Permabond®
Engineering Adhesives

ADHESIVES FOR BATTERY ASSEMBLY



Permabond has a comprehensive portfolio of adhesives and sealants for use throughout conventional, hybrid, and electric vehicles.

Our adhesives for battery assembly enhance the vehicle's performance and safety by reducing weight, transferring heat, and reducing fire risks. Permabond specializes in custom formulations to meet battery manufacturers' requirements.

FEATURES & BENEFITS

- Weight reduction
- High level of thermal conductivity
- Absorb stress and vibration
- Electrical insulation
- Fire retardancy to UL94-V0
- Flexible, compressible products available
- Excellent environmental resistance
- 100% seal against humidity
- Ability to bond and seal hard to bond materials such as polyethylene, polypropylene, PEEK, PBT, and PTFE
- Ability to custom formulate to suit requirements

Our team is dedicated to providing high quality products that meet today's challenges for improvements in performance, efficiency, and cost effectiveness.



Adhesives for Battery Assembly

PERMABOND ES5520

Single Part - Heat Cure Epoxy

Bonds Graphite Plates for Hydrogen Fuel Cells

Permabond graphite bonder is a single part epoxy adhesive that cures with heat to form strong bonds to graphite and other substrates.





PERMABOND ET5441

Two-Part - Epoxy

Thermally Conductive - High Temperature Resistance

Permabond ET5441 is a thixotropic, grey, 2:1 mix ratio 2 part epoxy that forms strong bonds to metals.

- Excellent chemical resistance
- Temperature resistance up to: 200°C (390°F)
- Shear strength on steel (ISO4587): 20 N/mm² (2900 psi)
- Thermal conductivity (ISO 8302): 1.1 W/(m.K)
- CTE: 23 x 10^6/K or 23 ppm/K)

PERMABOND MT3836

Two-Part - Hybrid Epoxy

Flexible/Compressible - Thermally Conductive - Fire Retardant

Permabond MT3836 is a two-part, modified hybrid silane polymer adhesive designed for sealing and bonding applications. It bonds metals and many plastics as well as a variety of different metals. The cured adhesive has been designed to meet the fire retardancy requirements of UL94 V-0 and thermal conductivity of 1.05 W/(m.K).

PERMABOND 825

Patented Cyanoacrylate Technology

High Temperature Resistant

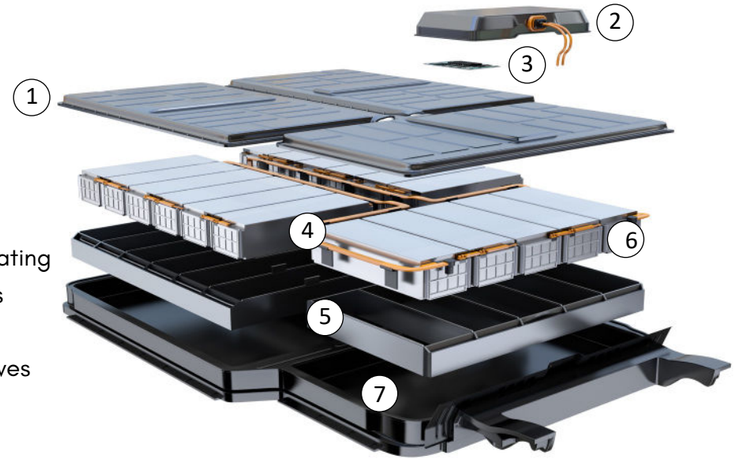
Bonds Metals, Plastics, and more.

Permabond 825 is a clear, colorless, low viscosity (125 cP) adhesive. It has excellent strength retention during thermal ageing and resists to 200°C (390°F). It forms strong bonds to most substrates. Shear strength on steel can exceed 2500 psi.



APPLICATIONS

1 Sealing/Gasketing
2 Potting
3 Board protection - conformal coating
4 Electrically conductive adhesives
5 Structural adhesives
6 & 7 Thermally conductive adhesives



PERMABOND TA4611

Two-Part - Structural Acrylic

Battery Housing Bonder

Bonds PTFE, PP, PE, UHMW, etc.



Permabond TA4611 is a transparent adhesive that achieves handling strength in under an hour, forming exceptionally strong bonds to low surface energy plastics with no need for primer or surface treatment.



PERMABOND ET5424

High-Temp - Two-Part Epoxy

Battery Casing Assembly

Bonds Metals, Engineering Plastics, and Composites

Permabond ET5424 is a two-part epoxy adhesive, designed for bonding applications. With a very high glass transition temperature (Tg) of 182°C (360°F) and excellent adhesion to metals, plastics, PPS, PBT, or CFR composites, it offers outstanding high temperature resistance, making it ideal for demanding automotive uses such as battery casing assemblies.

Permabond has been trusted for over 60 years in various industries, including the aerospace, automotive, transportation, and recreational vehicle industries. Adhesives are found in virtually every moving machine!



Typical applications of Permabond adhesives include:

- Electric Motor Magnet Bonding
- Threadlocking
- Gasketing
- Retaining
- Bonding Interior Trim
- Camera Lens Bonding

Ideal for bonding:

- Aluminum
- Carbon
- Copper
- Glass-filled plastic
- Graphite
- PBT & PEEK
- Phenolic
- Polyethylene
- Polypropylene
- PTFE
- Steel
- Zinc

...and many more

The use of adhesives in electric vehicles is even more widespread than their use in conventional automobiles. Adhesives offer many advantages to both types of vehicles, including; ease of use compared to welding, environmental resistance, sealing, uniform distribution of stress, and joining dissimilar materials. The advantages of adhesives specific to electric vehicles include bonding composites and low surface energy plastics, reducing weight, thermal conductivity, and electrical insulation.

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