

IsoMold UMR 611

IsoMold UMR 611 is a two-part polyurethane molding system. IsoMold UMR 611 is mixed one-to-one by volume (or 1.04-to-1.00 by weight) and cures at room temperature. IsoMold UMR 611 contains no fillers and cures to a firm (Shore A61 ± 2), medium amber rubber. IsoMold UMR 611 is used to make molds of detailed masters that contain shallow undercuts. Because IsoMold UMR 611 is clear, it is ideal for projects that require the master to be visible during molding and cutting. Some of the most common uses of IsoMold UMR 611 are concrete formliners and to make molds for point-of-purchase displays, rapid prototypes, special effects, taxidermy, and sculpture reproductions.

APPLICATIONS

- Concrete Formliners
- Point of Purchase Displays
- Rapid Prototypes
- Sculpture Reproductions
- Special Effects
- Taxidermy

PRODUCT ADVANTAGES

- Convenient mixing ratio (s)
- Mercury Free

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

Component Properties

Color - ISO	Clear
Color - POL	Light Amber
Specific Gravity - 74°F, ISO	1.05 - 1.08
Specific Gravity - 74°F, POL	1.0 - 1.03
Viscosity - ASTM D-2196 - 74°F, ISO	3500 - 4300 cps
Viscosity - ASTM D-2196 - 74°F, POL	620 - 1420 cps

Reactivity Profile

Ratio by Weight - ISO:POL	1.04:1.00
Ratio by Volume - ISO:POL	1:1
Mix Time - by Hand	1 - 2 Minutes
Pot Life - 100g	20 Minutes
Gel Time - 100 gram sample, 74°F	25 - 35 Minutes
Demold Time	24 Hours
Cure Time	24 Hours
Full Cure	3 - 5 Days

Typical Physical Properties

Hardness - ASTM D2240 - Shore A	59 - 63 Shore A
Tear Strength - ASTM D624, Die C	176 pli
Trouser Tear - ASTM D624, Die T	41 pli
Tensile Modulus - ASTM D412	900 psi
Tensile Modulus - ASTM D412 - 100%	410 psi
Tensile Modulus - ASTM D412 - 200%	540 psi
Tensile Modulus - ASTM D412 - 300%	650 psi
Tensile Strength - ASTM D412	1020 psi
Elongation - ASTM D412	610 %
Rebound, Bayshore % - ASTM D2632	38 %
Shrinkage	0.005 in/in

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 611 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 611 provides approximately 20 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 cold weather it may take up to 24 hours for the POL (Curative) and ISO (Prepolymer) to reach room temperature. 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 611 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 can brush a thin base coat onto the master and then pour the rest of the IsoMold UMR 611. The best way to pour a mold is to tilt your mold slightly and pour into one spot at the corner of the mold, allowing the material to cover your master slowly like the flow of lava. When you have finished pouring the mold, you may lightly spray release agent on the top of IsoMold UMR 611 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. To prolong the life of the mold, allow it to cure for 3–5 days before using it.

STORAGE

Keep the IsoMold UMR 611 container tightly closed when not in use and store at temperatures between 70–80F (21–26C). Do not expose the POL (Curative) or ISO (Prepolymer) to moisture! If moisture contaminates IsoMold UMR 611, it will not cure. If these storage requirements are met, IsoMold UMR 611 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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