ISOTEC

Isotec International, Inc.
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TECHNICAL DATA SHEET

IsoMold UMR 611

PRODUCT DESCRIPTION

Isotec's IsoMold UMR 611 (Formerly PAM 2160) 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 reproductionsIsoMold UMR 611 is a two-part polyurethane molding system. IsoMold UMR 611 is mixed one-to-one by volume (or 100-to-105 by weight) and cures at room temperature. IsoMold UMR 611contains no fillers and cures to a firm (Shore A60 ± 2), medium amber rubber.

REACTION PROFILE

Ratio by Weight (iso:polyol) :	104 - 100	
Ratio by Volume (iso:polyol) :	1 - 1	
Pot Life (100g) :	20	Minutes
Gel Time, 100 gram sample, 74F :	22 - 24	Minutes
DeMold Time :	16	Hours
Cure Time :	24	Hours
Mix Time :	1 - 2	Minutes
Reversion Temp :	270	°F

COMPONENT PROPERTIES

Color, Isocyanate :	Clear	
Color, Polyol :	Light Amber	
Specific Gravity (74F), Isocyanate :	1.065	
Specific Gravity (74F), Polyol :	0.988	
Viscosity (74F), ASTM D-1638 (ISO) :	3200	cps
Viscosity (74F), ASTM D-1638 (Polyol) :	1000	cps

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TYPICAL PHYSICAL PROPERTIES

Shore Hardness- A, ASTM D2240 :	59 - 63	A
Tear, Die C :	170	pli
Split Tear, ASTM D470 :	35	pli
Tensile Modulus, ASTM D412 :	220 - 490	psi
Elongation, ASTM D412 :	600	%
Tensile Strength, ASTM D412 :	800	psi
Rebound Bashore %, ASTM D2632 :	63	%

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

RECOMMENDED HANDLING INSTRUCTIONS

Be sure to read the Material Safety Data Sheet that comes with IsoMold UMR 611 When working with this material please observe the following safety precautions.

- Wear safety glasses, chemical-resistant rubber or plastic gloves, and an apron.
- Avoid prolonged or repeated contact with skin.
- In the case of skin contact, wipe affected area with isopropyl alcohol, followed by soap and water.
- In the case of eye contact, flush eyes with water for 15 minutes and consult a physician.
- If swallowed, drink one to two glasses of water and seek medical attention immediately.

Applications
IsoMold UMR 611 (PAM 2160) 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.

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Characteristics:
IsoMold UMR 611 is a two-part polyurethane molding system.IsoMold UMR 611 is mixed one-to-one by volume (or 100-to-105 by weight) and cures at room temperature.IsoMold UMR 611 contains no fillers and cures to a firm (Shore 61 A), medium amber rubber.

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 Curative and Prepolymer:

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Note: IsoMold UMR 611 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 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 ofIsoMold 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 16 hours before demolding. To prolong the life of the mold, allow it to cure for 3–4 days before using it.

Keep the IsoMold HRS 5132 container tightly closed when not in use and store at temperatures between 70–80F (21–26C). Do not expose the curative or prepolymer to moisture! If moisture contaminates IsoMold UMR 611, it will not cure.

SAFETY

Please refer to the IsoMold UMR 611 SDS for complete information on safe use and handling of this product. When working with IsoMold UMR 611, please observe the following safety precautions.

-Use only in well-ventilated areas Wear chemically resistant rubber gloves, safety glasses/goggles, and an apron or other protective clothing
-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

Please refer to the MSDS for all appropriate health and safety information.

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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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