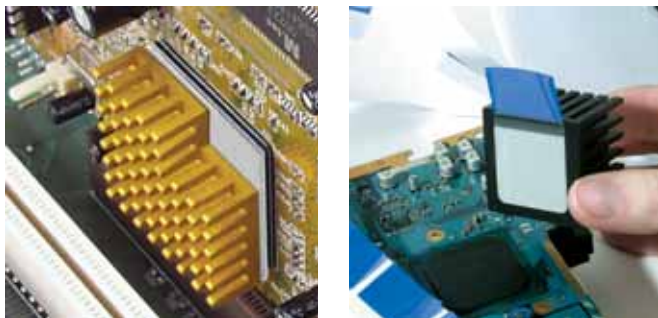


Bond-Ply® and Liqui-Bond® Adhesives

Bond-Ply Adhesive Tapes

Available in a pressure sensitive adhesive or laminating format, the Bond-Ply family of materials are thermally conductive and electrically isolating. Bond-Ply facilitates the decoupling of bonded materials with mismatched thermal coefficients of expansion.

Typical Bond-Ply Applications



Features

- High performance, thermally conductive, pressure sensitive adhesive
- Material immediately bonds to the target surface
- Bond strength increases over time when repeatedly exposed to high continuous-use temperatures

Benefits

- Provide an excellent dielectric barrier
- Excellent wet-out to most types of component surfaces including plastic
- Bond-Ply 400 is unreinforced to increase conformance and wet-out on low surface energy materials
- Eliminates need for screws, clip mounts or fasteners

Options

- Supplied in sheet, die-cut, roll and tabulated forms
- Available in thickness range of 3 to 11 mil
- Custom coated thickness

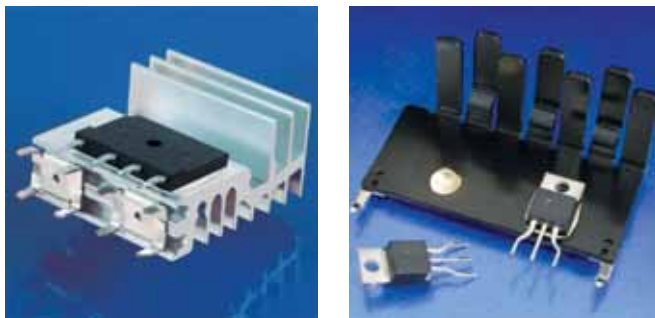
Applications

- Attach a heat sink to a graphics processing unit
- Attach a heat spreader to a motor control PCB
- Attach a heat sink to a power converter PCB
- Attach a heat sink to a drive processor

Liqui-Bond Liquid Adhesives

Bergquist Liqui-Bond liquid adhesives are high performance, thermally conductive, liquid adhesive materials. These form-in-place elastomers are ideal for coupling "hot" electronic components mounted on PC boards with an adjacent metal case or heat sink.

Typical Liqui-Bond Applications



Features

- Excellent low and high temperature mechanical and chemical stability

Benefits

Before cure, Liqui-Bond flows under pressure like a grease. After cure, it bonds the components, eliminating the need for mechanical fasteners. Additional benefits include:

- Low modulus provides stress-absorbing flexibility
- Supplied as a one-part material with an elevated temperature curing system
- Offers infinite thickness with little or no stress during displacement
- Eliminates need for specific pad thickness and die-cut shapes for individual applications

Options

The growing Liqui-Bond family offers a variety of choices to meet the customer's performance, handling and process needs.

Applications

Liqui-Bond products are intended for use in thermal interface applications where a structural bond is a requirement. This material is formulated for high cohesive and adhesive strength and cures to a low modulus. Typical applications include:

- Automotive electronics
- Telecommunications
- Computer and peripherals
- Between any heat-generating semiconductor and a heat sink

Frequently Asked Questions

Q: What is the primary difference between the Bond-Ply 660B and Bond-Ply 100 products?

A: Bond-Ply 660B utilizes a dielectric film, replacing the fiberglass inherent in our Bond-Ply 100 series products. The addition of the film allows for high dielectric performance without additional product thickness.

Q: How should I size my interface dimensions for Bond-Ply?

A: Bond-Ply product testing has been completed on various interface materials. These tests have demonstrated that improper surface wet-out is the single largest variable associated with maximizing bond strength and heat transfer. Bergquist has found that reducing the size of the interface pad to roughly 80% of the total interface area actually improves the overall bonding performance while offering significant improvements in total package cooling. Bergquist offers three standard thicknesses for Bond-Ply 100 allowing each application to be optimized in three dimensions.

Q: What application pressure is required to optimize bond strength with Bond-Ply?

A: The answer to this varies from application to application, depending upon surface roughness and flatness. In general, pressure, temperature, and time are the primary variables associated with increasing surface contact or wet-out. Increasing the application time and/or pressure will significantly increase surface contact. Natural wet-out will continue to occur with Bond-Ply materials. This inherent action often increases bond strength by more than 2x within the first 24 hours.

Q: Will Bond-Ply adhere to plastic packages?

A: Adhesive performance on plastic packages is primarily a function of surface contact or wet-out. If surface contaminants such as plastic mold release oils are present, this will prevent contact and/or bonding to the surface. Make sure all surfaces are clean and dry prior to applying Bond-Ply materials.

Q: How are one-part Liqui-Bond adhesives cured?

A: One-part Liqui-Bond requires heat to cure and bond in the application. Altering the bond line temperature and time can control the cure schedule. Component fixturing may be required to maintain placement through cure.

Bond-Ply® Comparison Data

