



# SEMI-RIGID POLYURETHANE ELASTOMERS

➔ These **Semi-Rigid Polyurethane Elastomers** are known for their excellent impact strength and abrasion resistance, making them ideal for foundry tooling as well as semi-rigid part production.



Freeman 1060LV in Black, Amber, and Red

## Specifications

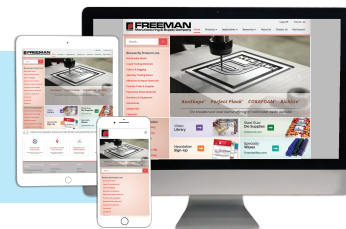
Arranged in order of Shore Hardness with discontinued products noted.

	Mix Ratio R:H (by wt.)	Mix Ratio R:H (by vol.)	Mixed Viscosity (cps)	Casting Thickness Limit (in.)	Shore Hardness	Gel Time (min.) @ 72°F	Demold Time (hr.) @ 72°F	Density (g/cc)	Volumetric Yield (in. <sup>3</sup> /lb.)	Shrink (in./in.)*	Tensile Strength (psi)	Elongation (%)	Tear Strength (ppi)	Deflection Temp (°F)	Color
<b>RenCast 6402-3 (Discontinued)</b> See Freeman 2480	35:100	31:100	940	1	82A	31-33	24	1.08	25.6	0.001	2,172	270	285	-	Off-White
<b>Freeman 2480</b>	46:100	1:2.5	630	4	75-85A	10-15	24	1.08	25.6	0.0002	1,420	400	-	-	Translucent White
<b>Freeman 1050 (Discontinued)</b> See Freeman 2050	1:1	100:94	1,650	4	85A	26	16	1.10	25.2	0.001	2,050	510	280	-	Lt. Amber
<b>RenCast 6403-3 (Discontinued)</b> See Freeman 2490 or 2050	50:100	44:100	710	0.5	85-90A	30	24	1.10	25.2	0.001	3,334	328	419	-	Off-White
<b>RenCast 6442 (Discontinued)</b> See Freeman 2050	1:1	100:94	1,610	4	85A	28	24	1.09	25.4	<0.001	2,100	525	290	-	Lt. Amber
<b>RenCast 6443 (Discontinued)</b> See Freeman 2490 or 2050	100:60	100:60	2,450	2	95A	19	24	1.06	26.1	0.001	3,500	475	375	-	Lt. Amber
<b>Freeman 2490</b>	58:100	1:2	600	4	85-95A	10-15	24	1.09	25.4	0.0002	1,940	500	-	-	Translucent White
<b>Freeman 2050</b>	100:40	-	2,000	4	90A	23	16	1.06	26.6	-	1,500	460	350	-	Amber
<b>Flexane 80</b>	77:23	-	10,000	4	87A	30	10	1.04	26.5	0.0018	2,100	650	350	-	Black
<b>Freeman 2095</b>	100:40	100:39	2,400	2	95A	30	24	1.04	26.5	0.0002	2,550	430	325	-	Dark Amber
<b>Flexane 94</b>	69:31	-	6,000	4	97A	10	5	1.04	26.5	0.0014	2,800	500	415	-	Black
<b>Freeman 1060 (Discontinued)</b> See Freeman 1060LV or 2060/60	100:60	100:60	2,600	2	60D	28	16	1.05	26.4	0.001	3,200	300	510	-	Red, Black
<b>RenCast 178-88/Ren 6444 (Discontinued)</b> See Freeman 1060LV or 2060/60	100:60	100:60	2,500	2	60D	27	24	1.05	26.4	0.001	3,400	325	550	-	Red
<b>Freeman 1060LV</b>	100:50	100:50	750	¾	60D	15-25	24	1.16	23.8	0.001	3,200	45	550	TBD	Amber, Red, Black
<b>Freeman 1060LV Fast</b>	100:50	100:50	750	¾	60D	15-25	2-4	1.16	23.8	0.001	3,200	45	550	TBD	Black
<b>Freeman 2060/60</b>	100:60	100:60	2,200	3	60D	25	24	1.06	26.3	<0.002	3,600	325	560	135	Amber, Red, Black
<b>Freeman 1066 (Discontinued)</b> See Freeman 2060/66	100:50	100:50	3,200	2	65D	15-17	2-4	1.03	26.9	0.0025	3,100	140	630	181	Red, Black
<b>Freeman 2060/66</b>	100:50	100:50	3,200	2	65D	15	24	1.03	27	<0.002	3,100	140	630	180	Amber, Red, Black
<b>ASTM</b>	-	-	D-2393	-	D-2240	D-2471	-	D-792	D-792	D-695	D-638	D-790	D-624	D-2566	-

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## Freeman 1060LV

Alternative to Freeman 1060, RenCast 178-88/Ren 6444

- ▶ 20 min. Gel Time
- ▶ 16 hr. demold
- ▶ 60 Shore D

Freeman 1060LV is a low-viscosity polyurethane elastomer designed for foundry applications where abrasion resistance and impact strength are critical. Features same-day demold and low viscosity for ease of pouring and capturing detail. Freeman 1060LV is ideal for foundry patterns, core boxes, wear resistance parts, and holding/assembly fixtures. Also available in a fast version with a 2-4 hr. demold time.

## Freeman 2050

Alternative to Freeman 1050, RenCast 6403-3, RenCast 6442, and RenCast 6443

- ▶ 23 min. gel time
- ▶ 16 hour demold
- ▶ 90 Shore A

Freeman 2050 is a tough, semi-flexible urethane ideal for creating molds requiring some degree of flexibility, as well as producing semi-rigid prototypes and finished parts. It may be easily thickened for brush-on applications using Fumed Silica.

## Freeman 2060/60

Alternative to Freeman 1060, RenCast 178-88/Ren 6444

- ▶ 25 min. gel time
- ▶ 24 hour demold
- ▶ 60 Shore D

Freeman 2060 with Freeman 60 Hardener is recommended for applications where abrasion resistance and impact strength are critical. Freeman 2060/60 is ideal for foundry patterns, core boxes, wear resistance parts, and holding/assembly fixtures. Available in amber, red, or black.

## Freeman 2060/66

Alternative to Freeman 1066

- ▶ 15 min. gel time
- ▶ 24 hour demold
- ▶ 65 Shore D

Freeman 2060 with Freeman 66 Hardener is specifically designed for highly abrasive-resistant foundry tooling. It can be sanded or machined once cured and features a heat deflection temperature of 180°F. It has a shorter gel time than Freeman 2060/60. Available in amber, red, or black.



## Freeman 2095

- ▶ 30 min. gel time
- ▶ 24 hour demold
- ▶ 95 Shore A

Freeman 2095 cures semi-rigid in mass and is flexible in thin cross-sections. It is used for foundry patterns, core boxes, metal forming pads, and other applications where good abrasion resistance and strength are required. Castable to 2" thickness.

## Freeman 2480

Alternative to RenCast 6402-3

- ▶ 10-15 min. gel time
- ▶ 24 hour demold
- ▶ 75-85 Shore A

Freeman 2480 is a tough and flexible, featuring low viscosity for easy mixing and excellent detail reproduction. This system is ideal for production models, metal-forming pads, and a variety of mechanical parts. Maximum casting thickness is 4".

## Freeman 2490

- ▶ 10-15 min. gel time
- ▶ 24 hour demold
- ▶ 85-95 Shore A

Freeman 2490 is ideal for producing durable parts such as impellers, rollers, gears and wheels. It features quick gel time, good hydrolysis resistance, and low viscosity for easy mixing and excellent detail reproduction. Maximum casting thickness is 4".

## Devcon Flexane 80

- ▶ 30 min. gel time
- ▶ 10 hour demold
- ▶ 87 Shore A

Featuring low shrink and high chemical and abrasion resistance, this black-colored material is ideal for creating flexible molds and holding fixtures. Use the Flex-Add additive with Flexane 80 Liquid to produce a lower durometer castable urethane.

## Devcon Flexane 94

- ▶ 10 min. gel time
- ▶ 5 hour demold
- ▶ 97 Shore A

Flexane 94 features low shrink and high chemical and abrasion resistance. It is a black, semi-rigid material for extremely tough, flexible molds and non-marring holding and assembly fixtures.



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