

Room Temperature Curing Electrically Conductive Adhesives



Why are Room Temperature (RT), Electrically Conductive Adhesives (ECAs) important?

- RT/ECAs are ideal for temperature sensitive substrates, allowing for a lower stress cure, and are best for large parts as well as high stress, temperature cycled parts.
- For ease of manufacturing with RT/ECAs, no oven is needed-reducing capital costs and giving greater flexibility for bonding of part sizes.

Product	Viscosity* (cPs)	TI	Cure Time @ 23°C	Pot Life (hrs)	Tg	VR (ohm.cm)	Features	
EJ2189	55,000 - 90,000	5.2	3 days	4	>30°C	<0.009	Highest viscosity	Ideal for stamping, brushing, or hand application techniques. ITO interconnects, cryogenic environments.
EJ2189-LV	25,000 - 45,000	3.3	3 days	4	>40°C	<0.009	Medium viscosity	Lower viscosity than EJ2189 for alternate application techniques including dispensing.
91-189-VLV	25,000	2.9	3 days	4	28°C	<0.009	Lower viscosity	Slightly lower viscosity and less thixo than EJ2189-LV for enhanced processability.
EJ2108	12,000	2.4	3 days	1	42°C	0.0004	Lowest viscosity, Flexible	Low outgassing and high ThK; aerospace and semiconductor applications.
EJ2312	59,000	2.6	24 hours	1.5	45°C	0.0005	Longest pot life, 24hrs RT cure	Fastest RT cure; microwave/RFID, cell phone, RF/wireless.

* Measured at 1rpm



Typical Applications Using RT/ECA Adhesives

Medical

- IC die attach of photo-detector arrays assembled on stress sensitive Si and ceramic carriers, for X-ray detector devices.
- Circuits containing Li ion batteries where curing is $<60^{\circ}\text{C}$.
- Making the electrical bridge of piezo-electric arrays to the corresponding flex PCB in ultrasound imaging devices.



Consumer / Military

- Bonding stainless steel, brass, Sn and Cu wires and conductors in ceramic encased fuses.
- When combined with solvents, a sprayable silver epoxy can be used for metallization of plastics, in consumer goods, mobile phones, automotive mirrors and military optics.



Solar

- Ribbon bonding on low temperature plastics such as ITO/PET curing $<100^{\circ}\text{C}$, especially for the organic photovoltaic industry.



Electronics / Appliances

- Provides reference conductor electrodes on membrane switch flex circuits.
- Adhesive for acoustical circuits including speaker/microphone components.



Please consult our **Application Experts** to assist in selecting the most suitable adhesive for your specific technical challenge: techserv@epotek.com



DISCLAIMER: Data presented is provided only to be used as a guide. Properties listed are typical, average values, based on tests believed to be accurate. It is recommended that users perform a thorough evaluation for any application based on their specific requirements. Epoxy Technology makes no warranties (expressed or implied) and assumes no responsibility in connection with the use or inability to use these products.

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EPO-222-02

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