



EPOXY SURFACE COATS

These epoxy surface coats by Freeman are ideal for creating accurate and durable tool surfaces on general purpose laminated tools as well as more demanding abrasion-resistant or heat-resistant laminated tools.



Specifications

	Mix Ratio R:H (by wt.)	Mix Ratio R:H (by vol.)	Gel Time (min.) @ 72°F	Demold Time (hr.) @ 72°F	Hardness (Shore D)	Mixed Viscosity (cps)	Density (g/cc)	Volumetric Yield (in. ³ /lb.)	Compressive Strength (psi)	Flexural Strength (psi)	Flexural Modulus (psi)	Tensile Strength (psi)	Coefficient Thermal Expansion (in./in./°F)	Deflection Temp. (°F)
Room-Temperature Epoxy Surface Coats														
<i>RenGel 1118 (Discontinued)</i> <i>See Freeman 705 & 706</i>	100:9	100:13	30	24	90	Paste	1.5	19.0	13,400	6,500	-	3,500	2.56 x 10 ⁻⁵	235
Freeman 705-15	100:14	100:20	15	24	90	18,300	1.4	19.6	16,800	7,000	0.76 x 10 ⁶	5,100	-	250
Freeman 705-45	100:14	100:20	45	24	90	18,300	1.4	19.6	16,800	7,000	0.76 x 10 ⁶	5,100	-	250
Freeman 706-45	100:14	100:20	45	24	90	15,000	1.3	21.0	16,800	7,000	0.76 x 10 ⁶	5,100	-	250
<i>Freeman 701 (Discontinued)</i> <i>See Freeman 721</i>	100:8	100:13	15	24	87	Thixotropic	1.5	18.7	13,200	10,800	-	6,100	-	127
<i>RenGel 1124 (Discontinued)</i> <i>See Freeman 721</i>	100:18	100:27	25	24	90	Paste	1.4	19.0	0.002	14,500	-	6,200	2.89 x 10 ⁻⁵	127
<i>RenGel 1126 (Discontinued)</i> <i>See Freeman 721</i>	100:18	100:25	24	24	90	Paste	1.4	19.7	0.002	12,000	0.72 x 10 ⁶	4,700	2.60 x 10 ⁻⁵	127
Freeman 721	100:10	6.6:1	25	24	89	Thixotropic	1.55	18.5	13,800	-	-	6,800	-	130
High-Temperature Epoxy Surface Coats														
Freeman 935-15	100:11	100:18	28	24	88	27,500	1.6	17.76	26,500	7,950	1.3 x 10 ⁶	4,000	2.30 x 10 ⁻⁵	300
Freeman 935-30	100:11	100:18	43	24	90	29,500	1.6	17.31	26,500	7,950	1.3 x 10 ⁶	4,000	2.30 x 10 ⁻⁵	300
Freeman 935-90	100:11	100:18	90	24	88	25,350	1.6	17.4	26,500	7,950	1.3 x 10 ⁶	4,000	2.30 x 10 ⁻⁵	300
<i>Freeman 945 (Discontinued)</i> <i>See Freeman 955</i>	100:10	100:14	50	24	90	Thixotropic	1.4	19.9	25,000	8,000	-	5,000	3.70 x 10 ⁻⁵	310
<i>RenGel 4026 (Discontinued)</i> <i>See Freeman 955</i>	100:10	100:14	50-150*	24	90	Paste	1.4	19.5	26,000- 27,000*	8,000- 8,700*	-	4,000- 6,000*	3.20-3.70 x 10 ⁻⁵ *	300
Freeman 955	100:10	100:15	45	16	90	Thixotropic	1.47	18.9	28,000	6,500	-	5,800	-	300
<i>RenGel 177-144 (Discontinued)</i> <i>See Sika ES-215</i>	100:10	100:15	60	24	92	Paste	1.6	17.8	0.002	28,000	0.7 x 10 ⁶	7,000	2.40 x 10 ⁻⁵	300
Sika ES-215-1	100:18	100:15	16	-	89	60,000	1.31	-	21,700	8,108	339,700	7,101	-	277
Sika ES-215-2	100:22	4.4:1	83	-	88	38,000	1.23	-	20,820	9,253	379,100	3,593	-	288
Sika ES-215-IHG	100:17	4.8:1	180-220	-	89	125,000	1.23	-	21,690	8,416	428,400	4,938	-	368
ASTM	-	-	D-2471	-	D-2240	D-2393	D-792	D-792	D-695	D-790	D-790	D-638	D-696	D-648

RenGel 1129 and RenGel 3260 have no direct replacements at this time.

**Depends on hardener used (Ren 1500, Ren 1501, or Ren 1510)*

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

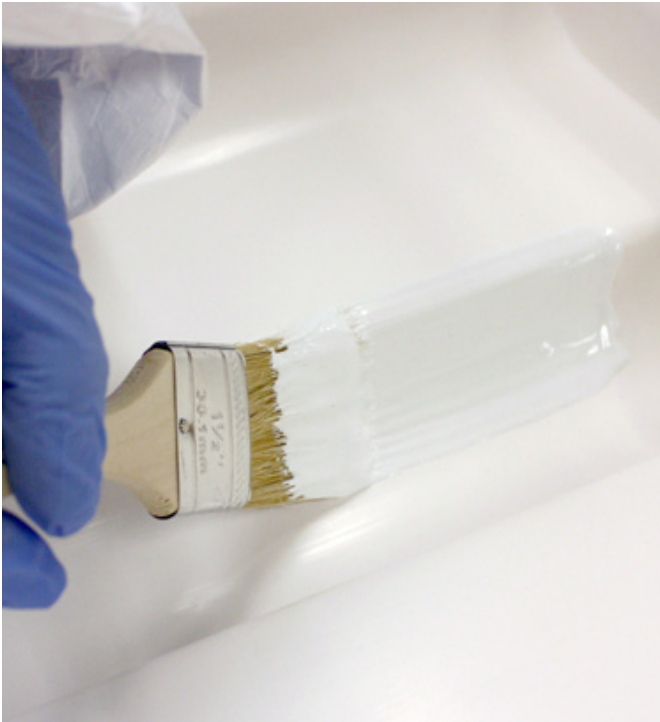


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ROOM TEMPERATURE EPOXY SURFACE COATS



Freeman 705 (Room Temperature)

- ▶ Plastic-Face Plaster
- ▶ White
- ▶ 15 or 45 min. gel time

Freeman 705 offers good durability for a variety of composite tooling. Since it cures in the presence of moisture, it is ideal for plastic-face plaster tools.

The choice of hardeners offer different working times.

Freeman 706 (Room Temperature)

- ▶ Plastic-Face Plaster
- ▶ Blue
- ▶ 45 min. gel time

Freeman 706 is very similar to Freeman 705 except for its powder-blue color. It also cures in the presence of moisture for making plastic-faced plasters.

Freeman 721 (Room Temperature)

- ▶ General Purpose
- ▶ White
- ▶ 25 min. gel time

Freeman 721 is for constructing larger laminated tools, fixtures, and molds where a general purpose product will meet the necessary tooling requirements. It

has a thick viscosity and will not sag on vertical walls. It is designed to be used with Freeman 621 Laminating Resin.

HIGH TEMPERATURE EPOXY SURFACE COATS

Freeman 935-30

- ▶ Aluminum filled
- ▶ Gray
- ▶ 43 min. gel time

This high-temperature resistant material is ideal for laminated tooling subjected to elevated temperatures such as vacuum forming and prototype injection molds.

Freeman 955

- ▶ Aluminum filled
- ▶ Gray
- ▶ 45 min. gel time

Freeman 955 works well for tooling applications up to 300°F, including vacuum form tools, RTM and RIM molds, compression and injection molds. It pairs well with

Freeman 927 Hi-Temp Epoxy Laminating Resin. Both require heated post cure to obtain full properties.

Sika ES-215

- ▶ Graphite filled
- ▶ Gray
- ▶ 3 options for gel time

Sika ES-215 Series is a high-temperature, graphite-filled epoxy surface coat. This system was developed for the aerospace industry where

demands for heat resistance greater than 350°F is necessary. Three different hardener options are available to meet the demand of your project. This product does not contain MDA or VCHD.

