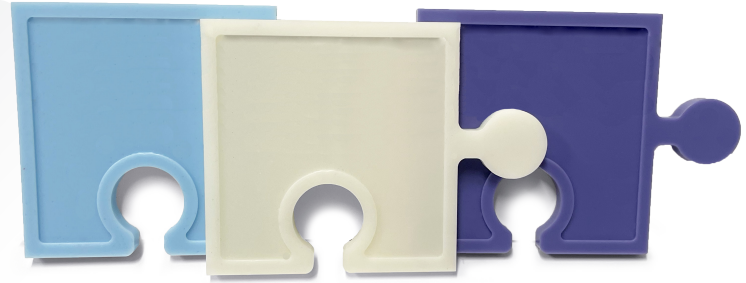




RIGID POLYURETHANE ELASTOMERS

➔ **Rigid Polyurethane Elastomers** have a variety of uses including prototyping thermoplastic-like parts, constructing molds for low-volume metal forming applications, and heat-resistant foundry tooling. The discontinued elastomers offered an overnight cure, but the new Freeman 2075 features an intermediate long gel time provides sufficient time to vacuum degas prior to pouring. A 16-24 hour cure time is required before demolding.



Freeman 1085HS in white and tinted with Freeman Coloring Tints

Specifications

	Mix Ratio R:H (by wt.)	Mix Ratio R:H (by vol.)	Gel Time (sec.) @ 72°F	Demold Time (min.) @ 72°F	Shore Hardness	Viscosity R/H or Mixed (cps)	Density (g/cc)	Volumetric Yield (in. ³ /lb.)	Shrink (in./in.)*	Compressive Strength (psi)	Flexural Strength (psi)	Flexural Modulus (psi)	Tensile Strength (psi)	Izod Impact (ft. lb./in.)	Deflection Temp. (°F)	Color
RenPIM 6486 (Discontinued) <i>No direct alternative</i>	100:50	1:1	7-8	8	67D	7,800/75	1.13	23.9	-	-	4,750	110,000	3,600	6.6	156	Amber
Freeman 1085 (Discontinued) <i>See Freeman 1085HS</i>	1:1	1:1	6	30-120 min.	69D	80	1.12	24.7	0.002	4,880	5,600	170,000	3,300	0.35	137	Beige
Freeman 1085HS	1:1	1:1	7	30 min.	70D	90	1.05	26.6	0.003	-	4,500	235,000	4,500	3.0	-	White
RenCast 6405 (Discontinued) <i>See Freeman 2075</i>	1:1	90:100	45-55	24	75D	220	1.13	24.5	0.001	6,400	6,600	-	4,900	0.71**	-	White
RenCast 6495-1 (Discontinued) <i>See Freeman 2075</i>	1:1	90:100	45-55	24	75D	190-300	1.13	24.5	0.0007	6,400	6,600	-	4,900	0.71**	-	Lt. Amber
Freeman 2075	1:1	1:1	20	16-24	75D	190	1.09	25.4	0.001	-	9,000	-	5,400	1.32**	9,000	White
RenPIM 6450 (Discontinued) <i>See Freeman 2450</i>	80:100	67:100	45-65	15-30	77D	170/1,600	1.13	23.9	-	23,100	7,000	184,000	4,900	0.90	208	Black
RenPIM 6452 (Discontinued) <i>See Freeman 2450</i>	80:100	67:100	50-70	15-30	79D	30/1,600	1.15	24.1	-	18,000	8,500	198,000	4,900	0.84	179	Off White
RenPIM 6460 (Discontinued) <i>See Freeman 2450</i>	80:100	67:100	50	10-15	80D	170/1,500	1.18	23.5	-	24,500	7,900	174,000	5,300	1.00	-	Black
Freeman 2450	80:100	67:100	45-65	15-30	77D	200/1,600	1.15	24	-	23,100	7,000	184,000	4,900	0.90	250	Black
RenCast 6432-1 (Discontinued) <i>See Freeman 1070 or Freeman 1080</i>	100:50	100:50	5-6	1-2	72D	50/1,100	1.09	24.7	0.005	7,200	8,600	234,000	5,600	0.6	163	Off-White
Freeman 1070	100:92	1:1	3	15-30 min.	70D	80	1.05	26.6	0.004	3,650	4,500	132,000	3,000	-	140	Off-White
Freeman 1080	115:100	1:1	20	2-4	80D	150	1.12	24.7	0.003	8,300	9,500	288,000	6,650	0.31	134	White
RenCast 6491 (Discontinued) <i>No direct alternative</i>	1:1	89:100	4-5	30-40 min.	85D	200/640	1.16	23	-	33,500	16,000	400,000	8,600	1.2	205	Off-White
RenPIM 6458 (Discontinued) <i>No direct alternative</i>	100:85	1:1	50	15	86D	75/400	1.21	22.9	-	14,100	16,500	432,000	10,200	0.87	129	Clear Amber
ASTM	-	-	D-2471	-	D-2240	D-2393	D-792	D-792	D-2566	D-695	D-790	D-790	D-638	D-256	D-648	-

*Dependent upon mass.

**Notched Izod (ft.-lb./in.)



Freeman 1070

- ▶ 3 min. gel time
- ▶ 15-30 min. demold
- ▶ 70 Shore D
- ▶ Off-White

This economical, easily mixed urethane creates parts that simulate injection molded plastic. It features low viscosity, ease of pouring, and a short demold time for multiple part production. It is castable up to ½" in thickness.

Freeman 1080

- ▶ 20 min. gel time
- ▶ 2-4 hour demold
- ▶ 80 Shore D
- ▶ White

This brilliant white, tough urethane elastomer features a 1:1 mix ratio by volume, a low viscosity for pouring thin-walled parts, and sufficient time to degas. It is castable up to ½" in thickness.

Freeman 1085HS

- ▶ 7 min. gel time
- ▶ 30 min. demold
- ▶ 70 Shore D
- ▶ White

Freeman 1085HS is one of the most economical and user-friendly polyurethane elastomers for creating prototype injection-molded parts. It features high impact resistance, low viscosity for easy pouring, low

moisture sensitivity, fast demold time, and can be cast up to 3" thick. It can be tinted with our Freeman Coloring Tints due to its white color.

Freeman 2075

- ▶ 20 min. gel time
- ▶ 2-4 hr. demold
- ▶ 75 Shore D
- ▶ White

Freeman 2075 features an easy 1:1 mix ratio, low-viscosity, and high impact strength. Freeman 2075 produces thermoplastic like parts making it ideal for casting prototypes, rigid parts, short-run production of injection molded parts, and thermoformed parts.



Freeman 2450

Freeman 2450

- ▶ 45-65 sec. gel time
- ▶ 15-30 min. demold
- ▶ 77 Shore D
- ▶ Black

Freeman 2450 is a quick-curing urethane that can be demolded in 15 to 30 minutes. It offers high dimensional stability, heat resistance and impact strength. Ideal for rapid prototyping or short run production parts. Parts can be cured at room temperature, however a post cure is required to achieve maximum properties.

RELEASE MATERIALS FOR POLYURETHANE ELASTOMERS

Freeman Machinable Wax

Formulated and manufactured by Freeman, this self-releasing, extremely hard, synthetic material machines faster than polyurethane and epoxy tooling boards or metals without sacrificing quality of finish, surface detail, or dimensional accuracy. Available in three formulations.

Wax-Based Mold Releases

Paste, semi-paste, liquid and spray wax release agents

Silicone-Based Mold Releases

Sprayable silicone mold releases in both aerosol & bulk packaging

PVA-Based Mold Releases

Water soluble, polyvinyl alcohol, film-forming mold releases

Other Mold Releases

Dry film aerosols, zinc stearate, and paintable mold releases

Devcon Flexane Primers

One-component adhesion promoters used to increase the bonding strength of polyurethanes to metal surfaces, concrete, rubber, urethane, wood, fiberglass, and cured epoxy surfaces



See all release materials on our website, www.FreemanSupply.com.

For part numbers, technical documents, and ordering, visit our website at www.FreemanSupply.com.



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Your Freeman Customer Number can be found on any invoice.

