

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

# RADIO FREQUENCY

Potting and Encapsulating  
Compounds



# YOUR RF SOLUTION

As many industries are seeing digital transformations, the use of radio frequency identification (RFID) is growing. Applications using RFID are found in everything from NFC to Bluetooth to Internet of Things (IoT) devices. Selecting adhesives to protect these sensitive components is critical.

Epic Resins' line of RF compounds offer consistent reliability and processability with outstanding value. We offer a solution for a wide variety of radio frequency and wireless sensor applications.



## EPOXIES

### R3501/H5043

Epic R3501/H5043 is a rigid, 100% reactive, low viscosity epoxy resin. It is used primarily for laminating, potting and casting of electrical components. This compound provides slightly improved adhesion to some difficult to bond plastic substrates.

### S7379

Epic S7379 is a two component epoxy system designed for potting automatic meter readers and advance metering infrastructure applications for the gas metering market. This compound is formulated with crack resistance, which is critical for handling the thermal shock outdoor environment applications endure. The low dielectric constant allows it to be used in applications within frequencies of 433 - 868 MHz band.

### S7532

Epic S7532-01 is a clear two component epoxy system designed for potting automatic meter readers for the water meter market. This compound has more than 20 years of field experience. It maintains a low dielectric constant up to a frequency of 1 GHz and allows this system to be used in applications with frequencies within the 433 - 868 MHz

band. The excellent physical properties and electrical properties over an extended temperature range make this an ideal candidate for rugged applications. The long work life and low exothermal temperatures are essential for applications with temperature-sensitive components.



Product	UL Flame Rating	Mix Ratio by Weight	Mix Ratio by Volume	Mixed Viscosity (cps) @ 25°C, 20 rpm	Gel Time @ 25°C	Glass Transition (Tg)	Coef Therm Exp (CTE)	Dielectric Strength (volts/mil)	Dielectric Constant @ 3 GHz	Dissipation Factor @ 100 kHz	Volume Resistivity (ohm cm)	Shore Hardness @ 25°C
<b>EPOXIES</b>												
<b>R3501/H5043</b>	None	4A:1B	100A:28B	500 - 700	25 - 35 min (100g)	54 - 57°C	52 - 60 (Exp-6)/°C	> 450 @ 111 mils	2.85 - 2.95	0.036 - 0.030	2.50 - 3.00 (Exp+15)	85 - 90 Shore D
<b>S7379</b>	None	100A:44B	2A:1B	3,500 - 6,000	80 - 175 min (185g)	70 - 75°C	75 - 80 (Exp-6)/°C	> 722 @ 0.068"	2.88 - 2.98	0.030 - 0.035	4.00 - 6.00 (Exp+15)	77 - 80 Shore D
<b>S7532</b>	None	100A:42.5B	2A:1B	1,400 - 2,000	100 - 150 min (185g)	80 - 85°C	55 - 65 (Exp-6)/°C	590 - 630 @ 0.06"	2.81 - 2.91	0.020 - 0.024	6.00 - 8.00 (Exp+16)	80 - 85 Shore D
<b>POLYURETHANES</b>												
<b>RM2017</b>	None	1A:2B	43A:100B	500 - 1,000	25 - 45 min (100g)	(-24.4) - (-23.2) °C	335 (Exp-6)/°C	417 - 492 @ 102 mils	2.78 - 2.88	0.020 - 0.023	1.13 - 1.19 (Exp+14)	42 - 48 Shore A
<b>S7325</b>	None	47.8A:52.2B	1A:1B	900 - 1,100	12 - 18 min (60g)	-70°C	330 - 365 (Exp-6)/°C	450 - 470 @ 0.066"	2.88 - 2.98	0.018 - 0.020	1.50 - 2.50 (Exp+11)	17 Shore A / 73 Shore 00
<b>S7391-03</b>	None	100A:104.8B	1A:1B	1,000 - 1,500	25 - 35 min (100g)	< -70°C	NA Gel	160 - 220 @ 125 mils	2.61 - 2.71	0.009 - 0.012	2.23 - 2.39 (Exp+12)	Gel
<b>S7490-01</b>	None	100A:60.2B	100A:50.1B	550 - 750	5 - 10 min (100g)	66 - 72°C	85 - 90 (Exp-6)/°C	435 - 457 @ 112 mils	2.80 - 2.90	0.011 - 0.013	2.50 - 4.50 (Exp+15)	75 - 80 Shore D
<b>S7527</b>	UL 94 V-0	100A:16.7B	5A:1B	3,000 - 4,000	30 - 50 min (100g)	(-2.5) - (-1.52) °C	165 - 175 (Exp-6)/°C	> 450 @ 0.10"	3.77 - 3.87	0.025 - 0.032	3.10 - 3.40 (Exp+14)	88 - 92 Shore A
<b>S7585</b>	None	100A:107B	1A:1B	200 - 1,000	15 - 25 min (100g)	(-43) - (-40)°C	263 - 280 (Exp-6)/°C	387 - 411 @ 116 mils	2.85 - 2.88	0.027 - 0.029	6.40 (Exp+11) - 1.19 (Exp+13)	41 - 47 Shore A

## POLYURETHANES

### RM2017

Epic RM2017 is a two component polyurethane designed to be used as an electrical potting compound for devices containing an RF transmitter. It features a low dielectric constant over a wide frequency range. Low mixed viscosity allows flow and fill in tight tolerance areas. It also remains flexible over a wide temperature range to minimize stress on PCB components.

### S7325

Epic S7325 is a low hardness, two component polyurethane electrical potting compound designed for automotive applications. Superior stability of the dielectric constant with frequencies up to 3 GHz makes it ideal for various RF and Bluetooth applications. Low glass transition temperature and good stability up to 125 °C allows this material to be used in a wide temperature range. It features a convenient 1:1 volumetric mix ratio for ease of processing.

### S7391-03

Epic S7391-03 is a two component polyurethane gel designed for use in gas and water automatic meter readers. The low dielectric constant allows this product to be nearly invisible to RF in the 433 - 868 MHz band. The gel nature of this product allows use in potting applications where very sensitive components are utilized, inducing the least amount of stress on these components. The low density is an attractive property for weight-sensitive applications. It also features low water absorption, which is desirable for outdoor applications. This compound also maintains a convenient 1:1 volumetric mix ratio and low viscosity for ease of processing.

### S7490-01

Epic S7490-01 is a two component polyurethane potting compound designed for electrical potting applications. This system features a low mixed viscosity to flow into tight tolerance areas and has been stabilized for better gel time consistency. It possesses good adhesive qualities to various plastics and metals. This compound works well in sensors and other communications devices that need protection from the elements.

### 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. It is excellent for potting and encapsulating sensitive electronics which will be exposed to harsh environments. Features include low weight loss at elevated temperatures, RoHS compliance and an outstanding adhesion to various metal and plastic substrates.

### S7585

Epic S7585 is a two component polyurethane system based on polybutadiene chemistry designed for electronic potting applications. It features a convenient 1:1 volumetric mix ratio and a low viscosity for ease of use. It has good high temperature stability as well as superior tear resistance.

## 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.



03/2021

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

 (800) 242-6649 |  sales@epicresins.com |  www.EpicResins.com  
 600 Industrial Blvd, Palmyra, WI 53156 |  Follow us on LinkedIn

