MASTER BOND HIGH TEMPERATURE RESISTANT APPLICATION SELECTOR GUIDE

Selected Adhesives, Sealants, Coatings, Encapsulants & Potting Compounds Specially Formulated for High Temperature Applications
Partial Listing Only —— Other Grades Available

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
EP21HT	100/100	"A" clear "B" amber	50,000-60,000	50-70	24-48 hrs @ RT 2 hrs @ 200°F	-60 to +400°F	General purpose type sealant, adhesive & encapsulant. Convenient handling & easy processing. Meets food grade specifications. Superior electrical insulator. Also available in a non-drip version called EP21HTND.
EP21AOHT	100/100	"A" gray "B" off white	paste	60-80	24-48 hrs @ RT 1-2 hrs @ 200°F	-60 to +400°F	Thermally conductive/electrically insulative. For bonding & sealing. Superior bond strength & dimensional stability. Adheres well to metals, plastics, glass & ceramics.
EP21ANHT	100/100	"A" light gray "B" light gray	paste	60-80	24-48 hrs @ RT 1-2 hrs @ 200°F	-60 to +400°F	High thermally conductive version of EP21AOHT. Thermal conductivity > 22 BTU•in/ft^2•hr•°F.
EP21TCHT-1	100/60	"A" off white "B" off white	light paste	30-35	18-24 hrs @ RT 1-2 hrs @ 200°F	4°K to +400°F	Thermally conductive/electrically insulative. NASA approved for low outgassing. For bonding, sealing and encapsulating. Low coefficient of expansion.
EP21TDCHT	100/100	"A" clear "B" amber	100,000-120,000	60-90	48 hrs @ RT 2-3 hrs @ 200°F	-100 to +350°F	Toughened system. Combines convenient handling with superior mechanical & thermal shock resistance. Also has excellent thermal cycling properties. Well suited for bonding & sealing dissimilar substrates.
EP30HT	100/25	"A" clear "B" clear	35,000-45,000	25-35	24 hrs @ RT 1-2 hrs @ 200°F	-60 to +400°F	Transparent system. Widely used in optical and electro-optic applications. For bonding, sealing, coating and potting. Superb physical strength, chemical resistance and electrical insulation properties.
EP30AOHT	100/10	"A" off white "B" clear	70,000-80,000	30-35	24-36 hrs @ RT 1-2 hrs @ 200°F	-60 to +400°F	Thermally conductive, electrically insulative version of EP30HT. Good flowability. Widely used for potting and encapsulation. Superior dimensional stability.
EP30ANHT	100/10	"A" light gray "B" clear	70,000-80,000	30-35	24-36 hrs @ RT 1-2 hrs @ 200°F	-60 to +400°F	High thermally conductive version of EP30AOHT. Thermal conductivity >22 BTU•in/ft^2•hr•°F. Possesses low coefficient of expansion.
EP30-3	100/33	"A" clear "B" clear	5,000-6,000	12-18 hrs	30-45 min @ 160°F plus 2-3 hrs @ 300°F	-60 to +435°F	Transparent, low viscosity system for bonding, sealing and encapsulation. High light transmission properties. Superb chemical resistance. Widely used in optical and electro-optic applications. ***Requires heat cure***.
EP33	100/70	"A" gray "B" amber	50,000-60,000	50-60	24-48 hrs @ RT 1-2 hrs @ 200°F	-60 to +450°F	Superb adhesive/sealant. Can resist high radiation levels. Good physical strength properties and superior dimensional stability. Readily machinable.
EP34	100/70	"A" black "B" amber	70,000-80,000	50-60	24-48 hrs @ RT 1-2 hrs @ 200°F	-60 to +450°F	Mineral filled version of EP33. Superior electrical insulation properties. Exceptionally high tensile strength.
EP34CA	100/50	"A" black "B" brown	5,000-6,000	12-24 hrs	1 hr @ 150°F plus 2-3 hrs @ 300°F	-60 to +500°F	Low viscosity structural adhesive. Also used for encapsulation, filament winding and sealing. Widely used in high temperature electronic and geophysical applications. ***Requires heat cure***.

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EP35	100/70	"A" gray "B" amber	70,000-80,000	50-60	24-48 hrs @ RT 1-2 hrs @ 200°F	-60 to +450°F	Specially filled version of EP33. Enhanced dimensional stability. High compressive strength.
EP39MHT	100/100	"A" clear "B" amber	2,000-3,000	90-100	24-48 hrs @ RT 1-2 hrs @ 200°F	-80 to +450°F	Toughened, very low viscosity adhesive, sealant and encapsulant. Outstanding thermal cycling properties as well as thermal and mechanical shock resistance. Superior chemical resistance profile.
EP42HT	100/40	"A" clear "B" amber	8,000-10,000	35-45	24-36 hrs @ RT 2-3 hrs @ 150°F	-60 to +435°F	Widely used for medical device & repair applications. USP Class VI approved. For bonding, sealing, coating & potting. Resists repeated chemical, ETO, radiation & steam sterilization. Also available in black (Class VI).
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 performance adhesive, sealant and encapsulant. Marvelous temperature and chemical resistance. Available in a non-drip version called EP45HTND-2. Meets MMM-A-132 type III. ***Requires heat cure***.
EP51HT	100/100	"A" clear "B" tan	60,000-70,000	5 min	4-6 hrs @ RT	-60 to +350°F	Easy to use, higher heat resistant version of EP51 "5 minute" type epoxy. Easily processable.
EP65HT-1	100/10	"A" clear "B" dark purple	60,000-70,000	3-5	20-30 min @ RT	-60 to +400°F	Ultra-fast curing, heat resistance epoxy. Features high bond strength to a wide variety of substrates. NASA low outgassing approved. Available in a convenient manual dispensing gun system.
EP76MHT	100/100	"A" gray "B" gray	paste	45-60	24-48 hrs @ RT 2 hrs @ 200°F	-60 to +400°F	Easy to use, electrically conductive adhesive/sealant. Nickel filled. Volume resistance 5-10 ohm-cm.
EP112	100/80	"A" clear "B" clear	300-400	>24 hrs	2-3 hrs @ 200°F plus 6-10 hrs @ 300°F	-60 to 500°F	Extraordinary electrical insulation properties. Clear, very low viscosity sealant, encapsulant & impregnant. Superb non-yellowing properties. ***Requires heat cure.***
EP121CL	100/80	"A" clear "B" clear	2,000-3,000	>24 hrs	2-3 hrs @ 200°F plus 6-8 hrs @ 300°F	-60 to 500°F	Low viscosity potting, sealing and impregnation system. Very low dielectric constant and dissipation factor. Excellent optical clarity. ***Requires heat cure.***
EP121AO	100/80	"A" white "B" white	35,000-45,000	12-24 hrs	3 hrs @ 200°F plus 8-10 hrs @ 300°F	-60 to 500°F	Thermally conductive, electrically isolating version of EP121CL. Low viscosity and good flowability. For potting, casting & encapsulation. ***Requires heat cure.***
EP125	100/50	"A" gray "B" yellow powder	paste	not applicable	1 hr @ 180°F plus 1 hr @ 300°F plus 2 hrs @ 400°F	-60 to 600°F	Super-high temperature resistant system. Capable of resisting 600°F service temperatures. Unsurpassed chemical resistance. ***Requires heat cure.***
Supreme 11HT	100/100	"A" gray "B" tan	125,000- 135,000	20-30	18-24 hrs @ RT 30-45 min @ 200°F	-100 to +400°F	Easily processable, toughened adhesive/sealant. Excellent thermal cycling properties. Superior thermal shock & mechanical impact resistance. Bonds well to a wide variety of substrates, particularly metals.
Supreme 11AOHT	100/100	"A" gray "B" white	paste	25-50	24-36 hrs @ RT 1 hr @ 200°F	-100 to +400°F	Thermally conductive version of Supreme 11HT. Convenient 1 to 1 mix ratio. Good electrical insulation properties. Superior resistance to thermal cycling with substrates that have differing coefficients of expansion.

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Supreme 11ANHT	100/100	"A" gray "B" white	paste	25-50	24-36 hrs @ RT 1 hr @ 200°F	-100 to +400°F	High thermally conductive version of Supreme 11AOHT (thermal conductivity exceeds 22 BTU•in/ft^2•hr•°F). Convenient 1 to 1 mix ratio. Good electrical insulation properties. Bonds well to dissimilar substrates.
Supreme 45HT	100/30	"A" tan "B" brown	65,000-75,000	12-24 hrs	1 hr @ 150°F plus 2-3 hrs @ 300°F	-80 to +450°F	Toughened version of EP45HT. Bonds well to dissimilar substrates. Excellent thermal cycling properties and mechanical shock resistance. Also available in a paste version, Supreme 45HTND-2. ***Requires heat cure***.
Supreme 45HTQ	100/30	"A" tan "B" brown	100,000-120,000	12-24 hrs	1 hr @ 150°F plus 3-4 hrs @ 300°F	-80 to +450°F	Structural adhesive and potting system. Mineral filled version of Supreme 45HT. Enhanced dimensional stability. ***Requires heat cure.***
SteelMaster 43HT	100/20	"A" dark gray "B" tan	thixotropic paste	20-30	24 hrs @ RT 1-2 hrs @ 200°F	-60 to +400°F	Stainless steel filled system. Excels at repairing and rebuilding metallic parts. Also outstanding for bonding carbide to steel. Superb machinability. Ultra-high compressive strength.

One Component Epoxies —

Master Bond Grade	Viscosity RT, cps	Color Code	Storage Stability, RT	Cure Schedule Temp/Time, °F	Service Temp Range, °F	Applications
EP3HT	>250,000	yellow to brown	6 months	20-30 min @ 250°F 5-10 min @ 300°F	-60 to 400°F	Fast curing general purpose type adhesive/sealant. Outstanding mechanical and electrical properties. Good durability. Ideal for varied manufacturing applications.
EP3HTFL	>150,000	yellow to amber	3 months@75°F 6 months@40°F	20-30 min @ 250°F 5-10 min @ 300°F	-100 to 350°F	Flexibilized version of EP3HT. For bonding, sealing, potting & encapsulating. Superior thermal & mechanical shock resistance. Withstands severe thermal cycling. Good electrical properties.
EP3RR-1	120,000-150,000	light yellow	3 months@75°F 6 months@40°F	20-30 min @ 220-230°F 5-10 min @ 300°F	-60 to 400°F	For potting & underfill applications. Excellent toughness along with good thermal conductivity and heat resistance. Unique feature of being castable over 1 inch thick.
EP11HT	150,000-160,000	tan	6 months	90-120 min @ 250°F 60-90 min @ 300°F	-60 to 400°F	High temperature resistant structural adhesive. Good thermal and dimensional stability. High tensile shear strength.
EP13	paste	gray	6 months	60-90 min @ 300-350°F	-60 to 450°F	High performance structural adhesive. Exceptional physical properties especially compressive strength. Good dimensional stability. Readily machinable. No-drip application feature.
EP19HT	600	amber clear	4 months	60 min @ 250°F 45 min @ 300°F	-60 to 400°F	Low viscosity impregnant, coating and laminating epoxy with good mechanical and electrical insulation properties. Frequently used to impregnate graphite and for transformer steel laminations.
EP36	semi-solid	tan	6 months	melts at 180°F, cures at 250-300°F for 90-120 minutes, uncured material reusable	-100 to 500°F	B stage epoxy system. Primarily for potting. Offers a unique combination of superb heat resistance with high flexibility and elongation. Excellent flowability. Good dielectrics. Exceptional thermal cycling properties. Passes Class H insulation specs.

One Component Epoxies —

Master Bond Grade	Viscosity RT, cps	Color Code	Storage Stability, RT	Cure Schedule Temp/Time, °F	Service Temp Range, °F	Applications
EP36AO	semi-solid	light tan	6 months	melts at 180°F, cures at 250-300°F for 90-120 minutes, uncured material reusable	-100 to 500°F	Thermally conductive version of EP36. Semi-flexible system. Primarily for potting & encapsulation. Superior thermal cycling properties. Good mechanical & thermal shock resistance. Suitable for moderate size castings. Passes Class H insulation tests.
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	High heat resistant impregnant, coating and encapsulant. Exceptionally low viscosity. Combines excellent electrical properties with good physical strength characteristics.
Supreme 3HT	120,000-135,000	yellow to brown	6 months	20-30 min @ 250°F 5-10 min @ 300°F	-100 to 350°F	Flexibilized version of EP3HT. Fast curing. Superior mechanical and thermal shock resistance. Well suited for bonding dissimilar substrates. Can withstand rigorous thermal cycling.
Supreme 3AOHT	paste	off-white to light yellow	6 months	20-30 min @ 250°F 5-10 min @ 300°F	-100 to 350°F	Fast curing, thermally conductive, electrically insulative version of Supreme 3HT. Good thermal cycling properties. Bonds well to a wide variety of substrates.
Supreme 10HT	>250,000	gray	6 months	60 min @ 250°F 45 min @ 300°F	4°K to 400°F	Versatile, high performance adhesive/sealant. Superior physical strength properties, especially shear & peel strengths. Cryogenically serviceable. Passes NASA low outgassing for vacuum compatibility. Superb thermal cycling & shock characteristics.
Supreme 10AOHT	paste	light gray	6 months	60 min @ 250°F 45 min @ 300°F	-100 to 400°F	Thermally conductive, electrically insulating version of Supreme 10HT. Good heat transfer properties (>10 BTU•in/ft^2•hr•°F). Superior toughness and durability. Very well suited for bonding dissimilar substrates including metals, plastics and ceramics.
Supreme 10ANHT	paste	light gray	6 months	60 min @ 250°F 45 min @ 300°F	-100 to 400°F	High thermally conductive version of Supreme 10AOHT (>22 BTU•in/ft^2•hr•°F). Outstanding for attaching heat sinks. Well suited for bonding substrates with different coefficients of expansion.
Supreme 10HTN	paste	nickel gray	3 months	60 min @ 250°F 45 min @ 300°F	-100 to 400°F	Nickel filled version of Supreme 10HT for bonding, sealing and shielding. Volume resistance of 5-10 ohm-cm. Superior bonding and physical strength properties. Exceptional thermal cycling characteristics and impact resistance.
Supreme 10HTS	paste	silver	3 months	60 min @ 250°F 45 min @ 300°F	4°K to 400°F	Very low volume resistivity (<0.001 ohm-cm), silver filled version of Supreme 10HT. Widely used in electronics such as die attach and other circuit board applications. Serviceable at cryogenic temperatures. NASA low outgassing approved.

Master Bond Inc.

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