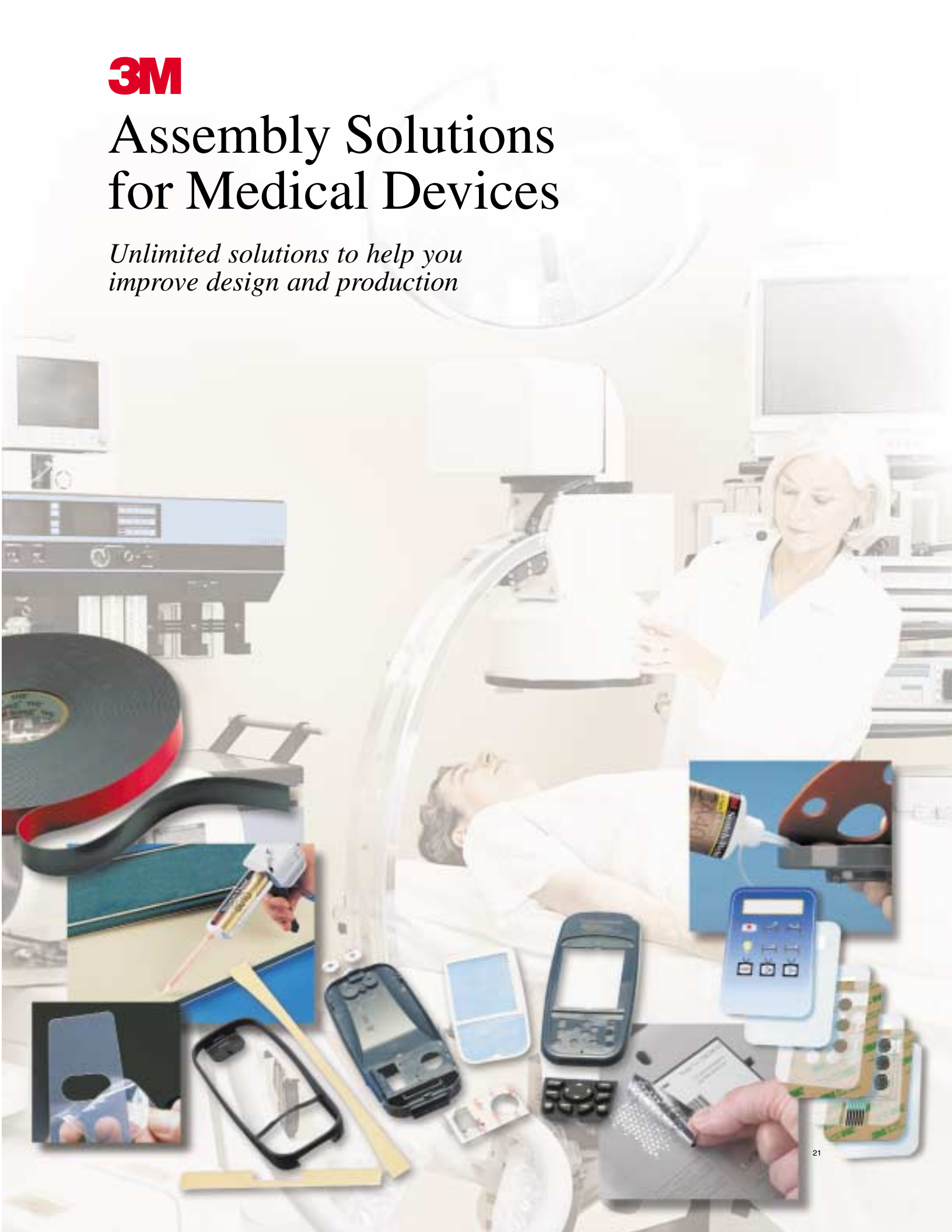
Assembly Solutions for Medical Devices

Unlimited solutions to help you improve design and production



Technology and service to help speed your way to market with a more competitive device

3M Assembly Solutions represent more than 50 years of helping companies worldwide improve product performance and appearance, increase production efficiency, and capitalize on windows of opportunity. Today you can rely on 3M for the most versatile and comprehensive line of adhesives, bonding tapes, reclosable fasteners, and label materials available.

On the following pages, you'll find 3M solutions for assembling medical device materials ranging from metal and rubber to glass and low surface energy plastics. And you'll find all of the following to help speed your way to market with a more competitive device:

- **Holding strength matched to the job**
- **Virtually invisible fastening**
- **Increased material options**
- **Increased manufacturing options**
- **Solutions through service**
  - 3M representatives are located throughout the United States, Canada, and 50 other countries for convenient sales assistance.
  - Highly trained technical service team is ready to help you evaluate products for specific applications.
  - National authorized distributor network provides sales assistance and local product availability.
  - Authorized converters help you adapt many 3M products to meet special requirements for shape, size, and production.

Knowing when to use 3M adhesives and tapes to improve your product and process

Based on your answers to the following questions, you can decide if it will be worth your time to evaluate specific 3M adhesives and tapes for your medical device.

Q. Can adhesives hold together the materials you want to join with the strength you need?

Some materials are harder to bond than others. But with 3M adhesive and tape technology, even many materials once defined as "hard-to-bond," such as low surface energy plastics, can be bonded with strength greater than the materials bonded.

Q. Do you want to eliminate the stress concentration caused by screws or other mechanical fasteners and maintain surface integrity?

Adhesives distribute stress evenly over the entire bonded area. A screw hole in the substrate concentrates stress at the hole and can decrease physical properties of the substrate. With uniform stress distribution of adhesives and tapes, lighter, thinner materials can be used without concerns about distortion, splitting, or crazing at the mechanically fastened site.

Replacement for mechanical fastening – At 250 psi, overlapped plastic panels elongate at the rivets. With 3M™ Scotch-Weld™ Structural Adhesive DP-8005, stress is distributed evenly and panels maintain continuous contact.

Q. Would invisible fastening improve your device's appearance?

3M adhesives and tapes are generally hidden between the bonded substrates. Surfaces stay smooth and clean for a more attractive appearance and less surface refinishing.

Q. Do you want to attach dissimilar substrates?

Laminates of dissimilar material can often produce combinations superior in strength and performance to either substrate alone. The flexibility of many 3M adhesives and tapes compensates for differences in the coefficients of expansion and also provide a film barrier to reduce or prevent bimetallic corrosion that often occurs in bonding two different types of metal.

Q. Will your device be subjected to vibration?

Many 3M adhesives and tapes provide a viscoelastic response to a dynamic stress which can attenuate resonant vibrations, resist fatigue, and impart flexibility to a joint or bonded area.

Q. Do you want to bond and simultaneously seal between the substrates?

With many adhesives and tapes, continuous contact between mating surfaces effectively bonds and seals against dirt, dust, water, and other environmental conditions.

Q. Will your finished assembly be exposed to harsh environmental conditions?

Some adhesives do not hold well when exposed to very low or very high temperatures, high humidity, chemicals, or even water. Other adhesives are specially formulated to resist harsh environments.

Assembling the more competitive device

Q. Do you want to cut costs, increase production and simplify your operation?

With 3M adhesives and tapes, you can see cost reduction through reduced material requirements, weight reductions, and elimination of drilling, screwing, finishing, and similar operations. In most cases, adhesives require minimal training. And many adhesives and tapes require little or no investment in major equipment.

Bond and seal monitor housing components with 3M™ Scotch-Weld™ Structural Adhesives or 3M™ VHB™ Tapes.

Assemble membrane switches top to bottom with 3M™ Adhesive Transfer Tapes and 3M™ Membrane Switch Spacers

Bond and seal control console to cabinet with 3M™ Scotch-Weld™ Structural Adhesives or 3M™ VHB™ Tapes.

Instruct and warn with 3M™ Performance Label Materials.

Temporarily hold remote controller or other removable components with 3M™ Reclosable Fasteners.

Certification and identification with 3M™ Performance Label Materials.

Nameplate attachment with 3M™ Adhesive Transfer Tapes.

Bond and seal LCD lens with 3M™ VHB™ Tape.

Bond and seal cabinet to base with 3M™ Scotch-Weld™ Structural Adhesives.

Bond wheel assembly to cabinet base with 3M™ Scotch-Weld™ Structural Adhesives.

Inventory tracking and control with 3M™ Performance Label Materials.

Knowing which type of a 3M adhesive or tape product to use

Narrowing choices to a few products to evaluate for your specific medical device, starts with only two questions and answers:

Q. Does your device need to be disassembled for maintenance or service?

When assembled with most 3M adhesives or tapes, parts are generally difficult or virtually impossible to disassemble without damaging the part. With 3M™ Reclosable Fasteners, substrates can be attached and unattached, opened and closed, or repositioned many times.

Q. For permanent assembly, do you need structural or non-structural strength?

3M structural strength adhesives bond the load-bearing parts of a product by chemical reaction. As a rule of thumb, structural strength adhesives reach a minimum of 1,000 psi overlap shear strength. 3M formulations include the following:

- Epoxy adhesives provide the highest strength and elevated temperature resistance of all 3M adhesive pastes.
- Acrylic adhesives bond the widest variety of substrates including hard-to-bond plastics. The distinction is high strength bonding without the surface preparation needed for epoxies and urethanes.
- Urethane adhesives are generally lower cost and cure quickly to an elastic bond in applications requiring flexibility between dissimilar materials. Impact resistance is a distinctive characteristic.
- Cyanoacrylate adhesives are high strength liquid formulations known as instant adhesives. On rigid plastic, glass, metal, rubber, and other low porosity substrates, they harden in seconds through reaction with surface moisture.

Each structural adhesive has high cohesive strength to bond high strength materials and potentially replace mechanical fasteners. With the range of adhesive, you can bond virtually any material used in medical device assembly.

3M non-structural adhesive products bond by physical change non-load-bearing materials such as gasketing and veneering, and load-bearing materials where stress is below 1,000 psi in overlap shear.

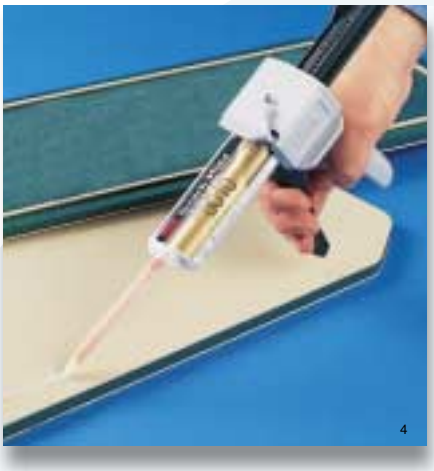
- Pressure sensitive adhesives (PSAs) found in 3M tapes and labels grip immediately to mating surfaces. With dwell time, the adhesive conforms to surface irregularities. The PSA in some 3M™ VHB™ Tapes can reach overlap shear strength of more than 900 psi.

3M™ Scotch-Weld™ Structural Adhesives

Load-bearing formulations for metal, plastic, rubber, and more

As an alternative to mechanical or fusion fastening, the reasons for 3M™ Scotch-Weld™ Structural Adhesives are many: greater design latitude, cleaner lines, material substitution, less machining, lighter weight, more durability, and often less cost.

Whatever properties you need – durable adhesion, flexibility, creep resistance, heat and environmental resistance, void-filling—you'll likely find a 3M Scotch-Weld Product to meet your requirements and expectations.



3M™ Scotch-Weld™ Structural Plastic Acrylic Adhesive DP8010 bonds cost-saving LSE (low surface energy) plastics with little or no surface preparation and with strength to replace screws.

3M™ Scotch-Weld™ CA-40 Instant Adhesive bonds many problem surfaces where other adhesives may fail, such as EPDM rubber.

Adhesives/Substrate Selection Guide

	Wood	Metal	Rubber	EPDM	Glass	Plastics	Nylon	Rigid Foam	LSE Mtls
Wood	DP-100 DP-605 DP-640	EC-2216* DP-460 DP-810	DP-100+ EC-2216* DP-640	CA-40H DP-8010 DP-8010 NS	DP-125 EC-2216* DP-620 NS	DP-100+ EC-2216* DP-620 NS	DP-125 EC-2216* DP-460	DP-100+ EC-2216* DP-620 NS	DP-8005 DP-8010 DP-8010 NS
Metal	EC-2216* DP-420/460 DP-810	DP-100+ DP-420/460 DP-810	DP-100+ DP-125 EC-2216*	CA-40 CA-40H	DP-100+ DP-125 EC-2216*	DP-100+ EC-2216* DP-8010	DP-125 EC-2216* DP-460	DP-100+ DP-125 EC-2216*	DP-8005
Rubber	DP-100+ EC-2216* DP-640	DP-100+ DP-125 EC-2216*	DP-100+ EC-2216* DP-640	CA-40 CA-40H DP-8010	DP-100+ DP-125 EC-2216*	DP-100+ EC-2216* DP-640	DP-125 EC-2216*	DP-100+ EC-2216* DP-640	DP-8010 DP-8010 NS
EPDM	CA-40H DP-8010 DP-8010 NS	CA-40 CA-40H	CA-40 CA-40H DP-8010	CA-40 CA-40H DP-8010	DP-8010 DP-8010 NS	CA-40 CA-40H DP-8010	CA-40 CA-40H	CA-40H DP-8010 DP-8010 NS	DP-8010 DP-8010 NS
Glass	DP-125 EC-2216* DP-620 NS	DP-100+ DP-125 EC-2216*	DP-100+ DP-125 EC-2216*	DP-8010 DP-8010 NS	DP-100+ DP-125 DP-620 NS	DP-125 EC-2216* DP-620 NS	DP-125 EC-2216*	DP-100+ DP-125 DP-620 NS	DP-8010 DP-8010 NS
Plastics[1]	DP-100+ EC-2216* DP-620 NS	DP-100+ EC-2216* DP-810	DP-100+ EC-2216* DP-640	CA-40 CA-40H DP-8010	DP-125 EC-2216* DP-620 NS	DP-100+ DP-125 EC-2216*	DP-125 EC-2216* DP-460	DP-100+ EC-2216* DP-640	DP-8005 DP-8010 DP-8010 NS
Nylon	DP-125 EC-2216* DP-460	DP-125 EC-2216* DP-460	DP-125 EC-2216*	CA-40 CA-40H	DP-125 EC-2216*	DP-125 EC-2216* DP-460	DP-125 EC-2216* DP-460	DP-125 EC-2216* DP-460	–
Rigid[2] Foam	DP-100+ EC-2216* DP-620 NS	DP-100+ DP-125 EC-2216*	DP-100+ EC-2216* DP-640	CA-40H DP-8010 DP-8010 NS	DP-100+ DP-125 DP-620 NS	DP-100+ EC-2216* DP-640	DP-125 EC-2216* DP-460	EC-2216* DP-620 NS DP-640	DP-8005 DP-8010 DP-8010 NS
LSE[3] Materials	DP-8005 DP-8010 DP-8010 NS	DP-8005	DP-8010 DP-8010 NS	DP-8010 DP-8010 NS	DP-8010 DP-8010 NS	DP-8005 DP-8010 DP-8010 NS	–	DP-8005 DP-8010 DP-8010 NS	DP-8005 DP-8010 DP-8010 NS

DP (Duo-Pak) EC (Elastomeric Cement)

Epoxy Adhesive
Acrylic Adhesive
Urethane Adhesive
Cyanoacrylate Adhesive

1. Plastics include ABS, PVC, acrylic, etc. (polyolefins are not included in this list)
2. Rigid foam includes beadboard, styrene, and urethanes.
3. LSE (low surface energy) materials include polyolefin, polypropylene, and polyethylene.

*Available in 43ml Duo-Pak Cartridges.

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3M™ VHB™ Tapes

Proven worldwide since 1980 to improve process, improve products

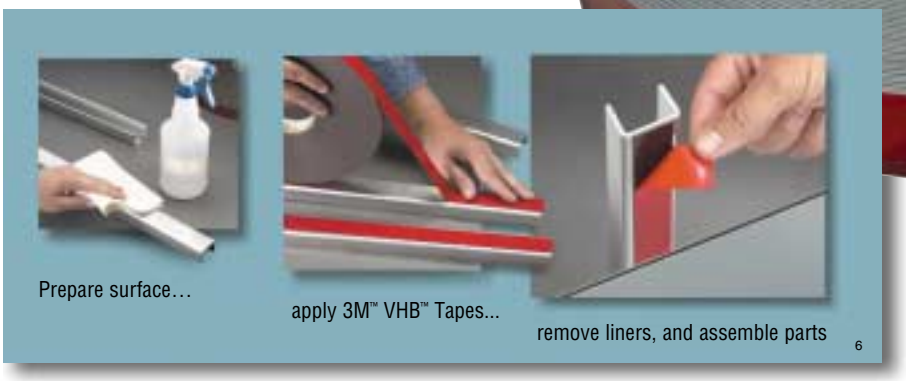
For 25 years, engineers have been specifying 3M™ VHB™ Tapes to permanently bond and seal many metals, plastics, and other surfaces for increased productivity, high strength, long term durability, and improved appearance.

Productivity

- Bond on contact with no drying time or fixturing
- Save processing steps and cost for drilling, screwing, clean-up, and refinishing
- Easy-to-apply with minimal training and no investment in expensive application equipment

Strength

- Bond with high holding strength for static and dynamic loads
- Distribute stress evenly over a greater area unlike concentrated stress points of rivets and screws



Permanently attach plastic pocket to enclosure panel

Durability

- Viscoelasticity absorbs shock and flexing for long-term reliability against impact, vibration, gravity, and thermal expansion/contraction
- Seal against the environment

Appearance

- Virtually invisible fastening helps keep surfaces smooth and clean to enhance design and appearance
- Join a wider variety of materials, even dissimilar materials, for high impact visual combinations

Bond and seal metal and most plastics including hard-to-bond polycarbonate.

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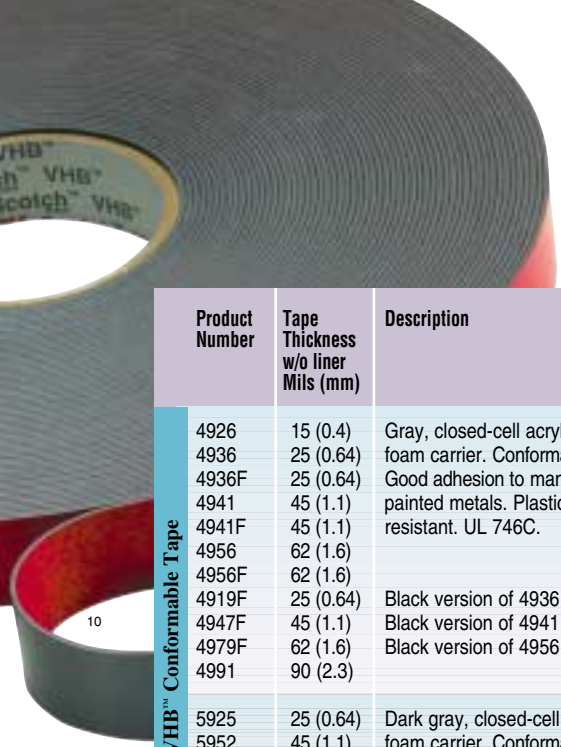

3M™ VHB™ Tapes Product Information

	Product Number	Tape Thickness w/o liner Mils (mm)	Description	Adhesive Type	Temperature Resistance		Solvent Resistance	Relative Adhesion		Application Ideas	Liner Type
					Minutes Hours	Days Weeks		HSE	LSE		
3M™ VHB™ Conformable Tape	4926	15 (0.4)	Gray, closed-cell acrylic foam carrier. Conformable. Good adhesion to many painted metals. Plasticizer resistant. UL 746C.	Acrylic	300˚F (149˚C)	200˚F (93˚C)	High	High	Med.	Bond and seal polycarbonate lens over LCD. Bond pre-painted metals. Bond and seal plastic windows to pre-painted control panels/switch gear. Mount vinyl wiring ducts and conduit channels.	A
	4936	25 (0.64)									A
	4936F	25 (0.64)									B
	4941	45 (1.1)									A
	4941F	45 (1.1)									D
	4956	62 (1.6)									A
	4956F	62 (1.6)									B
	4919F	25 (0.64)	Black version of 4936 tape.								D
	4947F	45 (1.1)	Black version of 4941 tape.								D
	4979F	62 (1.6)	Black version of 4956 tape.								B
	4991	90 (2.3)									D
	5925	25 (0.64)	Dark gray, closed-cell acrylic foam carrier. Conformable. Good adhesion to many painted surfaces, including powder coated paint. UL 746C.	Modified Acrylic	300˚F (149˚C)	200˚F (93˚C)	High	High	Med	Bonds to a variety of plastics and paint systems.	D
	5952	45 (1.1)									D
	5962	62 (1.6)									D
	4943F	45 (1.1)	Gray conformable foam. Apply as low as 32°F (0°C).	Acrylic	300˚F (149˚C)	200˚F (93˚C)	High	High	Low	Bond antennas.	C
	4957F	62 (1.6)									C
3M™ VHB™ Tape	4611	45 (1.1)	Dark gray, closed-cell acrylic foam carrier. High temperature resistance. UL 746C.	Acrylic	450˚F (232˚C)	300˚F (149˚C)	High	High	Low	Pre-powder coat paint applications: hat channels and stiffeners.	D
	4646	25 (0.64)									D
	4655	62 (1.6)									D
	4920	15 (0.4)	White, closed-cell acrylic foam carrier. All-purpose adhesive. UL 746C.	Acrylic	300˚F (149˚C)	200˚F (93˚C)	High	High	Low	Attach stiffeners.	A
	4930	25 (0.64)									A
	4950	45 (1.1)									A
	4955	80 (2.0)			400˚F (204˚C)	300˚F (149˚C)				Bond aluminum to steel	C
	4959	120 (3.0)									C
	4945	45 (1.1)	White, closed-cell acrylic foam carrier. Plasticizer resistant. UL 746C.	Acrylic	300˚F (149˚C)	200˚F (93˚C)	High	High	Med.	Attach vinyl trim. Bond vinyl extrusions.	A
	4946	45 (1.1)	Film liner version of 4945.								B
	4905	20 (0.5)	Clear, acrylic construction for joining transparent material.	Acrylic	300˚F (149˚C)	200˚F (93˚C)	High	High	Low	Seal glass.	D
	4910	40 (1.0)									D
	4951	45 (1.1)	White, closed-cell acrylic foam carrier. Apply as low as 32˚F (0˚C).	Acrylic	300˚F (149˚C)	200˚F (93˚C)	High	High	Low	Mount panels to aluminum frames. Mount trim.	C
	4932	25 (0.64)	White, closed-cell acrylic foam carrier. Good adhesion to polypropylene and many powder paints.	LSE	200˚F (93˚C)	160˚F (71˚C)	High	High	High	Bond powder painted metal stiffeners to cabinets. Bond polypropylene and polystyrene.	A
	4952	45 (1.1)									A
Transfer Tape	F-9460 PC	2.0 (0.05)	Clear adhesive transfer tape. High shear strength adhesive. UL 746C.	100 MP	500˚F (260˚C)	300˚F (149˚C)	High	High	Low	Bond decorative metal trim. Bond flexible circuits to aluminum rigidizers or heat sinks.	E
	F-9469 PC	5.0 (0.13)									E
	F-9473 PC	10 (0.25)									E

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Liner Types:

A – 3 mil 54# Densified Kraft Paper
B – 5 mil Clear Polyethylene Film
C – 2 mil Polyester Film
D – 5 mil Red Polyethylene Film
E – 4 mil 58# Polycoated Kraft Paper

Relative Adhesion:

HSE – High Surface Energy
LSE – Low Surface Energy

3M™ VHB™ Tapes (continued)

Simplifying tape decisions for your medical device

Conformable Foam				Thickness (inches)	General Purpose Foam						Specialty Foam	
Paint Plasticizer Resistant	Black	Powder Coated Painting	Low Temp Application		General Purpose/ LSE	LSE	Paint/ Plasticizer Resistant	Black	Low Temp Application	Clear	High Temp	Roof Bow
4926[1]				0.015	4920[1]							
				0.020						4905		
4936[2]	4919	5925		0.025	4930[1]	4932[1]		4929			4646	4618
				0.040						4910		
4941[2]	4947	5952	4943	0.045	4950[1]	4952[1]	4945[1]/4946	4949	4951		4611	4622
4956[2]	4979	5962	4957	0.062							4655	4624
				0.080	4955							
4991				0.090								
				0.120	4959							

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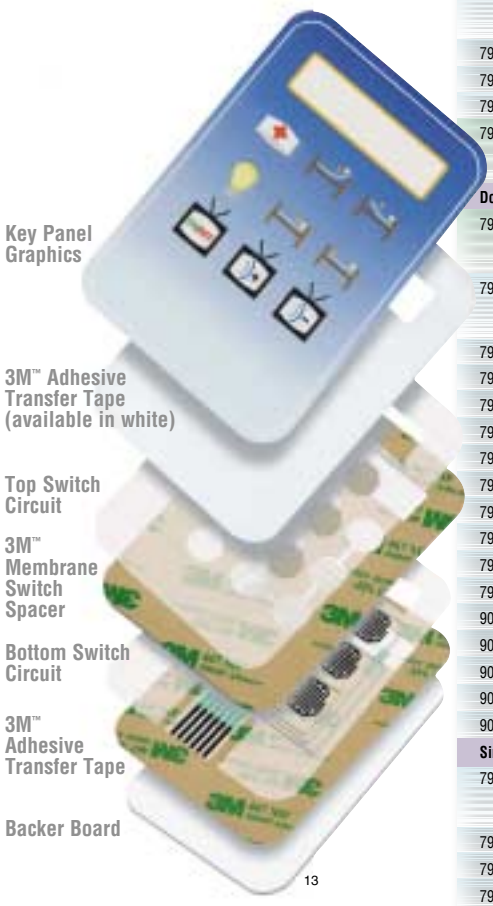
1 Paper liner
2 Paper or film liner

For ease of assembly and precise fit, 3M™ VHB™ Tapes are readily die-cut to bond and seal components throughout a device.

3M™ Membrane Switch Adhesives

Long-life formulations for top to bottom reliability



Product Availability

Product number	Adhesive platform	Tape or spacer thickness	Liner type	Layer thickness (mils) Adhesive/Carrier/Adhesive
Double-linered Adhesive Transfer Tapes				
7952MP	200MP High Performance Acrylic – Excellent resistance to solvents and heat up to 400°F.	2 mils	58# PCK/58# PCK	2/0/0
7955MP		5 mils	58# PCK/58# PCK	5/0/0
7962MP		2 mils	83# PCK/58# PCK	2/0/0
7965MP		5 mils	83# PCK/58# PCK	5/0/0
7951	300MP High Strength Acrylic – Bonds low surface energy (LSE) plastics and resists heat up to 250°F.	2 mils	58# PCK/58# PCK	2/0/0
Double-coated Spacers				
7979*	100 MP* Acrylic – Highest performing 3M PSA with resistance to solvents and heat up to 500°F.	9 mils	58# PCK/58# PCK	2/5/2
7945MP	200MP High Performance Acrylic – Excellent resistance to solvents and heat up to 400°F.	5 mils	58# PCK/58# PCK	2/1/2
7953MP		3.5 mils	58# PCK/58# PCK	1.5/0.5/1.5
7953HL		3.5 mils	83# PCK	1.5/0.5/1.5
7956MP		6 mils	58# PCK/58# PCK	2/2/2
7956MWS		6 mils	58# PCK	2/2/2
7956WDL		6 mils	58# PCK/58# PCK	2/2/2
7957MP		7 mils	58# PCK/58# PCK	2/3/2
7959MP		9 mils	58# PCK/58# PCK	2/5/2
7961MP		11 mils	58# PCK/58# PCK	2/7/2
7966MWS		9 mils	58# PCK	2/2/5
7966WDL		9 mils	58# PCK/58# PCK	2/2/5
9045MP		5 mils	94# PCK/94# PCK	2/1/2
9056MP		6 mils	94# PCK/94# PCK	2/2/2
9057MP		7 mils	94# PCK/94# PCK	2/3/2
9059MP		9 mils	94# PCK/94# PCK	2/5/2
9061MP		11 mils	94# PCK/94# PCK	2/7/2
Single-coated Spacers				
7991MPW	200MP High Performance Acrylic – Excellent resistance to solvents and heat up to 400°F.	2 mils	94# PCK	1/1/0
7992MP		4 mils	94# PCK	2/2/0
7992MPW		4 mils	94# PCK	2/2/0
7993MP		3 mils	94# PCK	2/1/0
7994MP		4 mils	58# PCK	2/2/0
7995MP		5 mils	94# PCK	2/3/0
7997MP		7 mils	94# PCK	2/5/0

3M proprietary adhesives have been proven in membrane switches for over 20 years. Features of the line include –

- Exceptionally high cohesive strength for long-term resistance to the stress of switch actuation.
- Outstanding resistance to hostile environments such as high humidity and moisture, extreme temperature ranges, and/or UV light.
- Excellent resistance to chemicals, detergents, cleaners, and solvents.

3M adhesives are available for graphic overlay attachment, die-cut laminations in switch contact areas, double-coated spacers for circuit separation, and singlecoated spacers for switch assembly. Single-coated products seal and bond for circuit layers, metal dome placement, and lead protection.

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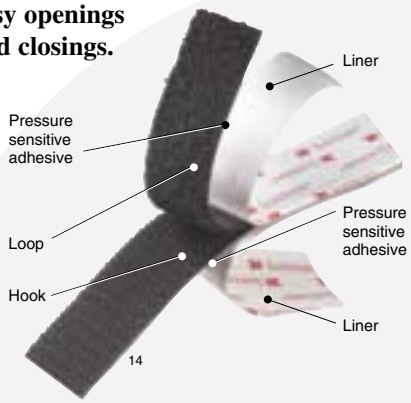
* Products in this family are 3M™ VHB™ Tapes offering 3M's highest strength.

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™ Scotchmate™ Reclosable Fasteners

Product SJ# xxxx		Fastener Material	Closure Life (Max.)	Adhesive Type	Liner	Engaged Thickness in. (mm)	Operating Temperature	Resist Flame	Other Features
Hook	Loop								
3519FR	3518FR	FR Nylon	5,000	Rubber	Film	0.15 (3.8)	120°F (49°C)	•	Meets FAR 25.853
3522	3523	Nylon	5,000	Acrylic	Film	0.15 (3.8)	158°F (70°C)		Plasticizer resistant adhesive
3526N	3527N	Nylon	5,000	Synthetic rubber	Film	0.15 (3.8)	120°F (49°C)		Lead-product
3530	3531	Nylon	5,000	Synthetic rubber	Film	0.15 (3.8)	100°F (37°C)		Aggressive adhesive
3532N	3533N	Nylon	5,000	Synthetic rubber	Film	0.15 (3.8)	110°F (43°C)		Medium tack
3572	3571	Nylon	5,000	Acrylic	Film	0.15 (3.8)	200°F (93°C)		High performance acrylic adhesive
3576*	3577*	Polyester*	1,000	Acrylic	Film	0.15 (3.8)	200°F (93°C)		High performance acrylic adhesive
3586FR*	3587FR*	FR Polyester*	1,000	Synthetic rubber	Film	0.17 (4.3)	120°F (49°C)	•	Meets FAR 25.853
3M™ Scotchmate™ Thin Reclosable Fastener									
3506	3507	Polypropylene/ Polyester	50	Acrylic	Paper	0.04 (0.09)	120°F (48°C)		Thin, limited cycle life

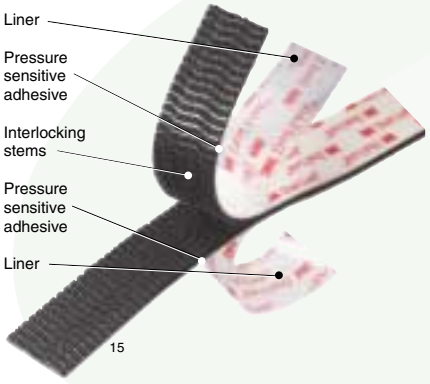
* Polyester fasteners are best suited where weight gain from moisture is not desired.

Standard colors: Black, white, beige (also available in custom colors – minimums apply).

Plain-backed versions

SJ 3402 (hook) and SJ 3401 (loop) are available in 1/2", 5/8", 3/4", 1", 1-1/2", 2", and 4" widths. Select black, white, beige, red, navy blue, light gray, slate gray, silver, brown, pink, and green. SJ 3401 is also available in yellow and olive.

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.

3M™ Dual Lock™ Reclosable Fasteners

Product SJ# xxxx (250/400/170)	Fastener Material	Closure Life	Adhesive Type	Color	Engaged Thickness	Operating Temperature in. (mm)	Other Features
3540 / 41 / 42	Polypropylene	1,000	Rubber	Black	0.28 (7.2)	120°F (49°C)	Good for LSE bonding
3550 / 51 /52	Polypropylene	1,000	Acrylic	Black	0.27 (6.9)	180°F (82°C)	High performance acrylic foam adhesive
* / 53 / 54	Polypropylene	1,000	Acrylic	Black	0.29 (7.4)	180°F (82°C)	Acrylic foam adhesive
3560 / 61 /62	Polypropylene	1,000	Acrylic	Clear	0.27 (6.9)	180°F (82°C)	Clear for color matching, high performance acrylic foam adhesive
3M™ Dual Lock™ Low Profile Reclosable Fastener							
4570	Polypropylene	100	Acrylic	Clear	0.105 (2.7)	158°F (70°C)	LSE adhesive
4580	Polypropylene	100	Acrylic	Clear	0.110 (2.8)	180°F (82°C)	High performance acrylic foam adhesive

All PSA products are on film liners (except SJ4570 and SJ3506/07 have paper liners) – four square inches of fastening area per pound of static load is a suggested starting point.

Rubber adhesives are suited for indoor applications or attachments to low surface energy (LSE) materials such as polyethylene, polypropylene, powder coated paints, etc. Acrylic adhesives are better suited for high temperature or high humidity applications.

* Not available in 250. See Dual Lock Mix and Match Program for alternate adhesives – *Refer to Fastening Price Pages.*

Plain-backed versions

SJ 3440 available in 1/2", 1", 1-1/2", 2", 4" , and 6" widths. Black.
SJ 3441 available in 1/2", 3/4", 1", 1-1/2", 2", 4" , and 6" widths. Black.
SJ 3442 available in 1/2", 3/4", 1", 2", 4" , and 6" widths. Black.
SJ 3460 available in 1/2", 1", 2", 4" , and 6" widths. Clear.

NOTE: The technical information and data provided here should be considered representative or typical only and should not be used for specification purposes. User should evaluate the 3M product to determine whether it is fit for a particular purpose and suitable for user's method of application.

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 about 150,000 combinations. That means technology and solutions for most labeling requirements for medical devices.

3M also helps you put that technology to work just about anywhere in the world with global service, expertise, and customer-focused attitude.

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.

Applications and general properties of 3M™ Performance Label Materials

Application	Unique Application Needs	Product Family/Description	Product Choices	Thickness (mills)	Color
1. Identifying/Informing/Warning					
Certification, Instruction, or Warning label	Thermal transfer printable, adheres to difficult surfaces for life of the product	Thermal Transfer Label Material with 350 Adhesive Family	7871	3.8	Gloss white
			7868	3.1	Gloss white
			7872	3.8	Matte platinum
		Thermal Transfer Label Material with P1650 Permanent Adhesive Family	FM033202	3.3	Gloss white
			FM032202	4.5	Bright silver
Labels for identification and information	Cost effective thermal transfer printable, adheres to many surfaces for life of the product	Thermal Transfer Label Material with 310 Adhesive Family	7815	3.1	Matte white
			7816	2.8	Gloss white
			7818	4.1	Matte silver
			7875	2.8	Platinum
		Thermal Transfer Label Material with P1400 Permanent Adhesive Family	OFM03402	2.8	Gloss white
			OFM03502	2.8	Matte white
Recyclable label	Thermal transfer printable, recycling compatible with PC, ABS, PS, HIPS, and PC/ABS plastics	Recycling compatible label material	8000	4.2	Matte white
Hi-stability label for re-labeling	Cleanly removable labels with a low-outgassing adhesive. Resist flagging and edge lifting on disk drive applications. Permanent, yet cleanly removable on many substrates	Hi-stability Label Materials	5770	2.8	Matte white
			5771	3.1	Gloss white
			5772	2.8	
2. Tracking					
Bar code and text for inventory control and owner identity	Cost effective thermal transfer printable, adhere to many surfaces for life of product	Thermal Transfer Label Material with 310 Adhesive Family	7815	3.1	Matte white
			7816	2.8	Gloss white
			7875	2.8	Platinum
	Low cost general purpose thermal transfer label material, adheres to many surfaces for life of the product	Thermal Transfer Label Material with P1400 Permanent Adhesive Family	OFM03402	2.9	Gloss white
			OFM2402	2.9	Matte silver
PCB Tracking Label	High temperature resistance, barcode printable, survives solder processing	High temperature Label Materials	7811	4.0	Matte white
			7812	4.0	Matte white
			3923	2.8	Semi-matte white
Laser Markable Label Material	Direct marking of the product and in line auto-ID	Acrylate Laser Etch Label Material	7847	3.6	Matte black on white
			7848	3.6	Matte silver on black
3. Securing					
Label to indicate unauthorized dismantling and tampering of phone	Tamper evident materials that destruct or "VOID" if attempts are made to remove them from the substrate to which they are applied	Polyester VOID Tamper Indicating Label Material	7381/7866	3.0	Gloss white
			7380	3.3	Matte white
			7884	3.0	Bright silver
			FMV22	2.9	Gloss white
			FMV02	2.9	Bright silver
Label to indicate tampering	Destructible on multiple surfaces	Destructible Vinyl Label Material	7613	2.8	Matte white
Label to indicate tampering	Tamper-indicating on multiple surfaces	Triangle Tamper Indicating Label Material	FMV01202	2.9	Bright silver
			FMV01402	2.9	Gloss white
4. Protecting					
Protecting displays, etc from scratches	Low tack adhesive with ultra clean removal.	Clean Removal Label Material	76991	2	Clear

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3M™ Adhesive Transfer Tapes

Neat precise application for reliable graphic attachment

With 3M™ Adhesive Transfer Tapes, simply press adhesive side down to the back of a nameplate or graphic. When ready to bond, remove the liner and the graphic substrate bonds on contact. No drying, no adhesive oozing.

Select tapes with 200MP High Performance Acrylic Adhesive for high adhesion to metal and high surface energy plastics. For adhesion to low surface energy plastics and powder coated paints, select tapes with 300LSE High Strength Acrylic Adhesive.

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3M™ Adhesive Transfer Tapes

Adhesive Family	Product Number	Tape Thickness w/o liner Mils (mm)	Liner Type	Description	Temperature Resistance		Solvent Resistance	Relative Adhesion		Application Ideas
					Minutes Hours	Days Weeks		HSE	LSE	
200MP High Perf	467MP	2.0 (0.05)	58# PCK	High performance high temperature formulation.	400°F (232°C)	300°F (149°C)	High	High	Low	General industrial joining. Industry standard for graphic attachment and die-cut parts.
	468MP	5.0 (0.13)								
300LSE High Strength	9471LE	2.0 (0.05)	58# PCK	High bond to plastics with high temperature holding.	300°F (149°C)	200°F (93°C)	High	High	High	Bonds graphics to powder coatings LSE plastics and oily metal. General industrial bonding of LSE materials.
	9472LE	5.0 (0.13)								

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For further assistance in determining the best 3M product to help assemble a device that's better looking, stronger, lighter weight and easier to manufacture, call 1-800-567-1639 ext. 8045, or visit:

www.3M.com/industrial

3M

Industrial Business

Bldg. 21-1W-10
900 Bush Ave.
St. Paul, MN 55144
1-800-567-1639 ext. 8045
www.3M.com/industrial

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 repairable air/gas would pass over exposed adhesive or tape.

For assistance on other 3M products call 1-800-3M-HELPS

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