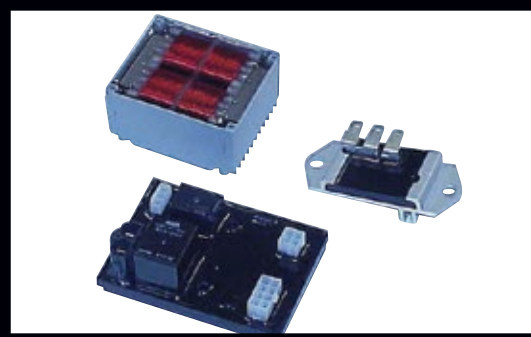


**EPIC RESINS**  
POLYMERS FOR INDUSTRY SINCE 1958

# ELECTRONIC POTTING & ENCAPSULATING COMPOUNDS



| Product                    | UL Recognized | Mix Ratio by Weight | Mix Ratio by Volume | Mixed Viscosity @ 25°C (in cps) | Gel Time @25°C         | Glass Transition Temp. (Tg) |
|----------------------------|---------------|---------------------|---------------------|---------------------------------|------------------------|-----------------------------|
| <b>Epoxies</b>             |               |                     |                     |                                 |                        |                             |
| 0155                       | No            | 1 Component         | 1 Component         | 1,200 – 1,600, 20 rpm           | 24 – 28 Min @ 135°C    | 63 – 69 °C                  |
| 0156                       | No            | 1 Component         | 1 Component         | 100,000 – 140,000, 2 rpm        | 14 – 19 Min @ 145°C    | 80 – 84 °C                  |
| 0161                       | No            | 1 Component         | 1 Component         | 65,000 – 70,000, 20 rpm         | 2 – 4 Min @ 150°C      | 110 – 120 °C                |
| R1055/H5083 <sup>(1)</sup> | Yes           | 100R:18H            | 3.25A:1B            | 2,300 – 3,300, 20 rpm           | 120 – 180 Min (100 g)  | 70 – 80 °C                  |
| R1074-06/H4030-02          | Yes           | 1R:1H               | 1R:1H               | 7,000 – 9,000, 20 rpm           | 60 – 80 Min (100 g)    | 34 – 38 °C                  |
| R3501/H5064                | No            | 100R:43H            | 2R:1H               | 200 – 400, 600 rpm              | 550 – 750 Min (200 g)  | 40 – 50 °C                  |
| S7136                      | No            | 100A:8.5B           | 100A:13B            | 3,500 – 4,500, 20 rpm           | 25 – 35 Min (200 g)    | 108 – 118 °C                |
| S7151                      | No            | 100A:20B            | 3A:1B               | 3,000 Max, 20 rpm               | 175 – 195 Min (200 g)  | 39 – 43 °C                  |
| S7174-03                   | Yes           | 100A:20B            | 3A:1B               | 4,000 Max, 20 rpm               | 45 – 55 Min (100 g)    | 36 – 40 °C                  |
| S7230                      | No            | 100A:34B            | 2A:1B               | 1,700 – 2,300, 20 rpm           | 195 – 215 Min (200 g)  | 42 – 46 °C                  |
| S7341                      | No            | 100A:42.5B          | 2A:1B               | 1,400 – 2,000, 20 rpm           | 100 – 150 Min (185 g)  | 80 – 85 °C                  |
| S7379                      | No            | 100A:44B            | 2A:1B               | 3,500 – 6,000, 20 rpm           | 100 – 175 Min (185 g)  | 70 – 75 °C                  |
| <b>Polyurethanes</b>       |               |                     |                     |                                 |                        |                             |
| RM2018                     | Yes           | 100A:20.4B          | 4A:1B               | 2,500 – 3,000, 20 rpm           | 60 – 80 Min (100 g)    | (-50) – (-47) °C            |
| S7144                      | No            | 100A:43B            | 3A:1B               | 250 – 350, 20 rpm               | 25 – 35 Min (200 g)    | (-21) – (-23) °C            |
| S7214                      | No            | 100A:40B            | 2A:1B               | 6,000 – 8,000, 20 rpm           | 5 – 7 Min (100 g)      | 119 – 131 °C                |
| S7281                      | No            | 100A:109.5B         | 1A:1B               | 1,600 – 2,000, 20 rpm           | 27 – 37 Min (105 g)    | (-60) °C Max.               |
| S7302                      | No            | 100A:19.5B          | 4A:1B               | 2,500 – 3,500, 20 rpm           | 45 – 55 Min (100 g)    | (-70) – (-65) °C            |
| S7318 <sup>(1)</sup>       | No            | 100A:16.8B          | 8A:1B               | 1,000 Max, 20 rpm               | 25 – 33 @ 100°C (20 g) | (-63) °C Max.               |
| S7325                      | No            | 47.8A:52.2B         | 1A:1B               | 900 – 1,100, 20 rpm             | 12 – 18 Min (60 g)     | (-40) °C Max.               |
| S7344                      | No            | 100A:108B           | 1A:1B               | 1,000 Max, 20 rpm               | 15 – 25 Min (100 g)    | (-43) – (-40) °C            |
| S7348-01                   | Yes           | 100A:20B            | 100A:26B            | 2,000 – 3,000, 20 rpm           | 10 – 20 Min (250 g)    | 35 – 40 °C                  |
| S7351                      | No            | 100A:28.4B          | 4A:1B               | 700 – 1,000, 20 rpm             | 8 – 14 Min (128 g)     | (-35) °C Max.               |
| S7356                      | No            | 100A:115B           | 1A:1B               | 500 – 800, 20 rpm               | 0 – 2 Min (100 g)      | (-12) – (-15) °C            |
| S7376                      | No            | 100A:112.4B         | 1A:1B               | 2,800 – 3,300, 20 rpm           | 0 – 2 Min (100 g)      | (-12) – (-15) °C            |
| S7475                      | Yes           | 100A:17B            | 4A:1B               | 3,500 – 4,500, 20 rpm           | 40 – 50 Min (100 g)    | -55°C                       |
| S7478                      | Yes           | 100A:8.52B          | 100A:12B            | 5,000 – 7,000, 20 rpm           | 25 – 35 (100 g)        | (-5) – (-10) °C             |
| S7527                      | Yes           | 100A:16.7B          | 5A:1B               | 3,000 – 4,000, 20 rpm           | 30 – 50 Min (100 g)    | (-2.5) – (-1.52) °C         |

(1) Denotes products designed specifically for high voltage applications.

## EPOXIES

### EPIC 0155

EPIC 0155 is a one component anhydride cure epoxy which can be used in both casting and small potting applications.

### EPIC 0156

EPIC 0156 is a single component 100% solids epoxy resin system designed for impregnation of coils, transformers, motors and other electrical items that require insulating. EPIC 0156 has outstanding shelf stability, excellent chemical resistance and good electrical properties.

### EPIC 0161

EPIC 0161 is a filled, medium viscosity one component epoxy resin system ideally suited for harsh environments that require exposure to such chemicals as aviation fuels, Skydrol(R), gasoline, transmission fluid, and various hydraulic fluids. EPIC 0161 cures in less than 30 minutes at 175°C and possesses great shelf stability.

### EPIC R1055/H5083 <sup>(1)</sup>

EPIC R1055/H5083 is a vacuum grade modified epoxy system specially formulated with a low viscosity and long pot life to achieve penetration of tightly wound electrical coils. This UL94 HB recognized epoxy system is used in applications requiring an RTI rating of 180°C. EPIC R1055/H5083 also features an F1 rating for outdoor suitability requirements for UV resistance and water immersion according to UL 746.

### EPIC R1074-06/H4030-02

EPIC R1074-06/H4030-02 is a premium fire retardant epoxy potting compound that is UL94 V-0 recognized. EPIC R1074-06/H4030-02 could be considered for use in applications that are thermal cycled over a wide temperature range. EPIC R1074-06/H4030-02 features a long work life, convenient 1:1 mix ratio and is free of heavy metals and PBDE's for RoHS compliance.

| Product              | Coefficient of Thermal Expansion (CTE)(EXP-6)in/in°C | Dielectric Strength (volts/mil) | Dissipation Factor (100 kHz) | Volume Resistivity (ohm-cm) | Shore Hardness @ 25°C |
|----------------------|--|---------------------------------|------------------------------|-----------------------------|-----------------------|
| <b>Epoxies</b>       |  |                                 |                              |                             |                       |
| 0155                 | 73 – 79  | 475 – 525 @ 0.150"              | 0.006 – 0.006                | 6.10e+15 – 6.70e+15         | 77 – 83 Shore D       |
| 0156                 | 21 – 24  | 360 – 395 @ 0.125"              | 0.008 – 0.012                | 6.00e+12 – 1.00e+13         | 80 – 86 Shore D       |
| 0161                 | 31 – 34  | >550 @ 0.020"                   | 0.011 – 0.013                | 1.90e+15 – 2.10e+15         | 87 – 91 Shore D       |
| R1055/H5083 (1)      | 43 – 47  | 525 – 575 @ 0.080"              | 0.020 – 0.022                | 1.90e+15 – 2.10e+15         | 85 – 90 Shore D       |
| R1074-06/H4030-02    | 72 – 80  | > 440 @ 0.100"                  | 0.020 – 0.030                | 1.00e+13 – 4.00e+13         | 78 – 82 Shore D       |
| R3501/H5064          | 190 – 210  | >410 @ 0.100"                   | 0.010 – 0.019                | 5.50e+15 – 6.00e+15         | 75 – 78 Shore D       |
| S7136                | 44 – 48  | 475 – 525 @ 0.060"              | 0.020 – 0.022                | 6.90e+15 – 7.50e+15         | 88 – 92 Shore D       |
| S7151                | 61 – 67  | 430 – 470 @ 0.100"              | 0.013 – 0.015                | 9.80e+13 – 1.00e+14         | 83 – 87 Shore D       |
| S7174-03             | 70 – 75  | 420 – 450 @ 0.114"              | 0.018 – 0.022                | 2.00e+14 – 4.00e+14         | 82 – 88 Shore D       |
| S7230                | 48 – 53  | 550 – 600 @ 0.080"              | 0.025 – 0.027                | 2.00e+14 – 2.20e+14         | 77 – 83 Shore D       |
| S7341                | 40 – 45  | 590 – 630 @ 0.060"              | 0.020 – 0.024                | 6.00e+16 – 8.00e+16         | 80 – 85 Shore D       |
| S7379                | 75 – 80  | 722 @ 0.068"                    | 0.030 – 0.035                | 4.00e+15 – 6.00e+15         | 77 – 80 Shore D       |
| <b>Polyurethanes</b> |  |                                 |                              |                             |                       |
| RM2018               | 200 – 220  | 850 @ 0.020"                    | 0.035 – 0.042                | 5.00e+11 – 5.30e+11         | 53 – 57 Shore A       |
| S7144                | 190 – 210  | 400 – 440 @ 0.125"              | 0.042 – 0.046                | 1.10e+13 – 1.20e+13         | 77 – 83 Shore A       |
| S7214                | 41 – 44.5  | 424 – 468 @ 0.100"              | 0.008 – 0.009                | 1.40e+15 – 1.60e+15         | 82 – 88 Shore D       |
| S7281                | 665 – 730  | >300                            | 0.002 – 0.002                | 8.50e+10 – 9.30e+10         | 38 – 42 Shore 00      |
| S7302                | 175 – 190  | 360 – 370 @ 0.125"              | 0.020 – 0.030                | 2.40e+12 – 2.80e+12         | 68 – 72 Shore A       |
| S7318 (1)            | 282  | 460 – 500 @ 0.100"              | 0.020 – 0.025                | 3.30e+12 – 4.10e+12         | 65 – 75 Shore 00      |
| S7325                | 550 – 575  | 450 – 470 @ 0.066"              | 0.010 – 0.020                | 1.50e+11 – 2.50e+11         | 73 – 83 Shore 00      |
| S7344                | 345 – 365  | 500 @ 0.060"                    | 0.033 – 0.034                | 2.60e+12 – 3.40e+12         | 38 – 43 Shore A       |
| S7348-01             | 150 – 160  | 500 – 520 @ 0.100"              | 0.008 – 0.013                | 7.00e+14 – 9.00e+14         | 78 – 82 Shore D       |
| S7351                | 400  | 395 – 435 @ 0.100"              | 0.030 – 0.040                | 1.50e+12 – 2.30e+12         | 70 – 75 Shore 00      |
| S7356                | 225 – 275  | 520 – 560 @ 0.093"              | 0.050 – 0.070                | 1.00e+14 – 5.00e+14         | 60 – 65 Shore A       |
| S7376                | 225 – 275  | 520 – 560 @ 0.093"              | 0.050 – 0.070                | 1.00e+14 – 5.00e+14         | 70 – 75 Shore A       |
| S7475                | 360  | 433 – 511 @ 0.095"              | 0.010 – 0.011                | 2.70e+12 – 2.80e+12         | 50 – 65 Shore 00      |
| S7478                | 175 – 200  | 440 – 460 @ 0.100"              | 0.040 – 0.070                | 1.50e+12 – 2.00e+12         | 75 – 80 Shore A       |
| S7527                | 165 – 175  | 850 – 860 @ 0.033"              | 0.025 – 0.032                | 3.10e+14 – 3.40e+14         | 88 – 92 Shore A       |

(1) Denotes products designed specifically for high voltage applications.

### **EPIC R3501/H5064**

EPIC R3501/H5064 is a two component, optically clear, room temperature curing epoxy potting compound. This unfilled product features a 2:1 volumetric mix ratio for ease of use in meter mix and dispense equipment, an extremely low viscosity for flowing under printed circuit boards, and chemical resistance for applications in hazardous locations.

### **EPIC S7136**

EPIC S7136 is a two component epoxy potting compound designed for potting applications that require superior chemical resistance, low coefficient of thermal expansion, high glass transition temperatures and excellent thermal conductivity. EPIC S7136 shows no physical breakdown after a 1-year soak in methylene chloride. The versatility of this epoxy warrants its use in a variety of applications including submerged filters, potting electronic sensors, control boards, pump motors and fuel pumps in harsh environments.

### **EPIC S7151**

EPIC S7151 is a two component general purpose epoxy potting and casting compound with a high gloss finish in the cured state creating very attractive finished parts. EPIC S7151 is an excellent choice for many potting applications and features a meter-mix friendly 3:1 by volume mix ratio, very low shrinkage and good adhesion to a variety of metal and plastic substrates.

### **EPIC S7174-03**

EPIC S7174-03 is a UL94 V-0 recognized two component filled epoxy potting and casting system featuring a low mixed viscosity, convenient mix ratio and very low shrinkage. EPIC S7174-03 is designed to operate in applications at temperatures up to 130°C and can handle short temperature excursions exceeding 130°C.



## **EPIC S7230**

EPIC S7230 is a medium viscosity, two component epoxy resin system designed for potting or encapsulation of electronic components. EPIC S7230 features non-abrasive fillers, a convenient 2:1 mix ratio and improved resistance to thermal shock.

## **EPIC S7341**

EPIC S7341 is a two component, optically clear epoxy potting compound. The clarity of EPIC S7341 allows the end user to read information printed below a 1/4" cross section of material, such as bar-coding applications. The electrical properties and water resistance of this epoxy makes it an excellent choice for use in applications that are subject to harsh environmental conditions. This product offers a convenient mix ratio of 2:1 by volume making it very meter mix and dispense machine friendly.

## **EPIC S7379**

EPIC S7379 is a two component epoxy potting compound designed to provide crack resistance in applications subject to wide range thermal cycling and thermal shock. This unfilled system features a 2:1 volumetric mix ratio making it ideal for use in meter mix and dispense machinery.



## **POLYURETHANES**

### **EPIC RM2018**

EPIC RM2018 is a two component, UL94 V-0 recognized polyurethane designed for potting electronic control modules. EPIC RM2018 maintains its flexibility over a wide temperature range due to its low Tg. The low viscosity of EPIC RM2018 allows the material to flow into intricate places under printed circuit boards and other tight tolerance areas. The 4:1 volumetric mix ratio affords this system to be very adaptable to meter mix and dispense equipment. EPIC RM2018 is free of heavy metals, PBDE's and is formulated with RoHS compliant materials.

### **EPIC S7144**

EPIC S7144 is a two component polyurethane system designed for potting electronic devices. EPIC S7144 is a cost effective potting compound with good hydrolytic stability. This product has been designed with a convenient 3:1 by volume mix ratio and a Shore A 80 hardness.

### **EPIC S7214**

EPIC S7214 is a two component polyurethane casting compound for applications where excellent chemical resistance at ambient and elevated temperatures is an important design criteria.

### **EPIC S7281**

EPIC S7281 is a two component aliphatic polyurethane potting compound designed with a fast cure and convenient 1:1 mix ratio by volume. Due to the low hardness and very low glass transition temperature, EPIC S7281 allows expansion and contraction of solder joints and delicate electronic components without causing failures from mechanical stresses. This product also excels in high temperature applications, displaying very low weight loss at 125°C over extended periods of time.

### **EPIC S7302**

EPIC S7302 is a two component polyurethane designed for electronic potting applications with temperature extremes. The chemistry of EPIC S7302 lends itself well to products that are exposed to a wide range of temperatures and is adequate for applications that are thermal cycled between -60°C and 135°C with excursions up to 160°C. EPIC S7302 also features good moisture resistance and adhesion to various metals and plastics.

### **EPIC S7318**

EPIC S7318 is a two component polyurethane potting compound that is designed for use in high voltage ignition coils. This material features low hardness, low mixed viscosity and a long gel time at room temperature. EPIC S7318 maintains a high dielectric strength after exposure to 135°C.

### **EPIC S7325**

EPIC S7325 is a two component polyurethane compound specifically designed for potting/casting applications that require low hardness, convenient volumetric mix ratio and short working times. EPIC S7325 is useful for applications requiring a re-enterable compound.

### **EPIC S7344**

EPIC S7344 is a two component polybutadiene based polyurethane system designed for electronic potting applications. EPIC S7344 features low mixed viscosity, high temperature stability, and a convenient 1:1 mix ratio by volume. The low hardness of EPIC S7344 offers protection for delicate electronic devices subject to thermal cycling and thermal shock.

### **EPIC S7348-01**

EPIC S7348-01 is a rigid two component polyurethane potting compound which is UL94 V-0 recognized. EPIC S7348-01 is a thermally conductive potting compound providing low mixed viscosity as well as a moderate gel time.

### **EPIC S7351**

EPIC S7351 is a two component, room temperature cure, polybutadiene based polyurethane. EPIC S7351 was specifically formulated for potting electronic marine modules (EMM) and is also an excellent candidate for potting electronic control modules (ECM). Due to its low hardness and flexibility this polyurethane reduces stress on delicate surface mounted devices (SMD) on printed circuit boards (PCB). EPIC S7351 is an excellent alternative to rigid systems that cause failures by not allowing expansion and contraction of delicate components. EPIC S7351 provides excellent high temperature properties up to 125°C.

### **EPIC S7356**

EPIC S7356 is a two component polyurethane potting compound specifically formulated for automotive sensors, switches, and other electrical devices requiring protection from “under the hood” environments. EPIC S7356 has successfully passed automotive thermal shock and thermal cycling evaluations and also proven itself in a wide range of automotive applications. EPIC S7356 features a convenient 1:1 mix ratio by volume and low viscosity making it very accommodating to meter mix and dispense equipment. EPIC S7356 offers a very fast room temperature gel time in a small mass making it an excellent system for applications requiring small dispense volumes with the advantage of rapid cycling of parts.

### **EPIC S7376**

EPIC S7376 is a two component polyurethane compound with a long history in the automotive field in a wide range of applications that require thermal shock and cycling evaluations such as sensors, switches and relays. EPIC S7376 features a convenient 1:1 mix ratio by volume, and a low coefficient of thermal expansion.

### **EPIC S7475**

EPIC S7475 is a UL94 V-0 recognized two component polyurethane potting compound that was formulated for potting electronics with sensitive components such as Electronic Control Modules (ECM's). The extremely low hardness and excellent flexibility of EPIC S7475 allows the use of delicate surface mount devices (SMD's). At elevated temperatures this material exhibits very low weight loss. The 4:1 volumetric mix ratio makes this system very adaptable to meter mix and dispense machinery. EPIC S7475 is free of heavy metals, PBDE's and is formulated with RoHS compliant materials.

### **EPIC S7478**

EPIC S7478 is a two component polyurethane potting compound providing a flexible system with high thermal stability for high temperature, outdoor, harsh environment applications such as outdoor LED drivers and power supplies. EPIC S7478 is UL94 V-0 recognized in a thin cross section without the use of halogen flame retardants and has achieved a UL RTI rating of 140°C. EPIC S7478 has a good balance of physical properties over a wide temperature range.

### **EPIC S7527**

The EPIC S7527 is a two component polyurethane potting compound that is UL94 V-0 recognized and features a 150°C RTI rating. EPIC S7527 provides excellent thermal properties and water resistance. EPIC S7527 offers a convenient volumetric mix ratio of 5:1 making it very adaptable to meter mix and dispense machinery. This material has been used in applications such as access card readers and other radio frequency devices, outdoor LED displays, sensor and control modules including pool and spa control modules, and a variety of automotive applications. This material is formulated without the use of phosphate or halogen containing flame retardants and is made from RoHS compliant materials.



## **EPIC RESINS**

### **QUALITY ELECTRONIC POTTING AND ENCAPSULATING COMPOUNDS**

Epic Resins specializes in custom formulating quality epoxies and polyurethanes that meet our customers' specific application needs. Epic Resins has the ability to analyze your application and the expertise to formulate the most appropriate system for you.

Since 1958 Epic Resins has been committed to formulating quality products and offering expert service to our customers. In order to achieve our goal of complete customer satisfaction, we have implemented an ISO 9001 Quality Management System and an ISO 14001 Environmental Management System.

Commitment to service goes beyond mere specification conformance at Epic Resins. Our complete support staff of Technical Sales Representatives and Research and Development, Quality Control and Customer Service departments are ready to assist you every step of the way.

#### **COMPREHENSIVE QUALITY ASSURANCE PROGRAM**

- Rigid Vendor Certification Program
- Statistical Process Control
- Statistical Quality Control
- ISO 9001 and ISO 14001 Certified

#### **COMMITMENT TO SERVICE**

- Knowledgeable Technical Sales Representatives
- Experienced Chemists and Lab Technicians
- Continuous Research and Development
- Trained Support Staff

**EPIC RESINS**  
POLYMERS FOR INDUSTRY SINCE 1958

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