



Permabond offers a wide range of different adhesive technologies for bonding electronic components. Whether you require a rapid cure in seconds or several hours to assemble parts, Permabond can help you find a bonding solution.

Here is a small selection of our most popular adhesive grades suitable for use in a range of electronic component bonding applications. If you don't see exactly what you require, please contact our us with information about your application, and we will make a recommendation.

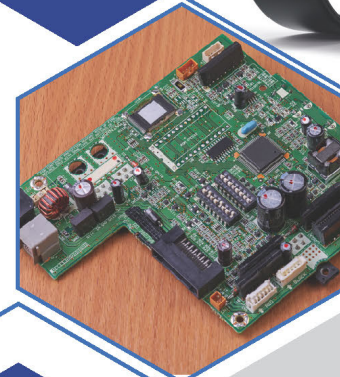
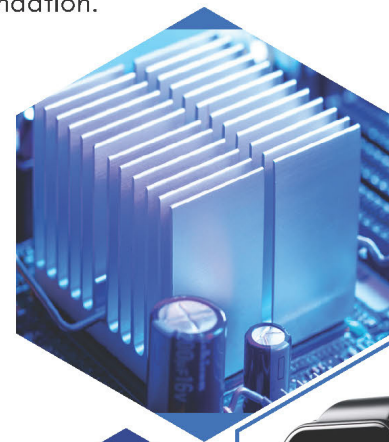


### TYPICAL APPLICATIONS

- ▶ Wire Tacking
- ▶ Heat Sink Bonding
- ▶ SMD Bonding
- ▶ Component Rigidizing
- ▶ Coating
- ▶ Strain Protection
- ▶ Magnet Bonding
- ▶ Bonding Housings
- ▶ Tranformer Laminating
- ▶ Toroid Bonding
- ▶ Coil Winding
- ▶ Sensor Potting  
*and more!*

### IDEAL FOR BONDING:

- ABS
- Acetal
- Aluminum
- Carbon Fiber
- Copper
- FRP/GRP
- Ferrite
- Glass
- Laminate
- Magnet
- PCB
- Phenolic
- Steel
- Zinc
- *And many more*

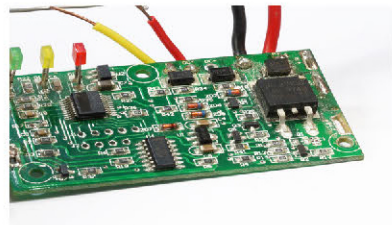


**Application:** Corner Bonding

Adhesive is applied to the junction between the cable and the board to reinforce the attachment.

- ▶ Improved durability
- ▶ Improved resistance to vibration and bending

Adhesive used: Permabond UV649



**Application:** Electric Motors

Various adhesives are used throughout the motor assembly.



**Application:** Wire tacking and SMD bonding.

Permabond 825 uses Patented Technology to maintain high strength at high temperature. Ideal for flip chip bonding.



Technical Information	825	919	947	ES566	ES578	ET530	MT382	MT3836	PT326	TA4590	UV649	UV681	UV683
Typical application	SMD Bonding, wire tacking	SMD Bonding, wire tacking, toroid bonding	Wire tacking, bonding housings	Bonding components, component rigidizing	Bonding heat sinks	Potting and coating Coating copper wire coils	Potting and encapsulation	Bonding heat sinks	Potting, bonding components	Magnet bonding	Corner bonding	Tack-free clear coating - ideal for conformal coating	Tack-free doming viscosity
Features	Single part, moisture cure cyanoacrylate adhesive with high temperature resistance	Single part, moisture cure cyanoacrylate adhesive with high temperature resistance	Single part, moisture cure cyanoacrylate adhesive. Low odor/non-bloom	Heat cure single part epoxy, which cures at temperatures <100°C to help protect temperature-sensitive electronics	Heat cure single part epoxy with good thermal conductivity properties	Low viscosity 2-part epoxy. Cures at room temperature	Low viscosity, self-leveling, soft, slightly flexible modified 2-part epoxy	Modified flexible 2-part epoxy with good thermal conductivity properties	2-Part polyurethane adhesive with high peel and impact strength	Structural acrylic with non-acidic formulation for sensitive electronics. Use with initiator 44	Single-part, UV curable, high viscosity, thixotropic adhesive.	Single-part, low-viscosity, UV-curing resin	Single-part, high viscosity, UV curing resin
Color	Clear, colorless	Clear, colorless	Clear, colorless	Grey	Black	Clear, colorless	Charcoal black	Light Grey	Grey	Blue	Clear, colorless	Clear, colorless	Clear, colorless
Viscosity (mPa.s = cP)	100-150	2-6	900-1500	Thixotropic paste	Thixotropic paste	550	Mixed: 13,000-30,000	Mixed: Paste	Mixed: 3500-7000	20rpm: 20,000 2.5rpm: 90,000	Thixotropic gel	80-120	1000-1600
Maximum gap fill (mm) in	(0.15) 0.006	(0.05) 0.002	(0.25) 0.01	(2.0) 0.08	(5.0) 0.2	-	(0.5) 0.02	(5.0) 0.2	(5.0) 0.2	(0.5) 0.02	-	-	-
Handling time (steel)	10-15 sec.	15-20 sec.	10-15 sec.	-	-	8-12 hrs	105-120 min.	2-3 hrs	60-90 min.	30-60 sec.	Normally seconds - depends on UV lamp intensity, output spectra, and distance from substrate		
Full strength (cured at 23°C)	24 hours	24 hours	24 hours	90°C (175°F): 75 min. 100°C (210°F): 40 min. 120°C (250°F): 25 min. 150°C (300°F): 10 min.	130° C (266°F): 75 min. 150°C (300°F): 60 min. 170°C (338°F): 25 min.	72 hrs	72 hrs	>72 hrs	4-5 days	24 hrs			
Shear strength Steel (MPa) psi	(15-20) 2175-2900	(19-23) 2800-3300	(20-22) 2900-3200	(5-10) 750-1500 cured at 90°C (18-22) 2600-3200 cured at >100°C	(27-41) 4000-6000	(10-12) 1450-1700	(4-7) 600-1000	Stainless Steel (2-2.5) 290-360	(12-20) 1700-2900	(20-25) 2900-3600	-	-	-
Service temperature range (°C)°F	(-55 to +200) -65 to +390	(-55 to +250) -65 to +482*	(-55 to +80) -65 to +180	(-40 to +180) -40 to +356	(-40 to +180) -40 to +356	(-40 to +100) -40 to +215	(-40 to +120) -40 to +250	(-40 to +120) -40 to +250	(-40 to +120) -40 to +250	(-55 to +165) -65 to +329	(-55 to +120) -65 to +250	(-55 to +120) -65 to +250	(-55 to +120) -65 to +250
Dielectric strength kV/mm	25	-	25	-	40-45	18	-	19	-	30-50	25-30	-	-
Thermal conductivity W/(m.K)	0.1	0.1	0.1	0.38	1.0	0.31	-	1.05	-	0.1	-	-	-
Availability	Worldwide	Worldwide	Worldwide	Worldwide	Worldwide	Worldwide	Worldwide	Worldwide	Worldwide	Worldwide	Worldwide	Worldwide	Worldwide

Please refer to the TDS (Technical Data Sheet) for full, up-to-date technical information.

**Application:** Coil Winding

Loudspeaker coil winding runs through an epoxy "bath" and is coiled before the epoxy sets.

- ▶ Excellent optical clarity
- ▶ Low, penetrative viscosity for good coverage

Adhesive used: Permabond ET530

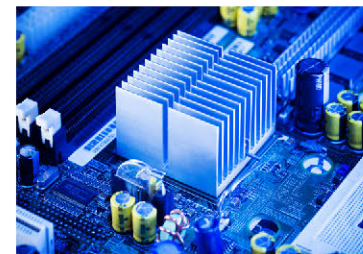


**Application:** Bonding Heat Sinks

Permabond adhesive is used to secure components that may later need to go through a solder reflow process.

- ▶ High wet strength
- ▶ Good thermal conductivity
- ▶ Good electrical resistance

Adhesive used: Permabond ES578



**Application:** Bonding Toroids

Adhesive is applied to bond copper wire to the ferrite core of a toroid.

- ▶ Improved durability
- ▶ Improved resistance against high levels of vibration & temperature

Adhesive used: Permabond 920



**Permabond is a manufacturer, formulator, and innovator of adhesives and sealants.**

**Permabond manufactures many types of industrial adhesive products to suit the varied needs of a number of different industries. Contact us or our authorized distributor, Essex Brownell, with your application details and we will assist in finding the best solution.**

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[www.essexbrownell.com](http://www.essexbrownell.com)  
**800.805.4636**  
[info@essexbrownell.com](mailto:info@essexbrownell.com)

**Essex Brownell  
1601 Wall Street,  
Fort Wayne, IN 46802**

[WWW.PERMABOND.COM](http://WWW.PERMABOND.COM)



[info.americas@permabond.com](mailto:info.americas@permabond.com) US - 800-640-7599  
[info.europe@permabond.com](mailto:info.europe@permabond.com) UK - 0800 975 9800  
[info.asia@permabond.com](mailto:info.asia@permabond.com) Asia + 86 21 5773 4913