

MASTER BOND CRYOGENIC APPLICATION SELECTOR GUIDE

*For Aerospace, Scientific and Industrial Applications
Partial Listing Only — Other Grades Available*

Master Bond Inc. offers a wide range of versatile, high performance epoxy formulations designed to withstand the severe conditions found in cryogenic environments. They are available as one or two part systems, requiring either ambient or elevated temperature cures as specified below. When fully cured, these adhesive/sealants offer excellent physical strength properties, long term durability, superb chemical resistance, as well as high bonding strengths to both metallic and non-

metallic substrates. Included in this versatile group are electrically conductive systems, thermally conductive/electrically insulating systems, NASA low outgassing approved systems, as well as a formulation that is capable of withstanding severe cryogenic shocks. Master Bond's technical support staff will be glad to recommend the system best suited to meet your application needs.

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
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	High temperature resistant. NASA low outgassing approved. Superb thermal conductivity with good electrical insulation properties. For bonding & sealing.
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	Adhesive/sealant with high flexibility and exceptional thermal and mechanical shock resistance. Bonds well to a wide variety of substrates.
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 excellent bond strength and physical strength properties. Convenient handling.
EP21TDCSFL	100/100	"A" silver "B" silver	paste	45-60	24-48 hrs @ RT 2-3 hrs @ 200 °F	4 °K to +250 °F	High flexibility version of EP21TDCS. Exceptionally high elongation. Excellent peel strength. Repairable.
EP29LPSP	100/65	"A" clear "B" translucent	700	> 6 hrs	5-7 days @ RT 8-12 hrs @ 150 °F	4 °K to +250 °F	Capable of withstanding severe cryogenic shocks. Very low viscosity. NASA low outgassing approved. Transparent. For bonding, sealing and potting.
EP30DP	100/10	"A" light amber "B" clear	3,000-4,000	60-90	48 hrs @ RT 2-3 hrs @ 200 °F	4 °K to +250 °F	Toughened sealant, potting and encapsulating system. Allows for repairability. Good thermal cycling properties.
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	Low viscosity. Flexible. For high performance potting, encapsulating and sealing. Excellent thermal and mechanical shock resistance.
EP37-3FLF	100/100	"A" clear "B" clear	1,500-1,800	120-150	48-72 hrs @ RT 3 hrs @ 200 °F	4 °K to +250 °F	High flexibility and elongation. Superb optical transmission properties. Can withstand rigorous thermal cycling. For bonding, sealing and potting.
EP37-3FLFAO	100/100	"A" white "B" white	18,000-22,000	3 hrs	4-5 days @ RT 4-6 hrs @ 200 °F	4 °K to +250 °F	Thermally conductive, electrically insulation version of EP37-3FLF. For potting & encapsulation. Repairable.
EP50-1.5	100/100	"A" clear "B" clear yellow	8,000-10,000	90-120 sec	2-3 hrs @ RT	4 °K to +250 °F	Very fast setting adhesive/sealant. Good physical strength properties.
EP51	100/100	"A" clear "B" tan	10,000-12,000	5 min	4-6 hrs @ RT	4 °K to +250 °F	Fast curing, general purpose "5 minute" epoxy. Excellent long term durability.

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EP51M	100/100	"A" amber "B" tan	8,000-9,000	3 min	3-3½ hrs @ RT	4 °K to +250 °F	"3 minute" gel version of EP51 epoxy resin system. Excellent adhesion to a wide variety of substrates.

One Component Epoxies —

Master Bond Grade	Viscosity RT, cps	Color Code	Storage Stability, RT	Cure Schedule Temp/Time, °F	Service Temp Range, °F	Applications
EP3FL	60,000-70,000	yellow to amber	3 months@75 °F 6 months@40 °F	5-10 min @ 300 °F 20-30 min @ 250 °F	4 °K to 250 °F	Flexible adhesive, sealant and encapsulant. Good electrical properties. Outstanding thermal cycling and thermal shock resistance. Very fast curing.
Supreme 10HT	>250,000	gray	6 months	45 min @ 300 °F 60 min @ 250 °F	4 °K to 400 °F	High performance adhesive/sealant. Ultra high bond strength (shear & peel), NASA low outgassing approved. Outstanding toughness and durability. Superb chemical resistance.
Supreme 10HT-1	120,000-140,000	gray	6 months	45 min @ 300 °F 60 min @ 250 °F	4 °K to 400 °F	Special toughened version of Supreme 10HT. Enhanced thermal cyclability, mechanical & thermal shock resistance. Excellent physical strength properties.
Supreme 10HTF	>250,000	gray	3 months@40 °F	5-10 min @ 300 °F 20-30 min @ 230 °F	4 °K to 400 °F	"Snap cure" version of Supreme 10HT with similar physical and electrical properties. Cures in 2 minutes at 375 °F. Also available in nickel and silver filled versions.
Supreme 10HTS	paste	silver	3 months	45 min @ 300 °F 60 min @ 250 °F	4 °K to 400 °F	Silver filled version of Supreme 10HT featuring very low resistance (<1 milliohm). Passes NASA low outgassing tests. Exceptionally high shear and peel strength.

Master Bond Inc.

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