

MASTER BOND LOW OUTGASSING APPLICATION SELECTOR GUIDE

For Aerospace, Microelectronic, Optical and Industrial Applications

Master Bond Inc. has developed various “low outgassing” epoxy resin based adhesive systems to meet the maximum 1% TML and maximum 0.1% CVCM acceptability criteria as outlined in ASTM E595. These adhesives comprise both two and one component compositions requiring either ambient or elevated temperature cures as

specified below. These “low outgassing” epoxy adhesive compounds are manufactured with exceptionally high quality standards in order to assure reproducible high performance even under the most demanding service conditions. It should be noted that all systems should be fully cured prior to any low outgassing application.

Two Component Epoxies —

Master Bond Grade	Mix Ratio by weight	Color Code	Mixed Viscosity RT, cps	Set-Up Time Minutes, RT	Cure Schedule Temp/Time, °F	Service Temp Range, °F	Applications
EP21LV	100/100	“A” clear “B” amber	6,000-8,000	60-90	24-48 hrs @ RT 1-2 hrs @ 200 °F	-60 to +250 °F	Low viscosity, general purpose system. Excellent physical strength and electrical insulation properties. For bonding, sealing, coating & encapsulation.
*EP21TCHT-1	100/66	“A” off white “B” off white	light paste	30-35	18-24 hrs @ RT 1-2 hrs @ 200 °F	4 °K to +400 °F	NASA approved low outgassing. Thermally conductive, room temperature curing system for bonding and sealing. Bonds well to a wide variety of substrates.
EP21TDC-2	33/100	“A” clear “B” amber	70,000-80,000	75-90	72 hrs @ RT 2-3 hrs @ 200 °F	4 °K to +250 °F	Highly flexible with exceptional thermal and mechanical shock resistance. Suitable for cryogenic applications. Superior electrical insulation properties.
EP21TDCS	100/100	“A” silver “B” silver	smooth paste	30-40	24-36 hrs @ RT 1-2 hrs @ 200 °F	4 °K to +250 °F	High performance, silver filled, toughened system with very low resistance. Excellent adhesive properties. Cryogenically serviceable. Convenient handling.
*EP29LPSP	100/65	“A” clear “B” translucent	700	> 6 hrs	5-7 days @ RT 8-12 hrs @ 150 °F	4 °K to +250 °F	NASA approved low outgassing. Can withstand cryogenic temperatures as well as cryogenic shock. Excellent optical clarity. Very low viscosity.
*EP30-2	100/10	“A” clear “B” clear	1,800-2,000	20-25	24 hrs @ RT 1-2 hrs @ 200 °F	-60 to +250 °F	NASA approved low outgassing transparent system, excellent for optical and fiber optic bonding & sealing. Superb chemical resistance along with excellent physical strength properties.
*EP30AN-1	100/10	“A” gray “B” clear	20,000-30,000	30-40	24-36 hrs @ RT 1-2 hrs @ 200 °F	-60 to +250 °F	NASA approved low outgassing with exceptionally high thermal conductivity. Low viscosity. Ideal for potting and encapsulation. Also an excellent adhesive.
EP30FL	100/25	“A” amber “B” clear	2,000-3,000	25-30	24 hrs @ RT 1-2 hrs @ 200 °F	4 °K to +250 °F	For high performance sealing, potting, encapsulating and bonding. Excellent flexibility. Cryogenically serviceable. Marvelous electrical insulation properties.
*EP30LTE-LO	10/1	“A” off white “B” tinted yellow	25,000-30,000	45-60	48 hrs @ RT 2-4 hrs @ 200 °F	-60 to +250 °F	NASA approved low outgassing, low coefficient of thermal expansion, superb dimensional stability, for bonding, sealing, coating, and small castings.
*EP37-3FLFAO	100/100	“A” off white “B” light yellow	18,000-22,000	75-90	48-60 hrs @ RT 3-5 hrs @ 200 °F	-4 °K to +250 °F	NASA approved low outgassing, good thermal conductivity used for cryogenic serviceability, highly flexible, used for potting, bonding, sealing and casting.
EP45HT	100/30	“A” clear “B” brown	40,000-50,000	12-24 hrs	1 hr @ 150 °F plus 2-3 hrs @ 300 °F	-80 to +500 °F	High temperature and chemically resistant structural adhesive and sealant. Meets MMM-A-132 type III. Requires heat cure.

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*EP65HT-1	100/10	"A" clear "B" dark purple	60,000-70,000	3-5	20-30 min @ RT	-60 to +400°F	NASA approved low outgassing Ultra-fast, room temperature curing adhesive. Resists high temperatures. Excellent bond strength to a wide variety of substrates.
EP121CL	100/80	"A" clear "B" clear	2,000-3,000	>24 hrs	2-3hrs @ 200°F plus 6-8 hrs @ 300°F	-60 to 500°F	Low viscosity, high temperature resistant (500°F) potting and impregnation system. Exceptional electrical insulation properties. Requires heat cure.

One Component Epoxies —

Master Bond Grade	Viscosity RT, cps	Color Code	Storage Stability, RT	Cure Schedule Temp/Time, °F	Service Temp Range, °F	Applications
EP101HTX-3	1,000-1,500	clear with fluorescent dye	6 weeks	2-6 hrs @ 250°F followed by 6-10 hrs @ 300°F	-60 to 500°F	For impregnation, coating and encapsulation. Very low viscosity. Excellent dielectric properties with extremely low dissipation factor. Exceptionally high temperature resistance.
*Supreme 10HT	>250,000	gray	6 months	45 min @ 300°F 60 min @ 250°F	4°K to 400°F	NASA approved low outgassing , high performance adhesive/sealant. Ultra high bond strength (shear & peel). Cryogenically serviceable. Outstanding toughness and durability.
*Supreme 10HTS	paste	silver	3 months	45 min @ 300°F 60 min @ 250°F	4°K to 400°F	NASA approved low outgassing . Silver filled version of Supreme 10HT. Very low resistance (<1 milliohm). Cryogenically serviceable. Exceptionally high shear & peel strength.

* all items marked with an asterisk have been tested and meet requirements of ASTM E595.

Master Bond Inc.

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