

IsoMold URP 5102

IsoMold URP 5102 is a two-component system that was designed for applications requiring a high level of mechanical properties. *Physical properties reported were mixed and cured at ambient temperature for 1 hour then post cured at 180F for 16 hours.

APPLICATIONS

- Elastomers

PRODUCT ADVANTAGES

- Excellent Strength and Elongation
- Long gel time for hand mix applications

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

Component Properties

Color - ISO	Pale Yellow
Color - POL	Yellow
Specific Gravity - 74°F, ISO	1.05 -
Specific Gravity - 74°F, POL	1.1
Mixed Viscosity - ASTM D-2196 - (74°F)	5400 cps
Viscosity - ASTM D-2196 - 74°F, ISO	5200 - 7300 cps
Viscosity - ASTM D-2196 - 74°F, POL	1000 - 2000 cps
% Solids	98

Reactivity Profile

Ratio by Weight - ISO:POL	100 - 52
Ratio by Volume - ISO:POL	2 - 1
POL Temperature	70 - 80 °F
ISO Processing Temperature	70 - 80 °F
Pot Life - 100g	15 - Minutes
Mold Temperature	70 - 80 °F
Gel Time - 100 gram sample, 74°F	20 - 30 Minutes
Demold Time	24 Hours
Initial Cure Temperature	70 - 80 °F
Initial Cure Time	1 Hour
Post Cure Temperature	180 °F
Post Cure Time	16 Hours
Full Cure	7 Days

Typical Physical Properties

Hardness - ASTM D2240 - Shore A	80 - 85 Shore A
Tear Strength - ASTM D624, Die C	243 pli
Trouser Tear - ASTM D624, Die T	49 pli
Tensile Modulus - ASTM D412	3,781 psi
Tensile Modulus - ASTM D412 - 100%	856 psi
Tensile Modulus - ASTM D412 - 200%	1,225 psi
Tensile Strength - ASTM D412	1,242 psi
Elongation - ASTM D412	203 %
Rebound, Bayshore % - ASTM D2632	29 %
Shrinkage	0.55 %
Compression Set - Method B, 22 hours @ 158°F	9.9 %
Compressive Strength - ASTM D695	642 psi

RECOMMENDED HANDLING INSTRUCTIONS

Always mix/roll POL side prior to use to ensure a homogenous product.

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 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 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 provides approximately 15 minutes for you to mix and pour the mold before it begins to gel. Make sure that POL (POL (Curative)) and ISO (ISO (Prepolymer)) are room temperature before mixing them. Please note that in cold weather it may take up to 24 hours for the POL (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 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. 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 to break any air bubbles that have risen.

Demold and Cure Mold

Once you have poured your mold, allow the mold to cure a minimum of 1 hour before demolding. For best results, post cure the mold in a 180F oven overnight (minimum 16 hours). IsoMold URP 5102 can also be cured at ambient conditions (70-80F) for 24 hours. To prolong the life of the mold, allow it to cure for 3–4 days before using it.

STORAGE

Protect ISO and POL side from moisture. If the ISO side material is exposed to moisture, including moisture from the air, it will release CO₂ gas. If placed in a sealed container, this gas can cause a dangerous buildup of pressure potentially resulting in injury or death. If the POL side is exposed to excess moisture and then applied it may cause weak or foamed material to be applied.

SAFETY

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

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