SPECIALTY TOOLING PASTES & RESIN SYSTEMS

These epoxy repair materials and paste compounds represent a wide range of specialty tooling materials for unique tool construction, repair, and alteration. These materials are often used as an alternative to fiberglass cloth reinforcement behind surface coats.

Specifications

	Mix Ratio (by wt.) Resin:Hardener	Mix Ratio (by vol.) Resin:Hardener	Gel Time (min.) @ 72°F	Demold Time (hr.) @ 72°F	Hardness (Shore D)	Mixed Viscosity (cps)	Density (g/cc)	Volumetric Yield (in.^{3}/lb.)	Shrink (in./in.)	Compressive Strength (psi)	Flexural Strength (psi)	Flexural Modulus (psi)	Tensile Strength (psi)	C.T.E. (in./in./°F)	Deflection Temp. (°F)	Color
RenCast 1774 (Discontinued) *No direct alternative*	100:25	100:39	6 hr.	24	57	9,900	0.25	110.7	0.003	450	380	–	–	3.2×10^{-5}	128	White
RenPaste 8281 (Discontinued) *See Freeman 1020 or 1015*	1:1	1:1	90-165	24	45	Dough-like	0.60	46.2	0.0002	1,300	549	1.2×10^{5}	413	9.4×10^{-6}	118	Blue
Freeman 1020	100:33	100:36	50	24	55	Putty	0.46	60.7	0.001	28,000*	32,000*	–	500*	–	190	Beige
Freeman 1015	1:1	1:1	240	24	65	Dough-like	0.72	38.4	–	20,000	5,900	–	–	2.11×10^{-5}	225	Light Blue
RenLam 569/Ren 569-1 (Discontinued) *See Freeman 1569*	100:11	–	35	16	80	Dough-like	1.20	23.0	0.002	8,000	4,600	3.8×10^{6}	2,800	3.8×10^{-5}	150	Blue
RenLam 569/Ren 569-2 (Discontinued) *See Freeman 1569*	100:14	–	50	24	80	Dough-like	1.14	23.0	0.0017	5,000	4,000	2.5×10^{6}	1,800	4.8×10^{-5}	138	Blue
RenPaste 1220 (Discontinued) *See Freeman 1569*	100:50	100:50	30	24	81	Paste	1.64	16.8	0.002	12,000	6,500	1.15×10^{6}	3,750	2.20×10^{-5}	135	Green
Freeman 1569	100:14	14:1	505	16-24	65	Dough	0.55	50.3	–	28,000	32,000	1.84×10^{6}	500	2.44×10^{-5}	190	Blue
SikaBiresin L325 HT	100:25	3.7:1	90-120	24	65-70	Dough-like	0.633	43.7	–	4,900	9,600	540,000	–	–	425	Black
Freeman 1030	41:100	33:100	9	1.5	70	Paste	1.04	26.7	–	–	–	–	–	–	–	Tan
Freeman 1010	1:1	1:1	60	24	77	Putty	0.95	29.1	0.001	5,000	4,600	3.1×10^{5}	3,800	–	180	Gray
Freeman 1105	100:87	1:1	1.5	20 min.	–	300	0.09	307	–	–	–	–	–	–	–	Beige
RenPaste 1250 (Discontinued) *See Freeman 1280*	1:1	1:1	28	24	87	Paste	1.52	18.2	0.002	12,000	7,300	9.8×10^{5}	3,800	2.16×10^{-5}	129	Gray
Freeman 1280	1:1	1:1	150	24	80	Paste	1.38	20.0	–	10,600	6,500	0.87×10^{6}	5,000	–	120	Gray
RenPaste 1257-3 (Discontinued) *No direct alternative*	1:1	1:1	30	24	–	Paste	1.71	15.7	–	13,000	6,000	–	3,980	–	–	Blue
ASTM	–	–	D–2471	–	D–2240	D-2393	D-792	D-792	D–2566	D-695	D-790	D-790	D-638	D-696	D-648	–

*Results from laminate tool.

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

TOOLING PASTES

Freeman 1010 High-Density Epoxy Paste

- 60 min. gel time
- 77 Shore D Hardness
- Castable up to 1/2" thick

Freeman 1010 is a two-component "clay-like" material that can be rolled to a uniform thickness. It can be applied behind an epoxy surface coat for reinforcement or between two laminates to quickly increase tool thickness. Freeman 1010 has a stiffer consistency than Freeman 1015 and 1020.

Freeman 1015 Medium-Density Epoxy Paste

- 4 hr. gel time
- 65 Shore D Hardness
- Castable up to 1/2" thick

Freeman 1015 is a "clay-like" material used for surface coat or fiberglass laminate reinforcement. It can be rolled out to a uniform thickness and applied to provide a quick and easy method of reinforcement. Developed for medium-temperature applications, this tooling dough features excellent machinability, low porosity, high durability, and is easily sanded and shaped.

Freeman 1020 Low-Density Epoxy Paste

- 50 min. gel time
- 55 Shore D Hardness
- Castable up to 1/2" thick

Easily hand-mixed into a dough-like consistency, this lightweight material is ideal for fiberglass or surface coat reinforcement. Like Freeman 1010 and 1015, it can be applied behind an epoxy surface coat for reinforcement or between two laminates to quickly increase tool thickness.

Freeman 1030 Polyurethane Reinforcement Paste

- 9 min. gel time
- 70 Shore D Hardness
- Castable up to 1/2" thick

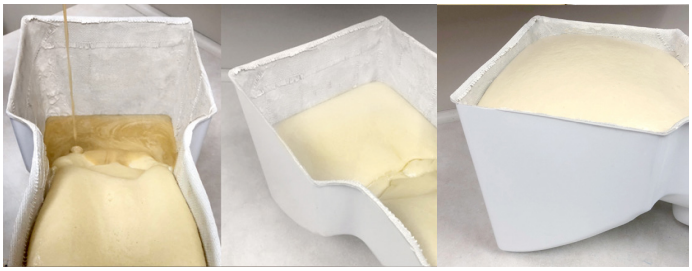
This fiber-filled paste creates a strong, lightweight back-up for flexible urethanes and silicone glove molds. Features include easy mixing (1:3 ratio by volume), no sagging, low shrinkage, and a quick demold time.

Freeman 1280 Epoxy Paste

- 150 min. gel time
- 80 Shore D Hardness
- Aluminum-filled

Freeman 1280 is an aluminum-filled non-sagging epoxy paste with excellent adhesive properties. This tooling paste also features good resistance to most chemicals, moisture, and shock. Ideal for repairing tools, dies, jigs, and fixtures. May also be used for applications such as potting, drill bushings, and creating fillets on metal patterns.

TOOLING FOAM & DOUGH



Freeman 1105 Pourable Foam

- 1.5 min. gel time
- 5 lb. Density
- Expands 10x pour size

Freeman 1105 is a pourable, 1:1 mix ratio by volume urethane foam. It features a low viscosity, 5 lb./ft.^{3} density, and demolds in 20 minutes as a lightweight casting or back-up material.

Freeman 1569 Epoxy Tooling Dough

- 50 min. gel time
- 65 Shore D Hardness
- Castable up to 1" thick

Freeman 1569 is a lightweight, epoxy syntactic tooling dough used in conjunction with epoxy laminates to create a sandwich-type construction for the quicker production of tools. Freeman 1569 features excellent dimensional stability and a quick one-hour tack time.

SikaBiresin L325 HT High-Temperature Tooling Dough

- 90-120 min. gel time
- 65-70 Shore D Hardness
- HDT 425°F

SikaBiresin® L325 HT High-Temperature Tooling Compound was designed for the construction of tools, jigs, models, and other tooling that will see elevated temperatures. The use of SikaBiresin L325 HT saves a considerable amount of time in high-temperature tool construction.

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