Tapes, Adhesives and Specialty Products for the Electronics Market
In today’s competitive world, you can’t afford to overlook any opportunity to improve the quality and performance of your products.

When you specify 3M tapes and adhesives, you’re drawing on decades of leadership in adhesive technology. No other source offers better solutions for the design, fabrication and assembly of printed circuit boards and electronic equipment:

- Open up new design possibilities
- Improve production efficiency and costs
- Improve quality of end use performance

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Solutions for Printed Circuit Board Fabrication

3M products mask, protect and rigidize your rigid or flexible circuit boards during manufacturing.

Circuit Board Design Layout

- Photographic preparation tapes for masking off negative or positive films.
- Optically transparent.
- Tapes resist adhesive oozing and remove cleanly.

Flexible Circuit Rigidizing

- Adhesive transfer tapes can bond circuit boards to stiffeners or heat sinks.
- Thermally conductive versions help pull heat away from sensitive components.
- High bond, pressure sensitive adhesives help provide high shear strength and temperature resistance.
- Epoxies and heat activated bonding films provide high strength bond and environmental resistance.

Hot Air Leveling (HAL) Protection

- HAL tapes help protect gold fingers during the hot air solder leveling process.
- Provide easy handling and high temperature resistance.
- Tapes work for many different processes.

Plating and Fume Protection

- Single sided tapes help protect circuit boards from process chemicals during gold plating of fingers.
- Broad line of plating and fume tapes offer a variety of properties and performance.
- Silicone and silicone-free adhesive versions.
- Tapes are available for tin/lead and SMOBC boards.
Solutions for Printed Circuit Board Assembly
To attach, secure, or protect circuit boards and their components.

Heat Sink Attachment
- Pressure sensitive, thermally conductive adhesive transfer tapes bond heat sinks to pin grid arrays, flexible circuits and more.
- Provide gap filling for improved thermal path.
- Electrically insulative with high shear strength and reworkability.
- U.L. recognized.

Component Attachment
- 3M VHB™ tapes permanently attach components such as batteries or small circuit boards.
- Helps provide vibration and impact resistance to components.
- Can be die cut to specific shapes for ease of handling.

Interconnect
- Electrically conductive adhesive films electrically connect and mechanically bond flexible circuits to flexible or rigid circuit boards or to LCDs.
- Conductive only through Z-axis.
- Pressure sensitive and heat cured versions for many circuit spacing applications.

Wire Stabilization and Tacking
- 3M Scotch-Weld™ epoxies and Jet-melt™ hot melt adhesives can help strengthen and secure wires, reducing strain and breakage.
- 3M Jet-melt™ adhesives can bond in seconds, often eliminating the need for clamps and fixturing.
- 100% solid materials.
**Bonding and Rigidizing Components**
- 3M epoxies, hot melt adhesives and double coated tapes can affix components prior to or after soldering.
- Help provide electrical insulation from printed circuit board circuitry.
- Add holding strength and vibration control to maintain connections.
- U.L. recognized on specific products.

**Wave Solder Protection**
- High temperature resistant tapes help protect gold fingers during the wave soldering process and remove cleanly.
- Low static versions help reduce the potential for component damage due to electrostatic discharge.
- Water soluble version is low static plus helps eliminate process steps.

**Conformal Coating Protection**
- Wide range of tapes help protect gold fingers during conformal coating process.
- Products can be used with a variety of coatings and temperatures.

**Component Encapsulation and Potting**
- Non-corrosive 3M Scotch-Weld™ epoxies or high heat resistant 3M Jet-melt™ hot melt adhesives help stabilize components and protect against physical stresses.
Solutions for Electronic Equipment Assembly

Bonding, Sealing and Reclosable Joining

From repositionable to permanent, increase options with materials that are thinner, lighter and more flexible for adhering to a wide variety of substrates.

Bonding Thin and Flexible Substrates

- Adhesive transfer tapes range from low tack removable to high tack permanent.
- For ease of application acrylic or rubber adhesive films are available on a removable poly liner.
- Can be applied by hand, with a dispenser or in fabricated form.

Instant Adhesives

- 3M Pronto™ cyanoacrylate adhesives provide fast bonding and structural strength with various cure times and viscosities.
- Easy application from container or automatic dispensers.

Sealing Disk Drives, Cabinets and LED Displays

- Conformable, pressure sensitive single coated tapes provide an immediate protective seal against air, moisture and many contaminants.
- Silicone, rubber or acrylic adhesives are available on a wide variety of poly film, metal foil or glass cloth backings.
- 3M Scotch-Weld™ epoxies and heat activated films provide high strength, quick bonding of internal drive assemblies.

High Strength Bonding and Sealing

- 3M VHB™ acrylic adhesive transfer tapes and double coated foam tapes provide high strength bonding for permanent application.
- Excellent sealing and cushioning properties.
- Can be applied by hand or automatically in roll or fabricated form.
- U.L. recognized on specific products.
- 3M Scotch-Weld™ epoxies can also provide high strength bonding for a variety of small applications.
3M Scotch-Weld™ Structural Adhesives
- Broad line of one and two-part epoxies, acrylics and urethanes for adhesion to plastics, metal, glass and more.
- Meter, mix and dispense two-part products with the hand-held 3M EPX™ Applicator.
- High strength with void filling properties help seal environment contaminants.

Reclosable Joining
- 3M Dual Lock™ Industrial Fasteners provide reclosable, removable and repositionable closures.
- Mushroom shaped interlocking system for high tensile strength and holding power.
- Outstanding for access panels or component attachments.
- Withstands thousands of reattachments.
- Holds components in place, helping reduce vibration or movement damage.
- Pressure sensitive and non-adhesive versions available.

Bonding Irregular Surfaces and Gap Filling
- Double coated film and foam tapes can bond many rough or irregular surfaces, fill gaps and distribute stress uniformly.
- Acrylic or rubber adhesive on both sides of a film or foam carrier provide a wide range of adhesion and foam properties.
- Tapes help reduce vibration and dampen sound in many applications.

PC Card Assembly
- Heat activated thermoplastic bonding films can bond a variety of plastics and metals.
- 3M™ Thermo-Bond Films achieve a high strength bond in seconds.
- Excellent for small surface bonding and high volume automated applications.
Solutions for Electronic Equipment Assembly

Protection

Protect against abrasion, scratching and marring during production, assembly, transit or use of the final product.

3M™ Polyester Tapes
- Abrasion resistant backing with rubber, acrylic or silicone adhesives.
- Transparent, translucent or colored.
- Thin caliper with high dimensional and tensile strength.
- Long term aging and temperature resistance.

3M™ Polyethylene and Vinyl Tapes
- Good comfortability for adhering to many irregular surfaces.
- Provides puncture, abrasion and chemical resistance.
- Available in transparent or a variety of colors.
- Temporary surface protection.

3M™ Polyurethane Protective Tapes (PPT)
- Provide tough permanent protection and abrasion resistance.
- Conformable and durable protection for heavy duty applications such as protecting flexible circuits from wear.

3M™ Polyester Tapes
- Abrasion resistant backing with rubber, acrylic or silicone adhesives.
- Transparent, translucent or colored.
- Thin caliper with high dimensional and tensile strength.
- Long term aging and temperature resistance.

3M Bumpon™ Protective Products
- Self stick polyurethane protective molded molded bumpers can be used as feet, stops or spacers.
- Acrylic or rubber-based adhesives.
- Abrasion resistant and vibration damping properties.
- Wide selection of shapes, sizes and colors, including clear. Custom colors, sizes and shapes also available.

3M Bumpon™ Protective Rollstock
- Polyurethane rolls with pressure sensitive adhesive can be die cut to specific shapes and sizes.
- Use as large, protective sheets or small, protective cushions.
- Excellent adhesion to ABS plastic.
- Wide selection of colors available including custom.

3M™ Slick Surface Tapes
- Permanent protection against friction, reducing noise caused by vibration, while providing a release surface.
- PTFE (Polytetrafluoroethylene) Tapes
  - Excellent temperature and chemical resistance.
  - Conformable.
- UHMW-PE (Ultra High Molecular Weight - Polyethylene) Tapes
  - Abrasion resistant.
  - Release or anti-stick surface.
Solutions for Electronic Equipment Assembly

Energy Management
Save energy and protect your components thermally, electrically and mechanically.

Thermal Protection and Heat Transfer

3M™ Aluminum Foil Tapes
- Maximize heating or cooling efficiency.
- Helps protect by reflecting heat or transferring heat over a larger surface.

3M™ Glass Cloth Tapes
- Highly conformable for spiral wrapping and flame protection.
- High strength, tear and puncture resistance properties.

3M™ Thermally Conductive Adhesive Transfer Tapes (TCATT)
- Thermal path from one substrate to another for cooling or heating applications.
- Use to provide a mechanical bond or as a void filling gasket between mechanically attached parts.
- Provides electrical isolation with high dielectric strength.
- Easy to apply in roll length or die cut form.
- U.L. recognized.

Mechanical Damping Protection

3M™ Single Coated Foam Tapes
- Urethane foams cushion, help reduce sound, damp vibration and seal out dust and moisture. Vinyl foams are durable and weather resistant.
Electrical Protection and Interconnection

Electromagnetic Interference Shielding
Conformable, die cuttable materials for easy to apply, cost effective shields.

3M™ Metal Foil Tapes
- Aluminum foil tapes help shield both incoming and outgoing EMI.
- Provides easy application and long term age life.

3M™ Electrically Conductive Adhesive Transfer Tapes (ECATT)
- Conductive pressure sensitive adhesive film can be die cut for selective placement on metalized surfaces.
- Makes large shields easy to apply.
- Allows design of small, thin shields in tight areas.

Interconnect
Electrically and mechanically connects flexible circuits to flexible and rigid circuits or liquid crystal displays. Conductive only in Z-axis.

3M™ Electrically Conductive Z-Axis Adhesive Films
- Heat cured adhesive films provide low electrical resistance and high stability.
- Versions available for fine pitch, polyimide or for printed ink/polyester flexible circuit connections.

3M™ Electrically Conductive Adhesive Transfer Tapes
- Pressure sensitive for easy application.
- Z-axis conductive.
- Use for splicing flat polyester flexible circuits or between layers of membrane switches.

3M™ Bumpon™ and Rollstock Protective Products
- Whether pre-formed feet or die cut forms, these products attach quickly, cushion, help reduce noise and vibration.

3M VHB™ and Double Coated Foam Tapes
- Resilient bond helps damp vibration. Tapes can be die cut to fit unique shapes and placement.

3M™ Fastening Products
- High strength reclosable fastening systems provide protection from vibration plus withstand thousands of reattachments.
Our bonding, sealing and protective products represent more than 50 years of leadership with solutions to many design and production challenges.

For additional product information or to arrange for sales assistance contact:

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Important Notice
3M MAKES NO WARRANTIES, EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. User is responsible for determining whether the 3M product is fit for a particular purpose and suitable for user’s method of application. Please remember that many factors can affect the use and performance of a 3M product in a particular application. The materials to be bonded with the product, the surface preparation of those materials, the product selected for use, the conditions in which the product is used, and the time and environmental conditions in which the product is expected to perform are among the many factors that can affect the use and performance of a 3M product. Given the variety of factors that can affect the use and performance of a 3M product, some of which are uniquely within the user’s knowledge and control, it is essential that the user evaluate the 3M product to determine whether it is fit for a particular purpose and suitable for the user’s method of application.

Limitation of Remedies and Liability
If the 3M product is proved to be defective, THE EXCLUSIVE REMEDY, AT 3M’S OPTION, SHALL BE TO REFUND THE PURCHASE PRICE OF OR TO REPAIR OR REPLACE THE DEFECTIVE 3M PRODUCT. 3M shall not otherwise be liable for loss or damages, whether direct, indirect, special, incidental, or consequential, regardless of the legal theory asserted, including negligence, warranty, or strict liability.

Solutions for the Electronics Market
Production and Maintenance
In addition to design and production of electronic assemblies, 3M offers many solutions for your identification, clean up, coding, securing and safety protection needs.

- **Tapes for**
  - Hazardous Area and Aisle Marking
  - Safety Equipment Marking
  - Color Coding and Defect Tabbing
  - Clean Room Holding, Sealing, Masking and Identification
- **Specialty Chemicals for**
  - Cleaning and Lubricating
  - Sorbents for Clean-Up and Spills
- **Protective Mats for**
  - Dirt and Contaminant Removal