



Medical Market Solutions for Converters

*Tapes, fasteners,
and films to
improve the design
and production
of durable and
disposable devices*



Technology and service to help your converting business grow within medical market segments

The medical market is growing and you can grow with it in both durable and disposable device categories.

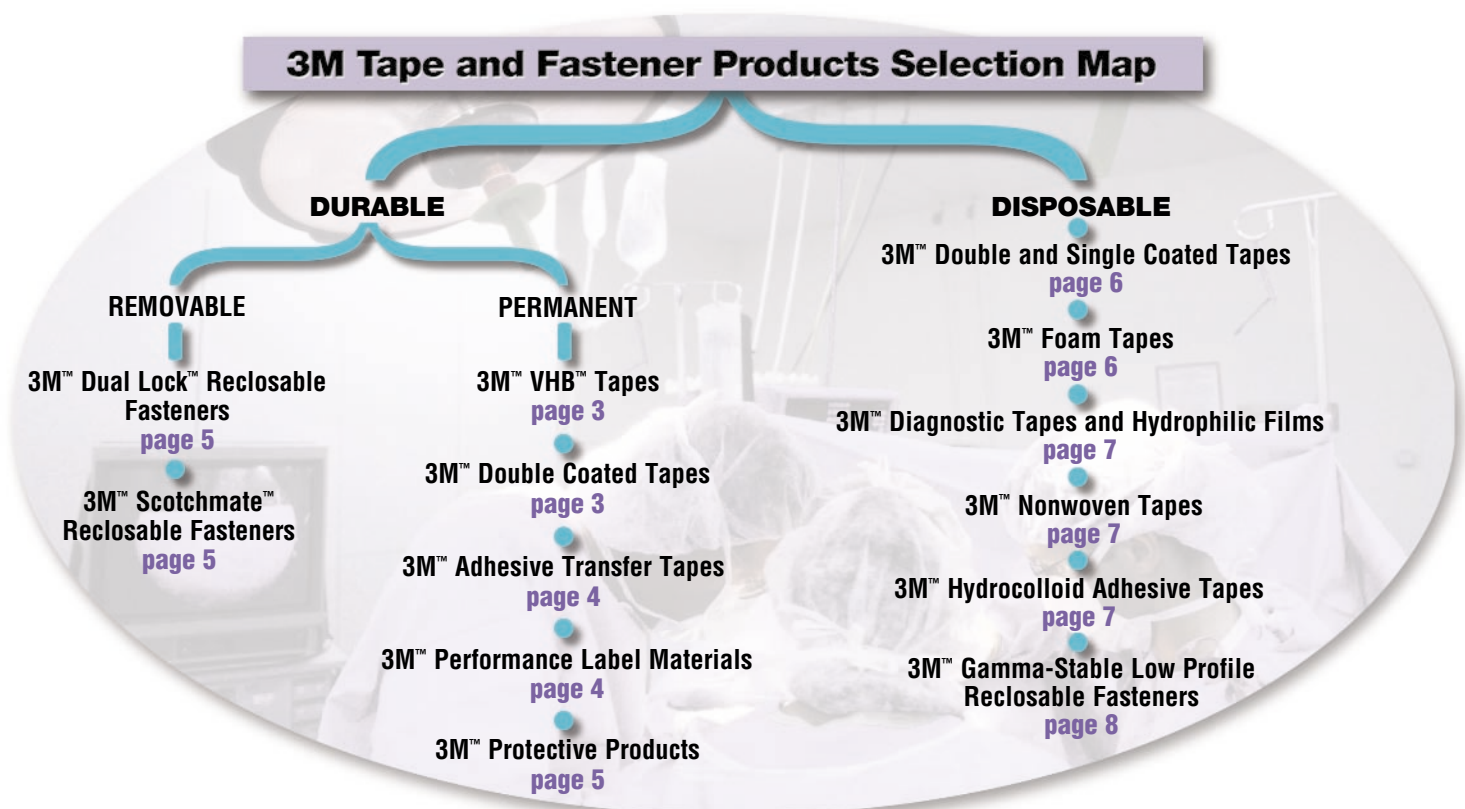
Valued at \$75 billion by some industry experts, the medical device market is growing 8-10% annually. Driven by an aging population who want to continue leading more active lives, some segments are growing up to 15-20% annually.

When you work with 3M, you're teamed with a resource backed by over 50 years of experience in durable and disposable devices. 3M is a trusted brand in the medical market with thousands of health care products.

For assembly of durable or reusable devices such as diagnostic equipment, you'll find 3M bonding and fastening solutions for assembly of materials

ranging from metal and rubber to glass and low surface energy plastics. For disposable products such as diagnostic test strips and stick-to-skin products such as electrodes, you'll find a wide variety of tapes, films, and reclosable fasteners.

Design and assembly of durable and reusable devices	Fabrication of disposable and stick-to-skin devices	Solutions through service
<p>With 3M technologies, you can offer customers:</p> <ul style="list-style-type: none"> • Holding strength matched to the job • Virtually invisible fastening • Increased material options • Increased manufacturing options 	<p>With 3M technologies you can offer choices in the key attributes customers need to consider. For example:</p> <ul style="list-style-type: none"> • Level of adhesion • Wear duration • Material breathability • Hydrophilic or hydrophobic • Sterilization requirements 	<ul style="list-style-type: none"> • 3M representatives located throughout the United States, Canada, and 50 other countries for convenient sales assistance • Highly trained technical service team to help you evaluate products for specific applications • Ready product availability • www.3M.com/converter



Design and assembly of durable and reusable devices

3M™ VHB™ Tapes

Proven worldwide since 1980 for high holding strength



Bond and seal components throughout a device.

Can be die-cut into sizes and complex shapes for precise, easy assembly.



For more than 25 years, engineers have been specifying 3M™ VHB™ Tapes to permanently bond and seal many metals, plastics, and other surfaces.

- Bond on contact with no drying time or fixturing
- Save processing steps for drilling and screwing
- Viscoelastic properties absorb shock and flexing for reliability against vibration and other stresses
- Replace rivets and screws for virtually invisible fastening and help keep surfaces smooth and attractive
- Permanently bond many materials, flat or curved

3M™ Double Coated Tapes

A variety of carriers for easy handling and application

With adhesive on both sides of a paper, film, tissue, or foam carrier, 3M™ Double Coated Tapes increase dimensional stability of adhesive for handling and application ease.

- Choice of carriers and adhesives for different production and performance requirements
- Same or different adhesive on each side of a carrier to join a wide variety of materials
- Choice of properties for temperature resistance, conformability, initial adhesion, high shear strength, and more.



For keypad assembly, silicone adhesive on one side of a carrier adheres to a silicone rubber keypad; acrylic adhesive on other side of the carrier bonds to the plastic base.



For precise fit, 3M™ Double Coated Tape is pre-applied to foam gasketing materials and die-cut to size and shape.

Design and assembly of durable and reusable devices

3M™ Adhesive Transfer Tapes

Neat precise application for reliable graphic attachment

With 3M™ Adhesive Transfer Tapes, your customer simply presses the adhesive side down to the back of a nameplate or other graphic. When ready to bond the liner is removed and the graphic bonds on contact. No drying, no adhesive oozing. Select tapes with different adhesives for varying bonding characteristics.

- 200MP High Performance Acrylic Adhesive for high adhesion to metal and high surface energy plastics
- 300LSE High Strength Acrylic Adhesive for adhesion to low surface energy plastics and powder coated paints



3M™ Performance Label Materials

Technology for identifying, informing, tracking, warning, and securing

With 3M adhesives, topcoats, facestocks, and liners, you can mix and match for 150,000 combinations. That means technology and solutions for most labeling requirements for medical devices

- Select facestocks for thermal transfer, laser markable, or digital printing
- Most comprehensive listing of UL recognized and CSA accepted products



Informing – 3M™ Recyclable Label Material 8000 can be recycled with ABS, PC, PC/ABS, and HIPS housings.



Securing – 3M™ Polyester Tamper-indicating Label is thermally and computer printable.

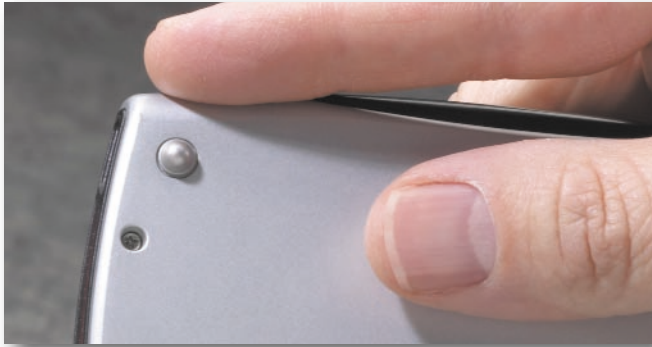


Tracking – Tracking label bar code stays readily and accurately readable with 3M™ Thermal Transfer Label Material.

3M™ Protective Products

A margin of safety against scratches, nicks, and noise

When abrasion, scratching, nicks, and noise can be a problem for a product or make the product a problem for other surfaces, 3M™ Protective Products provide a margin of safety. Products include a variety of protective films and resilient pads, feet, bumpers, and spacers.



When your customer wants a touch of quiet and skid resistance for a small device, custom 3M™ Bumpontm Protective Products are scaled for the design. Adhesive is formulated to hold even with a smaller bonding surface.

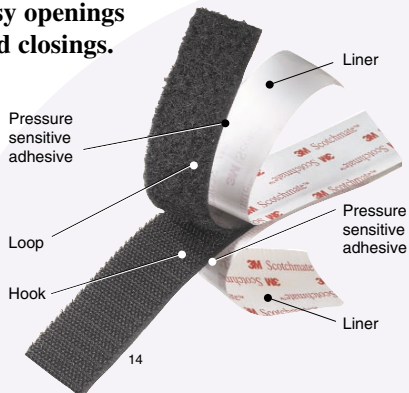


During manufacturing, packaging, and shipping, transparent 3M™ Protective Tapes protect LCD displays from abrasion, nicks, and scratches that can interfere with readability. Clear acrylic adhesive holds with very low tack for easy and clean removal.

3M™ Reclosable Fasteners

Hidden strength for multiple openings and closings

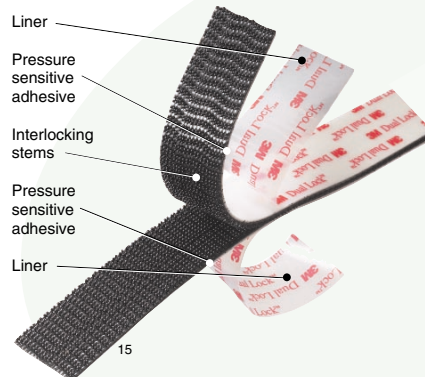
3M™ Scotchmate™ Reclosable Fasteners family for thousands of easy openings and closings.



When the two sides are pressed together, hundreds of stiff hooks mesh with pliable loops for quick closure. You just pull apart to open. Choose adhesive backings for bonding to a wide variety of surfaces.

3M™ Scotchmate™ Thin Reclosable Fasteners are also available.

3M™ Dual Lock™ Reclosable Fasteners family for hundreds of closures with greater holding power.



When the two sides are pressed together, hundreds of mushroom-shaped stems interlock. “Snap” announces that the fastener is engaged. Compared to hook and loop, tensile strength is greater with 5x more holding power.

3M™ Dual Lock™ Low Profile Reclosable Fasteners are also available.

Fabrication of disposable and stick-to-skin devices

3M offers a broad range of medical grade tapes and component products used in many of the major market segments:

- **Surgical Device Components**

3M double and single coated tapes, transfer tapes, and reclosable fasteners for drapes, gowns, tube and cord organizers, and other disposable devices used in conjunction with the operating arena.

- **Medical Device Components**

3M double and single coated tapes, foam tapes, nonwoven tapes,

hydrocolloid adhesive, and hydrophilic film for wound care, device attachment, and strapping.

- **Ostomy and Continence Device Components**

3M double coated tapes, transfer tapes, nonwoven tapes, foam tapes, and hydrocolloid adhesive for pouch attachment and construction.

- **Biomedical, Electrodes, and Iontophoresis Device Components**

3M nonwoven tapes, double coated tapes, and foam tapes for electrodes

and grounding pads, pulse oximetry, securing diagnostic instruments, and iontophoresis.

- **Diagnostic Device Components**

3M adhesive tapes and hydrophilic film for blood glucose and fluidic test strips.

- **Retail Device Components**

3M nonwoven tapes, double and single-coated tapes, foam tapes, and hydrocolloid adhesives.

3M™ Double and Single Coated Tapes

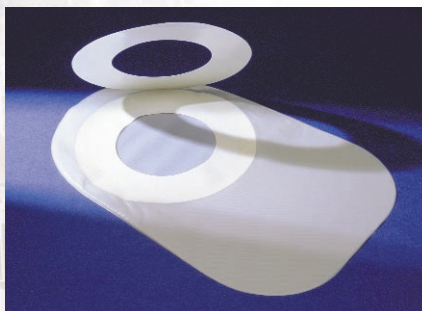
Wide choice of characteristics for “skin friendly” applications and more

3M™ Double Coated Tapes feature adhesive on each side of a polyethylene or polyester carrier. Depending on the tape you can have the same or different adhesive on either side of the carrier, as well as the following choices:

- Gentle to aggressive adhesive
- Skin contact of up to 24 hours or more
- A range of conformability and stretchability
- Occlusive to breathable properties
- Adhesion to low and high surface energy plastics

3M™ Single Coated Tapes offer many of the same adhesives, backings, liners, and performance attributes as double-coated tapes but with two additions depending on the specific tape:

- Printable surface
- Heat sealable



For ostomy pouch assembly, 3M™ Double Coated Tapes bond to plastic films and provide the necessary barrier properties.



3M™ Single Coated Polyethylene Tape 9830 conforms and removes comfortably from sensitive skin. Polyethylene backing stretches for a tight seal and resists fluid penetration.

3M™ Foam Tapes

Soft, cushioning alternative

Thicker caliper than double and single-coated tapes, these polyethylene and PVC foam tapes conform and provide a soft, cushioning alternative for applications ranging from wound care and retail to iontophoresis.

- Easy handling and attachment to flanges or skin
- Choice of conformability: PVC foams are more conformable than polyethylene

3M™ Diagnostic Tapes and Hydrophilic Films

Specialized for diagnostic devices

Carefully selected adhesive systems in these diagnostic tapes minimize the potential for chemical or optical interference during use or analysis.

- Wide range of properties to meet design requirements
- Adhere to low and high surface energy plastics



3M™ Hydrophilic Polyester Films spread liquid samples quickly and effectively through a diagnostic device.

- Good wetting properties
- Large volume flow for faster reading

In a diabetes test strip, 3M™ Diagnostic Tape bonds the chemical reagent material to the plastic stick.

3M™ Nonwoven Tapes

Breathable for extended wear

3M nonwoven backings are not films or foams, but breathable materials with multi-directional stretch as well as mechanical strength in all directions.

- Elasticity, flexibility, and good wear for large and topical patches for joints and other high-flex body areas
- High transmission of moisture vapor and oxygen
- No natural rubber latex



Choices for sensitive skin and skin contact for less or more than 24 hours.

3M™ Hydrocolloid Adhesive Tapes

Innovations for practical applications

3M™ Hydrocolloid Adhesive Tapes are the best option in skin friendly attachment.

- Gentle over long wear duration even with sensitive skin
- Comfortable removal
- Breathable for skin hydration
- Absorbent
- Cushioning
- Smooth low-friction surface



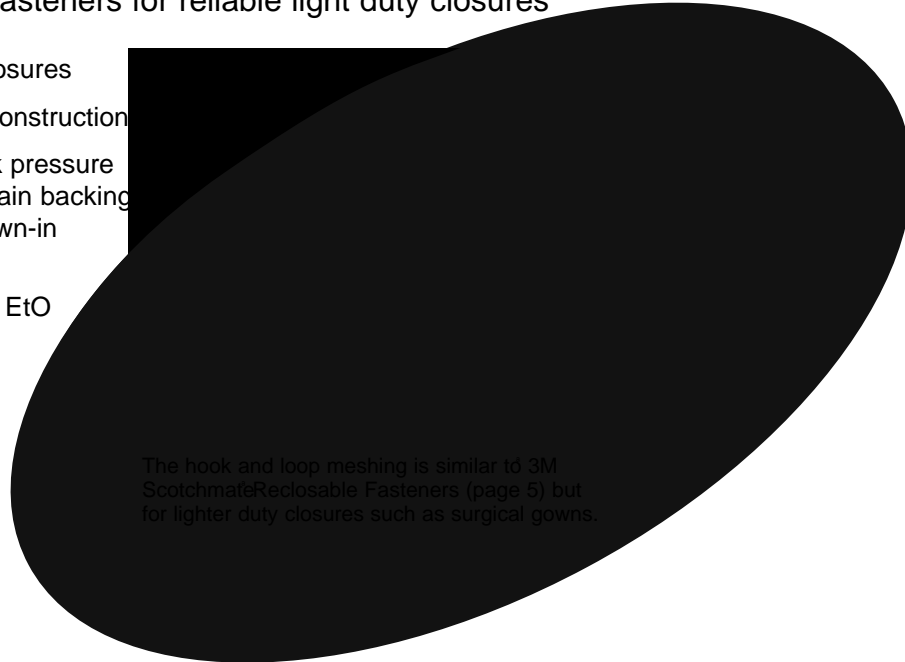
For patient comfort, 3M™ Hydrocolloid Adhesive Tape breathes for skin hydration and cushions against contact pressure.

Fabrication of disposable and stick-to-skin devices

Gamma-Stable Low Profile Reclosable Fasteners

White hook and loop fasteners for reliable light duty closures

- ¥ Reliable for up to 50 closures
- ¥ Latex-free, low-linting construction
- ¥ Available with high tack pressure sensitive adhesive or plain backing for both heat seal or sewn-in attachment
- ¥ Withstand Gamma and EtO sterilization



The hook and loop meshing is similar to 3M Scotchmate Reclosable Fasteners (page 5) but for lighter duty closures such as surgical gowns.

Product and Safety Information: User is solely responsible for determining the suitability of 3M samples and products for the intended use including any necessary safety or toxicity assessment. 3M will provide Material Safety Data Sheets and results of testing upon request. In every case before using any product in full scale production users should conduct their own tests to determine to their own satisfaction whether the product is of acceptable quality and is suitable for their particular purposes under their own operating conditions.

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3M adhesives and tapes are not intended for use in implantable devices or where the adhesive or tape would be in contact with fluids being introduced into the body or where respirable air/gas would pass over exposed adhesive or tape.

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