

# THERMALLY CONDUCTIVE

Potting and Encapsulating  
Compounds

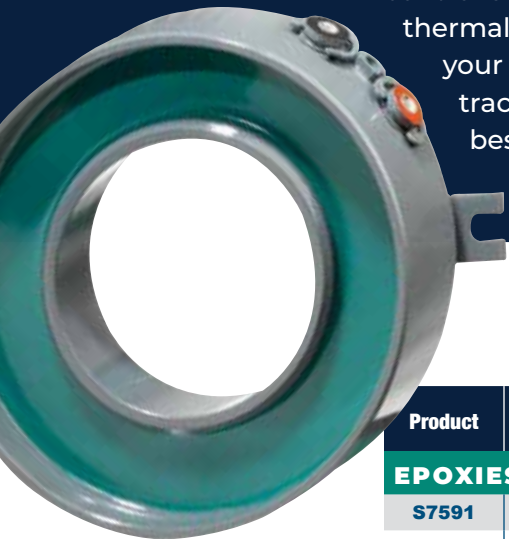


**EPICRESINS**  
Polymers for Industry.

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## VERSATILE SOLUTIONS FOR THERMAL PERFORMANCE

Concerns about heat within an electrical unit are common in the power distribution market; including transformers, electronic control units, motor controllers, motors and inverters. A comprehensive understanding of how to solve thermally conductive issues is necessary for achieving the best performance in your application. That is where Epic Resins shines. We have the experience and track record in solving heat dissipation problems. Let us help you pick the best thermal management material for your demanding application.



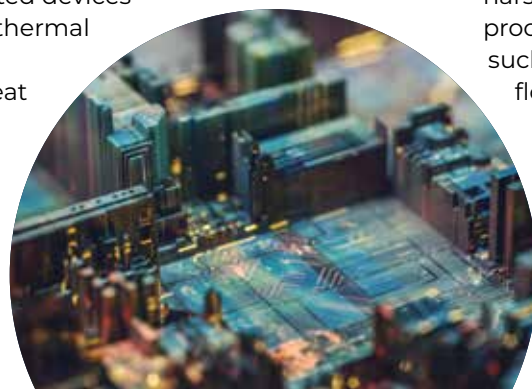
Product	UL Flame Rating	Mix Ratio by Weight	Mix Ratio by Volume	Mixed Viscosity (cps)	Gel Time @ 25°C	Coef Therm Exp (CTE)	Glass Transition (T <sub>g</sub> )	Thermal Conductivity	Dielectric Strength (Volts/mil)	Dielectric Constant @ 100 kHz	Volume Resistivity (ohm cm)	Shore Hardness @ 25°C
<b>EPOXIES</b>												
<b>S7591</b>	None	100A:100.9B	1A:1B	100,000 - 150,000 @ 65°C, 10 rpm	8 - 12 min @ 120°C	73 - 77 (Exp-6)/°C	140 - 145°C	2.95 - 3.0 W/mK	410	5 - 5.5	3.00 - 7.00 (Exp+15)	95 - 100 Shore D
<b>0227</b>	UL 94 V-0*	1 Component	1 Component	300,000 - 370,000 @ 25°C, 10 rpm	5 - 10 min @ 145°C	90 - 100 (Exp-6)/°C	135 - 140°C	1.9 - 2.0 W/mK	289 - 316 @ 127 mils	5.89 - 6.05	4.11 - 5.58 (Exp+15)	90 - 95 Shore D
<b>0218EV</b>	UL 94 HB*	1 Component	1 Component	80,000 - 90,000 @ 25°C, 20 rpm	2 - 6 min @ 145°C	120 - 130 (Exp-6)/°C	95 - 100°C	0.45 - 0.48 W/mK	> 409 @ 120 mils	3.32 - 3.5	1.00 - 2.00 (Exp+16)	90 - 95 Shore D
<b>POLYURETHANES</b>												
<b>S7475</b>	UL 94 V-0	100A:17B	4A:1B	3,500 - 4,500 @ 25°C, 20 rpm	40 - 50 min, 100g	351 - 369 (Exp-6)/°C	(-56) - (-54)°C	0.329 - 0.333 W/mK	433 - 511 @ 95 mils	3.2 - 3.28	2.70 - 2.80 (Exp+12)	50 - 65 Shore OO
<b>S7527</b>	UL 94 V-0	100A:16.7B	5A:1B	3,000 - 4,000 @ 25°C, 20 rpm	30 - 50 min, 100g	165 - 175 (Exp-6)/°C	(-2.5) - (-1.52)°C	0.77 - 0.79 W/mK	850 - 860 @ 33 mils	3.8 - 4.0	3.10 - 3.40 (Exp+14)	88 - 92 Shore A
<b>S7593</b>	UL 94 V-0*	100A:1.12B	100A:2.73B	400,000 - 600,000 @ 25°C, 20 rpm	55 - 70 min, 101g	85 - 100 (Exp-6)/°C	< -50°C	3.0 - 3.2 W/mK	235 - 277 @ 125 mils	6.48 - 6.58	2.03 - 7.84 (Exp+14)	55 - 70 Shore A
<b>S7594</b>	UL 94 V-0*	100A:1.34B	100A:3.3B	120,000 - 150,000 @ 25°C, 10 rpm	30 - 45 min, 100g	75 - 95 (Exp-6)/°C	(-50) - (-45)°C	2.0 - 2.2 W/mK	325 - 350 @ 119 mils	5.8 - 6.1	3.5 - 4.0 (Exp+13)	65 - 70 Shore A
<b>RM2018</b>	UL 94 V-0	100A:20.4B	4A:1B	2,500 - 3,000 @ 25°C, 20 rpm	60 - 90 min, 100g	207 - 210 (Exp-6)/°C	(-50) - (-47)°C	0.63 - 0.64 W/mK	829 - 872 @ 20 mils	5.15 - 5.35	5.00 - 5.30 (Exp+11)	53 - 57 Shore A

\*Designed to Pass

## POLYURETHANES

### S7475

Epic S7475 is a two component polyurethane compound for potting a wide variety of electronic devices, including electronic control modules. The low mixed viscosity allows the material to flow into intricate areas under printed circuit boards and other tight tolerance areas. Another key property is the 4:1 by volume mix ratio that allows the system to be very adaptable for meter mix and dispense processing. Very low hardness in combination with low glass transition temperature provides excellent flexibility, therefore allowing delicate surface mounted devices to expand and contract during thermal cycling and thermal shock. For applications that generate a great deal of heat, this product has shown extremely low weight loss at 130C. It is UL 94-V0 recognized and is RoHS compliant.



### S7527

Epic S7527 is a two component polyurethane potting compound formulated for applications requiring thermal stability at high temperatures. It carries a UL 94 V-0 flame rating and a 150 °C RTI rating per UL 746. This compound is excellent for potting and encapsulating sensitive electronics that will be exposed to harsh environments. Features include many process and application friendly properties such as: low mixed viscosity for superior flow into tight tolerance areas, good thermal conductivity, low weight loss at elevated temperatures, outstanding adhesion to various metal and plastic substrates, RoHS compliance and excellent moisture resistance.

### S7593

Epic S7593 is a thermally conductive, two component polyurethane self-leveling encapsulant. It is designed to have a high thermal conductivity, long pot life for ease of manufacturing and formulated to pass UL 94 V-0 at 0.5 in.

### S7594

Epic S7594 is a two component polyurethane potting compound designed with a very high thermal conductivity combined with a long gel time. It has been formulated to pass UL 94 V-0.

### RM2018

Epic RM2018 is a two component polyurethane potting and encapsulating compound that carries a UL 94 V-0 flammability rating. It is designed for potting DC/DC converters, GPS sensors and other electronic devices that require flexibility over a wide temperature range. Other features include a convenient 4:1 volumetric mix ratio, low T<sub>g</sub> and excellent electrical stability over various frequencies.

## EPOXIES

### S7591

Epic S7591 is a two component epoxy that is designed for high temperature applications. It features a low thermal expansion rate coupled with a high glass transition temperature. This compound is also designed to provide an extremely high 3 W/mK thermal conductivity for rapid removal of heat generated by electrical and electronic components.

### 0227

Epic 0227 is a single component, 100% solids epoxy potting compound. It is designed to have a high thermal conductivity and a high T<sub>g</sub> for thermally demanding applications. Epic 0227 is also designed to pass UL 94 V-0 and have a CTE below 30 ppm.

### 0218EV

Epic 0218EV is a single component epoxy designed for high performance EV motor applications that require wide operating temperatures as well as high temperature performance. This epoxy is engineered with an excellent combination of bonding, thermal and structural strength properties. The fast gel time aids in efficient processing to reduce work in progress. 0218EV exhibits outstanding storage stability and features a 10 month shelf life at 25 °C.

## ABOUT EPIC RESINS

### **An established leader in epoxy and polyurethane technologies for industry.**

Founded in 1958, Epic Resins has earned an international reputation as a leading formulator, manufacturer and supplier of epoxy resin and polyurethane solutions. Our philosophy is based on listening to your needs and developing quality solutions to meet your challenges. We built our company on technology-proven chemistry and a wealth of market and application knowledge. This guarantees you consistent products and maximum value.



**MISSION:** Epic Resins is committed to serving our global customers as a most trusted partner in superior quality resins and polymers to enhance their profitability and performance.

### **WE BELIEVE IN:**

#### ***Customer Relationships***

Value our customers and listen to their needs. Strive to make our customers' lives easier. Develop relationships that make a positive difference in our customers success. Deliver beyond expectations.

#### ***Quality***

Commit to excellence every day. Satisfy our customers' needs with superior products, innovative technology and outstanding service, that when combined, deliver exceptional value to our customers.






#### ***Responsibility***

Act with uncompromising honesty and integrity in everything we do for ourselves and our customers. Work smart and take care of our team in order to ensure sustainability and success.



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**Contact the Technical Sales Staff at Epic Resins today!**

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