



**ADVANCED POLYMER MATERIALS**  
**Driving Evolution through Innovation**

**Product  
Guide**

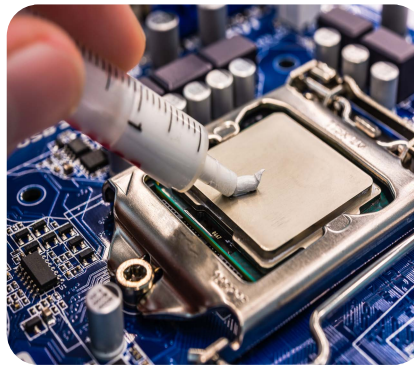
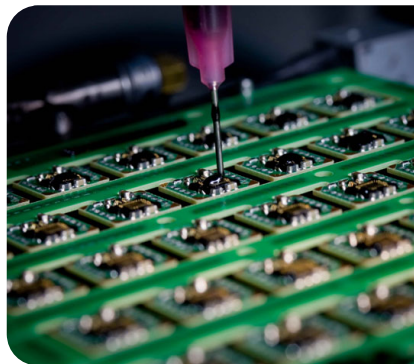
Adhesives

Potting & Encapsulating  
Compounds

Electronic Assembly

Thermal Management

Packaging Options



# About Us

Epoxyset Inc. is a leading formulator and manufacturer of engineered epoxy, urethane, silicone, and UV cure systems. Our adhesives, potting and encapsulating compounds, coatings, and custom formulated products are widely used in the electronic, medical, semiconductor, fiber-optics, automotive, and aerospace industries. In addition to a standard product designed to meet a majority of demanding applications, Epoxyset specializes in custom formulations working closely with our customers to design and manufacture a product that meets all its specifications.

Providing consistent quality products with unparalleled customer service are our top priorities. We offer superior and confidential technical support to our clients. Rely upon our experienced chemists and engineers to assist you in finding solutions to any of your existing materials problems or demanding applications.

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# SetWORX™ Epoxy Structural Adhesives

SetWORX™ is a group of one and two component epoxy and urethane adhesives designed to provide the highest performance in bond strength and durability. Innovative SetWORX™ adhesives were developed with an eye on the future with many free of BPA (Bisphenol A) and tin. SetWORX™ is ready for the next generation of adhesive challenges. Available in easy to use “side by side” cartridges and syringes as well as standard bulk packaging.

Product	Components	Viscosity, cps	Work Life, minutes	Shear Strength, psi	Hardness	Color	Applications
SetWORX 90	2	35,000	90	4500	D-78	Off-White	90 minute work life, high strength, toughened, epoxy adhesive. High bond strength to a variety of substrates. Non-hazmat, BPA free
SetWORX 60	2	35,000	60	4500	D-78	Off-White	60 minute work life, high strength, toughened, epoxy adhesive. High bond strength to a variety of substrates. Non-hazmat, BPA free
SetWORX 1510	2	20,000	15	3500	D-78	Off-White	Toughened, 15 minute epoxy. Bonds well to many common substrates. Exhibits superior performance, Non-hazmat, BPA free
SetWORX 05	2	10,000	5	2500	D-85	Clear	General purpose 5 minute epoxy. Strong bond to many substrates. Fast cure, non-sag version also available
SetWORX 135	2	4,000	30	4200	D-86	Clear	Crystal clear industrial adhesive and potting epoxy. Low viscosity. Cures to a clear, hard polymer
SetWORX 316M	2	50,000	100	4000	D-75	Black	1:1 high strength, flexible adhesive and sealant. Designed to bond to multiple substrates
SetWORX 411HP*	1	1,000,000	30 (@80°C)	4500	D-84	Grey	Toughened, crack resistant one Component epoxy adhesive with fast cure at high temperatures. Excellent adhesion to metals, ceramics, glass and plastics
SetWORX U-Bond 30HP	2	10,000	30	>2000	D-70	Opaque	A 2-part urethane adhesive. Bonds well to many substrates. Exhibits high bond strength to many plastics including PVC, ABS, Lexan™, and Ultem™. Non-tin urethane polymer
SetWORX U-Seal 15FL	2	60,000	15	>2200	A-85	Opaque	Flexible, tough, opaque urethane adhesive and sealant. Creates a moisture resistant bond and has excellent sealant properties. Non-tin, non-Phthalate urethane polymer

\*EB-411HP is an aluminum filled epoxy adhesive. Similar adhesives are available with non-metal filler or metal oxide filler.

# EPOXIBOND™ Optical Adhesives

EPOXIBOND optical adhesives are low viscosity, optically clear adhesives. Each product has been engineered for use in a variety of industries including fiber-optic, medical, and electronics industries.

Product	Components	Viscosity, cps	Work Life, min	Shear Strength, psi	Hardness	Refractive Index (@589nm)	Spectral Transmission (500-900nm)
EB-107LP-1	2	100-300	120	2400	D-91	1.52	>99%
EB-107LP-2	2	200-500	>8 hrs	2100	D-82	1.53	>99%
EB-119SP	2	3000	360	2200	D-87	1.56	>95%
EB-130M-1	2	1500	45	2400	D-85	1.52	>99%
EB-135	2	4000	30	4200	D-86	1.54	>99%
EB-177	2	200-300	>12 hrs	1500	D-92	1.52	>98%

# EPOXIBOND Medical Adhesives

Epoxyset medical adhesives are designed for use in medical devices such as MRI devices, endoscopes, catheters, ultrasound probes etc. In addition to the products below, we custom manufacture adhesives for use in the medical device industry.

Product	Components	Viscosity (cps)	Work Life, min	Shear Strength, psi	Hardness	Application
EB-107LP-1	2	100-300	120	2400	D-91	Epoxy adhesive for use in ultrasound probes and endoscopes.
EB-107LP-2	2	200-500	>8 hrs	2100	D-82	Long work life epoxy for small potting applications and matching layer in acoustic technology.
EB-119SP	2	3000	360	2200	D-87	Used extensively in ultrasound technology, endoscopy, non-UV cure needle bonding.
EB-130M-1	2	1500	45	2400	D-85	Epoxy adhesive used in ultrasound probes and cardiac catheters, dental equipment
EB-135	2	4000	30	4200	D-86	Epoxy adhesive used for endoscopes, catheters, and ultrasound probes
EB-177	2	200-300	>12 hrs	1500	D-92	High temperature, low viscosity adhesive and potting material used in ultrasound probes, endoscopes, and hand held medical devices
UB-21	2	3000	60	1500	A-80	Urethane adhesive used for kerf filling applications and matching layer in acoustic technology

# ELECTRONICS ASSEMBLY

Epoxyset has built a reputation of providing superior excellence in products used for electronics and PCB assembly. Some common applications include die attach, dam and fill, underfills, glob top encapsulation, and ferrite core bonding, wafer level passivation, and LED materials. Below are products used by manufacturers for these applications.

Product	Components	Viscosity, cps	Work Life, minutes	Shear Strength, psi	Hardness	Color	Applications
EB-119SP	2	3000	360	2200	D-87	Amber	Capillary underfill, wafer level Assembly, photonics, fiber optic
EC-M22LV-1*	1	9000	>12 hrs	2000	D-92	Black	Low CTE underfill, fill material in dam-and-fill encapsulation
EC-M22T-1*	1	100,000	>12 hrs	2000	D-92	Black	Dam material in dam and fill encapsulation
EB-350-4T	1	>800,000	30 (@80°C)	2900	D-91	Black	Used extensively in ferrite core bonding. Can be mixed with Spacer beads. Also excellent for Screen printing applications
EB-350-3LV	1	60,000	30 (@80°C)	2900	D-91	Black	Excellent for glob top, ferrite core bonding, damming and small potting.
EO-24	2	3000	>2 days	1700	D-75	Silver	Die attach, LED attach, quartz crystal attach, flip chip, substrate attach.
EO-98HT	1	55,000	>4 weeks	1200	D-85	Silver	Die attach, LED attach, substrate attach, microwave, LCD interconnect, photonics
EO-97M	1	12,000	>4 weeks	1300	D-75	Silver	Die attach, microwave, Substrate attach, solder replacement
EB-403-1LV-T1	1	800,000	30 (@80°C)	2600	D-90	Black	Thermal management of low Power or high power LEDs, Thermal die attach, damming epoxy.
EB-107LP-1	2	100-300	120	2400	D-91	Clear	Capillary underfill, optical Potting, wafer level passivation
EB-177	2	200-300	>12 hrs	1500	D-92	Clear Yellow	Capillary underfill, optical Potting, wafer level passivation, High heat resistance
EB-403-1ALAN	1	>800,000	30 (@80°C)	2600	D-92	Grey	High conductivity epoxy for Thermal management for laser Diodes, photovoltaics, LED, and High power RF amplifiers.
EB-485	2	60,000	240	2100	D-92	Black	High conductivity epoxy for Thermal management for laser Diodes, photovoltaics, LED, and High power RF amplifiers.

\*Available in premixed and frozen syringes only.

# EPOXIOHM™ Electrically Conductive Adhesives

EPOXIOHM electrically conductive adhesives are silver filled epoxy systems that offer varying cured and processing properties. These products are used for a variety of applications in the micro-electronic, medical, aerospace, and optical industries.

Product	Components	Viscosity, cps	Work Life, minutes	Die Shear Strength, psi	Hardness	Volume Resistivity (ohm-cm)	Applications
EO-21	2	40,000	60	3000	D-84	<0.0004	Die attach, microwave, solder replacement, LED attach, photonics, LCD interconnect, semiconductor
EO-21M-5	2	1500	180	1700	D-75	<0.0006	Solder replacement, microwave, LCD interconnect, substrate attach, Low stress, photonics
EO-24	2	3000	>2 days	1700	D-75	<0.0004	Die attach, LED attach, quartz crystal attach, flip chip, substrate attach, low stress, meets NASA outgassing
EO-30M-1	2	Paste	60	2000	D-72	<0.001	MCM/Hybrid die attach, LED attach, Low stress, EMI/RFI shielding, semi-conductor die attach, photonics.
EO-38M-3	2	35,000	>1 day	1700	D-88	<0.0004	High temperature, photonics, LED Attach, substrate attach, microwave, LCD interconnect, die attach
EO-97M	1	12,000	>4 weeks	1300	D-75	<0.0004	Die attach, microwave, substrate Attach, solder replacement
EO-83M-2	1	14,000	>4 weeks	1600	D-88	<0.0002	Die attach, microwave, substrate Attach, medical device, semi-conductor die attach, MEMS devices
EO-98HT	1	55,000	>4 weeks	1200	D-85	<0.0004	High temperature, photonics, LED Attach, substrate attach, microwave, LCD interconnect, die attach

# EPOXIBOND™ Low Expansion Adhesives

EPOXIBOND low expansion epoxies are engineered to have a low coefficient of thermal expansion (CTE) and low shrinkage. These products are ideal when bonding substrates with different CTE values.

Product	Components	Viscosity, cps	Work Life, min	Shear Strength, psi	Hardness	Color	CTE (<T <sub>g</sub> ) 10 <sup>-6</sup> /°C
EB-301	2	100,000	60	2100	D-91	Beige	32
EB-309	2	70,000	100	2100	D-92	Green	18
EB-315	2	75,000	90	2000	D-92	Beige	25
EB-350-1LE	1	30,000	30 (@80°C)	2400	D-91	Black	32
EB-350-4T	1	>800,000	30 (@80°C)	2900	D-91	Black	34

# EPOXICAST™ Potting & Encapsulating Compounds

EPOXICAST potting and encapsulating compounds are designed for a variety of processes and applications. Our products range in chemistries and properties to meet the demanding needs of our customers. Epoxyset potting compounds are used heavily in the electronics/microelectronics industries as well as lighting, medical, optical, and aerospace.

Product	Components	Viscosity, cps	Work Life, min	Service Temperature	Hardness	Application
EC-1006	2	1400-1800	120	-55°C – 120°C	D-89	General purpose epoxy encapsulating material. Designed for potting small or large electronic components.
EC-1006M-4	2	3000	120	-55°C – 120°C	A-80	Flexible epoxy potting compound with excellent impact resistance. Certified UL-94V0 flame retardant properties.
EC-1012M	2	3500	240	-55°C – 160°C	D-91	Epoxy potting material used in coil windings and linear motors. Excellent for use in RFI filters and controllers.
EC-1027E	2	30,000	>8 hrs	-55°C – 260°C	D-92	Very high temperature rated epoxy potting material with excellent chemical and corrosion resistance.
EC-1015	2	3000	>8 hrs	-55°C – 180°C	D-92	Thermally conductive, low viscosity potting and encapsulating material. Can be used as a wet-winding/brushing compound for rotating or field coils which require high bond strength.
EC-1017	2	45,000	6 hrs	-55°C – 180°C	D-93	High thermal conductivity epoxy. Used for potting transformers, capacitors, and RFI filters.
EC-1207	2	9000	60	-55°C – 120°C	D-80	UL-94V0 certified product for high output manufacturing process. Simple 1:1 mix ratio system. Room temperature cure
EC-1850FT	2	3000	Varies	-55°C – 120°C	D-90	Thermally conductive potting material that can be used with several curing agents to offer a wide variety of properties. EC-1850FT-LV is a lower viscosity version of EC-1850FT.
EC-1082	2	30,000	6 hrs	-55°C – 180°C	D-94	This is a specially designed potting compound used in aerospace electronics and features extremely low CTE and high temperature resistance.
EC-1106F-LD	2	5000	120	-55°C – 120°C	A-80	Epoxy syntactic foam encapsulating material used in potting electronic components such as RFI filters, capacitors and coils. Density of 0.75g/cc. Adds very little weight to each component
EC-1031M-2	2	20,000	180	-55°C – 125°C	D-78	Easy to use, 1:1 by volume potting compound ideal for potting small transformers, capacitors and other electronic components. DOT non-regulated system.

# SILCAST™ Silicone Potting Compounds

Silcast silicone potting compounds are designed for use in potting and encapsulating power supplies in the electronics industry. It is also used heavily in the LED/lighting industry as well.

Product	Components	Viscosity, cps	Work Life, min	Service Temperature	Hardness	Application
SC-454M-6	2	6000	60	-55°C – 250°C	D-70	Thermally conductive silicone potting compound used to encapsulate power supplies and heat sinks for LED lighting.
SC-501	2	3000	120	-55°C – 205°C	A-64	General purpose silicone potting compound used to power supplies such as transformers, capacitors, and connectors.
SC-550LV	2	2000	>6 hrs	-55°C – 205°C	A-55	UL-94V0 certified silicone potting material used to encapsulate small or large electronic components. Cures very quickly elevated temperatures.
SC-550LV-RT	2	1500	120	-55°C – 205°C	A-55	A room temperature cure version of SC-550LV. Also UL-94V0 certified.
SC-560M-1	2	35,000	45	-55°C – 205°C	D-60	SC-560M-1 is a red, high temperature, self-leveling, two-component silicone material primarily used for potting applications.

# URASET Urethane Potting Compounds

Product	Components	Viscosity, cps	Work Life, min	Service Temperature	Hardness	Application
UC-2524	2	3000	60	-55°C – 130°C	A-86	A flame retardant, urethane potting compound used heavily in electronic potting applications such high voltage ignition coils.
UC-2200M	2	3000	40	-55°C – 125°C	A-50	A low hardness urethane electrical potting compound. UC-2200M offers premium resistance to corrosive and environmental hazards, while providing electrical insulation.
UC-052107-1	2	4000	12	-55°C – 110°C	A-88	Fast setting, polyurethane potting compound designed for potting battery packs, controllers, and coil windings.
UC-2356	2	800	60	-55°C – 110°C	A-70	A two component, low viscosity urethane system that provides excellent electrical insulation and environmental protection.



# SILICONE THERMAL GREASE

Epoxyset STG series are silicone based thermal greases engineered with special binding agents to reduce bleed and oil separation. Why choose Epoxyset silicone greases? Our silicone greases have a flowable matrix filling micro gaps and reduces contact resistance.

Product	Color	Specific Gravity	Max Service Temp °C	Thermal Conductivity (W/mK)	Applications
STG-40	White	2.2	200	0.8	Standard silicone thermal grease. Direct Replacement of Dow Corning 340 and Wakefield 120.
STG-40FG	White	2.2	200	0.8	Food grade version of STG-40. Compliant With FDA regulations.
STG-44	Black	1.7	200	3.7	High conductivity thermal grease with low bleeding and excellent thermal dissipation.
STG-51TC	Grey	2.2	200	3.2	High conductivity silicone grease with good flow and easy clean up.

# NON-SILICONE THERMAL GREASE

Epoxyset TG series are unique synthetic thermal greases engineered to provide low bleed and oil migration to prevent component contamination associated with silicone greases. They offer superior thermal conductivity and low thermal resistance with long term stability.

Product	Color	Specific Gravity	Max Service Temp (°C)	Thermal Conductivity (W/mK)	Application
TG-61	White	2.4	200	1.2	Standard hydrocarbon thermal grease. Used in CPUs, thermistors, and thermocouple wells.
TG-62	White	2.4	200	2.0	Standard, low cost non-silicone thermal grease Used in CPUs, RTD, thermistors, and Thermocouple wells.
TG-63	Grey	2.3	200	2.7	High conductivity thermal grease for high heat generating power supplies.
TG-64	Black	1.7	200	3.7	High conductivity thermal grease with low bleeding and excellent thermal dissipation.
TG-66	Grey	2.2	200	3.2	Pure metal filled non-silicone thermal grease. Easy application, high conductivity, and easy Clean up.
TG-67	White	2.4	200	1.2	Low cost non-silicone grease for use in moderate heat generating power supplies such as CPU, TEC modules, and CPU to heat sinks.
CTG-81	Silver	4.8	200	7.0	Non-silicone, silver filled thermal grease with Extremely high electrical and thermal conductivity.
CTG-83	Black	1.35	200	2.3	Low cost, non-silicone grease that has high thermal and electrical conductivity.

# HIGH TEMPERATURE THERMAL PRODUCTS

Epoxyset offers a line of specialty products that for unique applications that call for extreme temperature ranges. This mix of products includes high temperature thermal greases, thermal putties, silicone thermal gap fillers and non-curing conductive pastes.

Product	Color	Specific Gravity	Max Service Temp (°C)	Thermal Conductivity (W/mK)	Application
HTG-71	White	2.0	300	1.0	A non-silicone thermal grease rated for use in application where temperature reach 300°C.
HTG-72	White	3.0	360	0.8	Highly filled, non-silicone thermal grease. Metal Oxide fillers in a specialty non-silicone fluid does Not dry out at temperature over 300°C
HTG-72TC	Grey	3.0	360	3.2	Thermally conductive version of HTG-72. Has Same high temperature resistance but offers Higher conductivity and dissipation.
TCP-101HT	Grey	2.2	200	3.2	High temperature thermal putty. Designed to be Thermally conductive and hand moldable for Easy application.
TGF-331	Blue	2.6	205	3.6	1:1 silicone thermal gap filler for low stress thermal management. TGF-331 offers a cured polymer that gives a mechanical bond to substrates with excellent heat dissipation. The most common application is use in ECU for vehicles.
TGF-325	White	2.7	205	1.8	High viscosity, liquid gap filler with high conductivity and low stress on fragile electronic components. Recommended application include thermal management of ECU, CPU to heat sinks, and low stress dielectric potting.

# PACKAGING OPTIONS

## Standard Packaging Options

Epoxyset's polymer compounds are packaged in a wide range of sizes and containers. Our versatile and cost effective packaging system employs metal, plastic and glass containers of various sizes. Our standard packaging options are pint, quart, gallon, 5-gallon, and 55-gallon containers. Special packaging is also available on select products and upon request.

## Premixed & Frozen Packaging

Almost all of Epoxyset compounds are available in premixed and frozen syringes or cartridges. Easy to use, these systems require no mixing and cure at room temperature. They are available in sizes of 1cc, 3cc, 5cc, 10cc, 30cc, and 55cc syringes as well as 6oz, 10oz, and 32oz cartridges. Many companies offer premixed and frozen packaging but often send material to a separate packaging company to have it done. This increases overhead costs and leaves takes quality of the product out of the manufacturer's control. Epoxyset does all premixed and frozen packaging in-house which allows us to keep costs down and ensure the quality of each and every batch the ships out of our facility.



## Dual Cartridge Systems

Epoxyset 2-part dispensing systems are ideal for high efficiency and high volume use. They are safe and easy to handle requiring no clean up, no weighing, and no mixing. The standard system consists of the dual cartridge, static mixing nozzle, and the dispensing gun (sold separately). Sizes vary from 50mL to 1500mL cartridges in 1:1, 2:1, 4:1, and 10:1 ratios.



## Special Packaging Options

Epoxyset has built itself on putting customers first. That means doing our best to make the customer's job easier. Beyond the above packaging options, many Epoxyset products are available in other popular packaging options including Semco® and Techon® cartridges, Semkits®, and divider pouches. Inquire with Epoxyset for the best packaging option for your company or application.



1 Industrial Circle  
Lincoln, RI 02865

[www.epoxysetinc.com](http://www.epoxysetinc.com)

For inquiries please contact us:

Ph: (401)-726-4500

Fax: (401)-726-4502

Email: [info@epoxyset.com](mailto:info@epoxyset.com)

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