IsoMold URP 5121

IsoMold URP 5121 is used to make molds of detailed masters that do not contain undercuts. ISOMOLD URP 5121's physical properties make it ideal for making concrete patterns and formliners. IsoMold URP 5121 is a two-part polyurethane molding system. IsoMold URP 5121 is mixed one-to-one by volume (or one-to-one by weight) and cures at room temperature. IsoMold URP 5121 cures to a hard (Shore A50), gray rubber.

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

Component Properties	
Color - ISO	amber
Color - POL	gray
Specific Gravity - 74°F, ISO	1.03
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Viscosity - ASTM D-2196 - 74°F, ISO	1200 cps
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% NCO - ISO	4.3
Reactivity Profile	
Mix Time - by Hand	1 - 2 Minutes
Pot Life - 100g	12 Minutes
Gel Time - 100 gram sample, 74°F	13 - 20 Minutes
Gel Time	15 Minutes
Demold Time	24 Hours
Initial Cure Temperature	74 °F
Typical Physical Properties	
Hardness - ASTM D2240 - Shore A	50 Shore A
Tear Strength - ASTM D624, Die C	130 - 170 pli
Split Tear - ASTM D470	15 - 25 pli
Tensile Strength - ASTM D412	1000 psi
Elongation - ASTM D412	350 %
Rebound, Bayshore % - ASTM D2632	57 %

RECOMMENDED HANDLING INSTRUCTIONS

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 URP 5121 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 Curative and Prepolymer

Note: IsoMold URP 5121 provides approximately 20 minutes for you to mix and pour the mold before it begins to gel. Make sure that curative and prepolymer are room temperature before mixing them. Please note that in cold weather it may take up to 24 hours for the curative and prepolymer to reach room temperature. Using two clean, dry, plastic containers of equal size, measure equal amounts of the curative and the prepolymer.

Mix Curative and Prepolymer
After you prepare the master and mold housing and measure the curative and prepolymer, you are ready to pour the curative and prepolymer into another clean, dry, plastic container. Scrape the curative and 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 curative and prepolymer completely so that IsoMold URP 5121 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 URP 5121. 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 URP 5121 to break any air bubbles that have risen.

Demold and Cure Mold
Once you have poured your mold, allow the mold to cure 16 hours before demolding. To prolong the life of the mold, allow it to cure for 3–4 days before using it.

Cure and Thermal Shrinkage
IsoMold URP 5121 is formulated for Room Temperature (RT) Cure. Shrinkage of 0-0.125% may occur if the material is processed above room temperature. Other conditions that may cause mold shrinkage: prolonged use, storing the RT cured mold at high temperatures, or excessive heat generated during use. Shrinkage depends on the temperature and duration of exposure.
THOROUGHLY MIX THE “POL” SIDE PRIOR TO USE
This ensures the material is homogenous and parts made will have the correct hardness and physical properties.

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

Please refer to Isotec International’s Application Bulletin MM-1 for more information on using the IsoMold URP 5121 or any of our other mold making resins or accessories.

STORAGE

Keep the IsoMold URP 5121 container tightly closed when not in use and store at temperatures between 60–90F (16–32C). Do not expose the curative or prepolymer to moisture! If moisture contaminates IsoMold URP 5121, it will not cure. If these storage requirements are met, IsoMold URP 5121 carries a shelf life warranty of six months.

SAFETY

Please refer to the IsoMold URP 5121 SDS for complete information on safe use and handling of this product. When working with IsoMold URP 5121, please observe the following safety precautions.- Use only in well-ventilated areas Wear chemically resistant

Date Modified

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• Reported laboratory test results of the color stability in no way relates to the actual performance upon exposure to light sources. Since all aromatic urethanes experience color degradation upon ultraviolet light exposure, Seller shall not be liable for any damages resulting from ultraviolet light color degradation of any aromatic urethane systems manufactured or sold by Seller.

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