



# FLEXIBLE POLYURETHANE ELASTOMERS

► Polyurethane rubber is generally less expensive than silicone rubber and more abrasion resistant, making these **Flexible Polyurethane Elastomers** a preferred material for concrete and architectural castings. However, flexible urethanes are not self-releasing and therefore require a release procedure to facilitate clean and easy part release.



## Specifications

	Mix Ratio R:H (by wt.)	Mix Ratio R:H (by vol.)	Mixed Viscosity (cps)	Casting Thickness Limit (in.)	Hardness (Shore A)	Gel Time (min.) @ 72°F	Demold Time (hr.) @ 72°F	Density (g/cc)	Volumetric Yield (in. <sup>3</sup> /lb.)	Tensile Strength (psi)	Elongation (%)	Tear, Die C (pli)	Shrink (in./in.)*	Color
<b>Freeman Flexible Elastomers</b>														
<b>Freeman 1035</b>	1:1	1:1	1,500	2	35	30	16	1.02	27.2	420	1,000	85	0.001	Beige
<i>RenCast 6410-3 (Discontinued)</i> See Freeman 2035	1:1	93:100	1,200	4	42	26	16	1.04	26.6	504	340	-	0.003	Off White
<b>Freeman 2035</b>	100:97	1:1	700-750	12	35-40	12-14	24	1.03	27	700	850	-	0.001	Tan
<i>Freeman 1040 (Discontinued)</i> See Freeman 2040 or Freeman 50FX	10:100	9:100	1,350	2	45-55	38	24	1.04	26.6	1,257	225	-	0.001	Off White
<i>RenCast 6400-3 (Discontinued)</i> See Freeman 2040 or Freeman 50FX	10:100	9:100	1,700	2	52	40	24	1.04	26.6	1,143	251	-	0.001	Off White
<b>Freeman 2040</b>	1:1	-	800	4	50	15	16	1.03	26.6	600	970	117	-	Orange
<b>Freeman 50FX Clear</b>	1:1	1:1	1,200	3	50	30	16	1.0	27.5	360	750	74	-	Clear
<i>RenCast 6401-3 (Discontinued)</i> See Freeman 2470	25:100	22:100	1,200	1.5	65	40	16-24	1.07	25.9	1,720	270	-	0.0005	Off White
<b>Freeman 2470</b>	39:100	1:3	660	4	65-75	10-15	24	1.07	25.8	1,370	500	230	-	Translucent White
<b>Freeman 2070</b>	100:98	1:1	3,500-4,000	4	70	35	24	1.06	26.2	1,700	-	-	-	Gray
<i>RenCast 6497 (Discontinued)</i> No direct alternative	1:1	-	1,875	-	70	7-8	8	1.22	25.2	995	372	-	-	Lt. Amber
<b>ISOMold Flexible Elastomers</b>														
<b>ISOMold CMR 3001</b>	100:105	1:1	1,200	4	28-32	25-30	16-24	1.03	26.9	670	600	100	-	Gray
<b>ISOMold UMR 411</b>	104:100	1:1	567	4	40	15	24	1.02	27.2	600	600	90	0.001	Green
<b>ISOMold CMR 5001</b>	98:100	1:1	2,000	4	48-52	15	12-24	1.04	26.6	880	530	130	-	Gray
<b>ISOMold UMR 611</b>	1:1	1:1	2,000	4	59-63	22-24	16	1.065	26	800	600	170	-	Light Amber
<b>ISOMold CMR 7001</b>	98:100	1:1	2,080	2	68-72	30-35	16-24	1.03	26.8	1,200	450	-	-	Gray
<b>ASTM</b>	-	-	D-2393	-	D-2240	D-2471	-	D-792	D-792	D-638	D-638	-	D-2566	-

\*Dependent upon mass.



### Freeman 1035

- 30 min. gel time
- 16 hr. demold
- 35 Shore A

This beige material is excellent for making molds with deep undercuts or where a flexible mold makes demolding easier. This economical urethane features a one to one mix ratio by weight or volume, making mixing easy and convenient. It is castable up to 2" thick.

### Freeman 2035

Alternative to RenCast 6410-3

- 12-14 min. gel time
- 24 hr. demold
- 35-40 Shore A

Freeman 2035 is a tan material used to make molds of masters that contain minor undercuts. This economical urethane features a 1:1 mix ratio by volume, and its physical properties make it ideal for molds

containing shallow undercuts, concrete patterns and formliners, prototypes, and sculpture reproductions.

### Freeman 2040

Alternative to Freeman 1040 and RenCast 6400-3

- 15 min. gel time
- 16 hr. demold
- 50 Shore A

Freeman 2040 features very high elongation and low viscosity for ease of pouring. It offers excellent abrasion resistance, making it ideal for the casting and forming of concrete. It also works well for

general flexible mold construction, flexible parts and gaskets, and prototypes. Freeman 2040 may be easily thickened for brush-on applications using Fumed Silica.

## Freeman 50FX Clear

Alternative to Freeman 1040 and RenCast 6400-3

- ▶ 30 min. gel time
- ▶ 16 hr. demold
- ▶ 50 Shore A

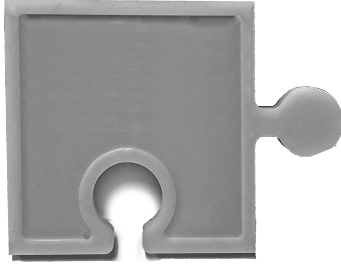
Freeman 50FX Clear is a flexible rubber ideal for encapsulating objects and is often used to make clear molds that can be easily cut away from patterns. Its long working time and low viscosity

permit natural bubble release reducing the chance of air entrapment. This material can be tinted using Freeman Color Tints to create opaque parts of various colors.

## Freeman 2470

Alternative to RenCast 6401-3

- ▶ 10-15 min. gel time
- ▶ 24 hr. demold
- ▶ 65-75 Shore A



Freeman 2470 features outstanding tear strength and elongation. Molds made of this material can be flexed and stretched, allowing for easy removal of parts. Maximum casting thickness is 4".

## Freeman 2070

- ▶ 35 min. gel time
- ▶ 24 hour demold
- ▶ 70 Shore A

Freeman 2070 is ideal for making concrete patterns and formliners. Other uses include foundry patterns and core boxes, gaskets, and fixtures.

## ISOMold CMR 3001

- ▶ 25-30 min. gel time
- ▶ 16-24 hour demold
- ▶ 28-32 Shore A

ISOMold CMR-3001 is a mercury free, low viscosity, flexible polyurethane that offers an easy 1:1 mix ratio by weight or volume. Most commonly used for molds

of masters and undercuts, rapid prototyping, special effects, taxidermy, concrete, and sculpture reproduction.

## ISOMold UMR 411

- ▶ 15 min. gel time
- ▶ 24 hour demold
- ▶ 40 Shore A

ISOMold UMR 411 is a mercury-free, low-viscosity flexible elastomer with an easy 1:1 mix ratio. This product offers a high tear strength of 90 Tear, Die C (PLI). It is ideal for molds containing

shallow undercuts for displays, rapid prototypes, special effects, taxidermy, concrete, and sculpture reproductions.

## ISOMold CMR 5001

- ▶ 15 min. gel time
- ▶ 12-24 hour demold
- ▶ 48-52 Shore A

This flexible urethane is used to make molds of detailed masters that do not contain undercuts. This gray colored product is ideal for making concrete patterns and form lines.

## ISOMold UMR 611

- ▶ 20 min. gel time
- ▶ 16 hour demold
- ▶ 60 Shore A

IsoMold UMR 611 is a mercury-free, two-part molding system that cures at room temperature and features a 1:1 mix ratio. The light amber-colored cure makes it ideal for applications that require visibility of the master during molding and cutting. This product can be used to make molds for point-of-purchase displays, rapid prototypes, special effects, taxidermy, and sculpture reproduction.

## ISOMold CMR 7001

- ▶ 30-35 min. gel time
- ▶ 16-24 hour demold
- ▶ 68-72 Shore A

ISOMold CMR-7001 is used to make molds of detailed masters that do not contain undercuts. The most common uses include concrete molds and formliners, precast concrete moldings, and sculpture reproduction. This economical material features a 1:1 mix ratio by volume for ease of use.



## Freeman Color Tints

These highly concentrated coloring tints are perfect for Freeman 50FX Clear. Mix thoroughly into the part B or polyol side before combining with part A to obtain a transparent color. Can cause staining – wear hand and eye protection.

For part numbers, technical documents, and ordering, visit our website at [www.FreemanSupply.com](http://www.FreemanSupply.com).



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