with sulfur-free clay or hot glue. Then, apply an appropriate release agent (we recommend IsoKote™ 1000) to the master and interior of the mold housing. Apply release agent sparingly, while coating all surfaces of the master. Too much release agent may cover the details of the master. You should allow the release agent to dry approximately 10 minutes before you pour your mold.

Measure POL (Curative) and ISO (Prepolymer)

Note: IsoMold UMR 711 provides approximately 12 minutes for you to mix and pour the mold before it begins to gel. Make sure that POL (Curative) and ISO (Prepolymer) are room temperature before mixing them. Please note that in extremely cold or hot weather, it may take up to 24 hours for the POL (Curative) and ISO (Prepolymer) to reach room temperature. Stir or shake the POL (Curative) to redistribute the pigment. Then, using two clean, dry, plastic containers of equal size, measure equal amounts of the POL (Curative) and the ISO (Prepolymer).

Mix POL (Curative) and ISO (Prepolymer)

After you prepare the master and mold housing and measure the POL (Curative) and ISO (Prepolymer), you are ready to pour the POL (Curative) and ISO (Prepolymer) into another clean, dry, plastic container. Scrape the POL (Curative) and ISO (Prepolymer) containers to move all of the material into the mixing container. Combine the two ingredients for several minutes until no color striations are visible. Be sure to scrape the sides and bottom of the mixing container while combining the two ingredients. You must mix the POL (Curative) and ISO (Prepolymer) completely so that IsoMold UMR 711 will cure correctly. If air bubbles form during mixing, you should degas the mixture to remove them.

Pour Mold

To ensure that no air bubbles form over the details of your master, you may brush a thin base coat of IsoMold UMR 711 onto the master and then pour the rest of the mold material. The best way to pour a mold is to tilt your mold housing slightly and pour into one spot at the corner of the mold. Pour slowly so that any air bubbles that may have formed during mixing can break over the lip of the container. Do not scrape the sides or bottom of the container as the material that clings to these areas may not be completely mixed (partially mixed IsoMold UMR 711 will not cure correctly). When you have finished pouring the mold, you may spray release agent on the top of IsoMold UMR 711 to break any air bubbles that have risen.

Demold and Cure Mold

Once you have poured your mold, allow the mold to cure 24 hours before demolding. Your mold should reach its ultimate strength and hardness in 5 days.

STORAGE

Keep the IsoMold UMR 711 container tightly closed when not in use and store at temperatures between 50–77° F (10–25° C). Do not expose the Pol (Curative) or ISO (Prepolymer) to moisture! If moisture contaminates IsoMold UMR 711, it will not cure. If these storage requirements are met, IsoMold UMR 711 carries a shelf life warranty of six months.

SAFETY

- Refer to the product SDS for all relevant safety information.

Date Modified 6/14/2017

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