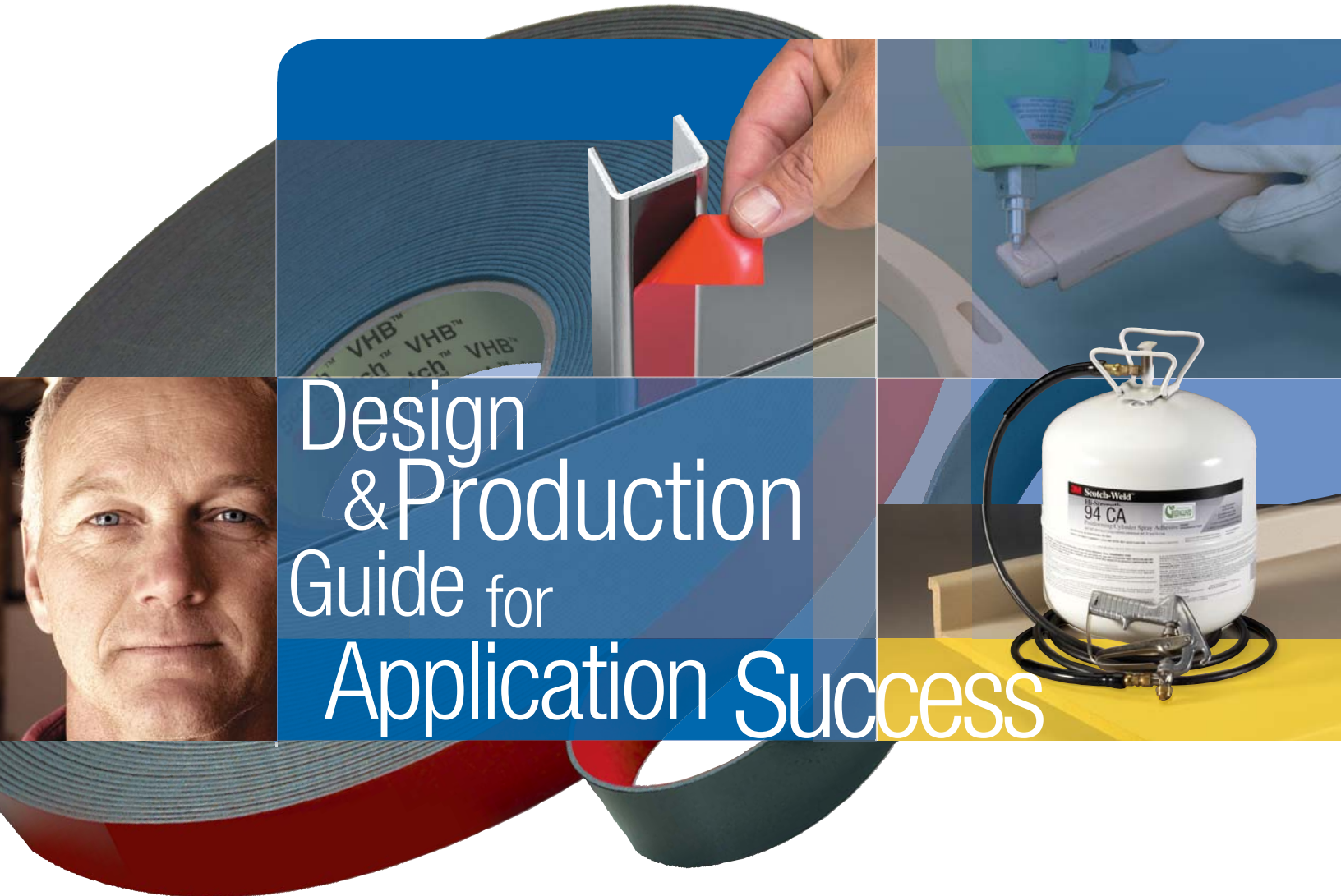


# 3M™ Adhesives and Tapes



## Design & Production Guide for Application Success

Bonding, sealing, attaching,  
mounting, laminating, and fastening



# Name your substrate combination...and read on for applications success

Steel to aluminum. Oak to pine. Decorative laminate to particle board. Vinyl to flexible foam. Glass to plastic. EPDM rubber to ceramic. Low surface energy plastic to oily steel. Styrene to concrete.

Name your combination.

Most likely you'll find what you need in this Guide to improve your product performance and appearance, and increase production efficiency. On the following pages, you'll find the results of more than 50 years developing and applying adhesive technology to solve the real world challenges of companies that need to design and build more competitive products.

From the most versatile and comprehensive line of adhesives and tapes available, you'll find all of the following for application success:

- **Bond strength matched to the job.** That's the full range from repositionable to strength enough to replace rivets, screws, and welds.
- **Virtually invisible fastening.** In most applications, surfaces stay smooth and clean.
- **Increased material options.** Use thinner, lighter materials and even dissimilar materials as design and cost-saving solutions.
- **Increase manufacturing efficiency.** Reduce or eliminate operations such as riveting, drilling, welding, surface refinishing, and cleanup in many applications.
- **Bond, seal and fill gaps in one step.** Save time and work.
- **Solutions through service**  
3M representatives are located throughout the United States, Canada, and 50 other countries for sales assistance.

For technical service, a highly trained team is ready to help you evaluate adhesives and tapes for specific applications.

A national authorized distributor network provides sales assistance and local product availability. Authorized converters can also help you adapt 3M adhesives and tapes to meet special requirements for shape, size, and production.

## Table of Contents

|   |   |
|---|---|
| Knowing when to use 3M™ Adhesives and Tapes | 4 |
| 3M™ Adhesive and Tape Classifications       | 6 |
| Substrates and Adhesion                     | 7 |
| Adhesive Economics                          | 8 |

3M™ Structural Adhesives

Page 9

|  |       |
|--|-------|
| 3M™ Scotch-Weld™ Epoxy, Acrylic, and Urethane Adhesives      | 10-14 |
| 3M™ Scotch-Weld™ Instant Adhesives                           | 15    |
| Rite-Lok™ Cyanoacrylate Adhesives                            | 16-18 |
| Rite-Lok™ Anaerobic Adhesives                                | 19-21 |
| 3M™ Scotch-Weld™ Polyurethane Reactive (PUR) Adhesive System | 22-25 |

## 3M™ Non-Structural Adhesives

Page 26



|   |       |
|---|-------|
| 3M™ Fastbond™ and Scotch-Weld™ Industrial Adhesives | 27-29 |
| 3M™ Fastbond™ and Scotch-Weld™ Contact Adhesives    | 30-31 |
| 3M™ Scotch-Weld™ Cylinder Spray Adhesives           | 32-35 |
| 3M™ Scotch-Weld™ Hot Melt Spray Adhesives           | 36-41 |
| 3M™ Aerosol Adhesives                               | 42-43 |
| 3M™ Cleaners and Lubricants                         | 44    |
| 3M™ Concrete Repair Products                        | 45    |
| 3M™ Sealants  | 46-47 |
| Adhesive/Substrate Selection Guide                  | 48-54 |

## 3M™ Bonding Tapes

Page 55



|                                    |       |
|------------------------------------|-------|
| 3M™ VHB™ Tapes                     | 56-61 |
| 3M™ Double Coated Foam Tapes       | 62-63 |
| 3M™ Double Coated Tapes            | 64-66 |
| 3M™ Removable/Repositionable Tapes | 67    |
| 3M™ Adhesive Transfer Tapes        | 68-72 |
| 3M™ Extended Liner Tapes           | 73    |
| 3M™ Membrane Switch Adhesives      | 74-75 |
| Scotch® ATG Adhesive Systems       | 76    |
| Tape Selection Guide               | 77-83 |

## 3M™ Reclosable Fasteners and Other Technologies

Page 84



|                                      |       |
|--------------------------------------|-------|
| 3M™ Dual Lock™ Reclosable Fasteners  | 85-89 |
| 3M™ Scotchmate™ Reclosable Fasteners | 90-91 |
| 3M™ Single Coated Foam Tapes         | 92    |
| 3M Converter Markets Center          | 93    |
| Overview of other 3M Technologies    | 94-95 |
| Numerical Index                      | 96-97 |
| Product Category Index               | 98-99 |

Get connected with all 3M adhesives and tapes.  
Download data pages and product-specific literature.  
Request samples for evaluation.

Or call with questions: 1-800-362-3550



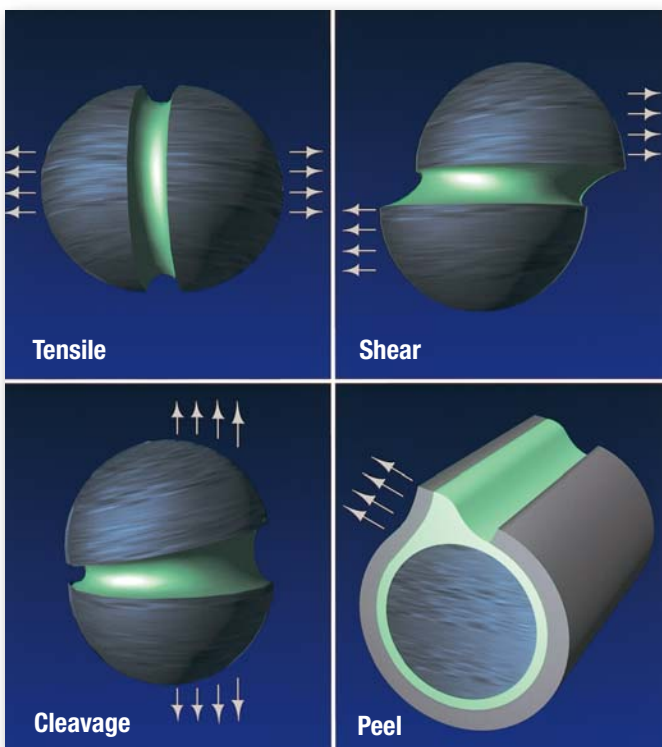
# Knowing when to use 3M™ Adhesives and Tapes to improve your product and process

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 operation.

**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 technologies, 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. The list of potential substrates ranges from glass, wood, cardboard, and rubber to steel, concrete, foam, polycarbonate, and just about any other material you can name.

Strength can be readily matched to the substrate and stress characteristics to which the bond will be subjected. Most adhesives and tapes perform better when the primary stress is tensile or shear. In most industrial applications, however, a combination of stresses are involved that may include cleavage and peel.



**Tensile** is pull exerted equally over the entire joint. Pull direction is straight and away from the adhesive bond.

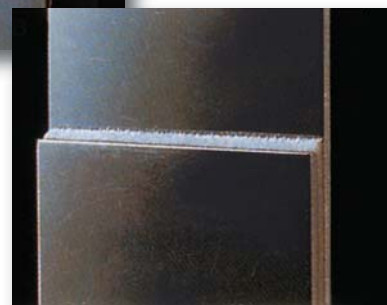
**Shear** is pull directed across the adhesive, forcing the substrates to slide over each other.

**Cleavage** is pull concentrated at one edge of the joint, exerting a prying force on the bond. The other edge of the joint is theoretically under zero stress.

**Peel** is concentrated along a thin line at the edge of the bond where one substrate is flexible. The line is the exact point where an adhesive would separate if the flexible surface were peeled away from its mating surface. Once peeling has begun, the stress line stays out in front of the advancing bond separation.

**Q** *Do you want to eliminate the stress concentration caused by spot welds, rivets, screws, or other mechanical fasteners and maintain surface integrity?*

Adhesives distribute stress evenly over the entire bonded area. A rivet or 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. Elimination of holes in metal also reduces the chances for rust and corrosion.





**Q** *Would invisible fastening improve your products appearance?*

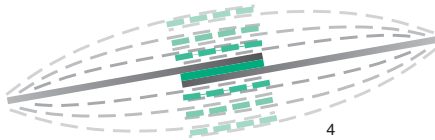
3M adhesives and tapes are generally hidden between the bonded substrates. Surfaces stay smooth and clean for a more attractive appearance and less surface refinishing.

**Q** *Do you want to attach dissimilar substrates?*

Laminates of dissimilar materials 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 between such materials as aluminum and wood.

**Q** *Will your part be subjected to vibration?*

The viscoelasticity of many 3M adhesives and tapes improves resistance to vibration fatigue by imparting flexibility to a joint or bonded area.



**Q** *Is the design of your part right for adhesive bonding?*

Adhesives perform better with some part configurations than with others. With the variety of 3M adhesive forms such as pastes, aerosol sprays, and tapes, you should be able to find an adhesive to meet the requirements of most parts that can be assembled with mechanical or fusion fastening. A spray adhesive would be effective, for example, to cover foam cushioning, but would not be a consideration for a part with a narrow bonding area. For cleaner, more efficient application, die-cut pressure sensitive adhesive foam tape can be precisely placed on smaller, irregularly-shaped bonding surfaces.

**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.

Adhesives and tapes also provide a film barrier to reduce or prevent bimetallic corrosion that often occurs in bonding two different types of metal.

**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.

**Q** *Do you need high speed bonding?*

In some instances, adhesive bonding can be slow and require critical processing. Some epoxies, for example, require heat, pressure and fixturing to bond metal to metal in structural strength assemblies. With the wide range of 3M adhesives and tapes, however, a variety of open times are available. Depending on your end use requirements, you can select 3M pressure sensitive adhesives that bond on contact or a 3M two-part paste adhesive with open times ranging from 2 to 90 minutes. Repositionable formulations are also available for repeated openings and closings.

**Q** *Does your part need to be disassembled for maintenance or service?*

When assembled with most adhesives or tapes, parts are generally difficult or virtually impossible to disassemble without damaging the part. As an exception, hot melt adhesives can be reheated and reused, but in most instances reuse would be messy and impractical. As already noted, repositionable adhesives are available, but application is restricted to lighter duty attachment or closure. Reclosable fasteners are a hybrid technology using mechanical fastening and pressure sensitive adhesive. The adhesive permanently bonds two reclosable mating strips to the substrates that need to be opened and closed. See pages 85 through 91 for details.

**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, welding, screwing, finishing, and similar operations. In most cases, adhesives require minimal training. And many adhesives require little or no investment in major equipment.

# 3M™ Adhesive and Tape classifications – you really can't say “glue” any more

At one time, adhesive and glue were used synonymously. In industry today, however, designers and engineers are using terms like two-part low-odor acrylic, high bond tape, PUR systems, cyanoacrylate, and more. Glue is now considered to be something sticky which is no longer a characteristic of many adhesives.

3M adhesives can be classified in several ways.

## Classify by form

3M adhesives are available as liquids, pastes, tapes, films, and shaped solids. Each has characteristics to be considered for application effectiveness and efficiency.

Liquids and pastes readily fill voids to enhance mechanical adhesion. Many liquids can be sprayed to cover large areas.

Films and pressure sensitive tapes offer advantages unique to their form:

- Uniform thickness throughout the joint.
- Confinement of the adhesive to the immediate bonding area.
- Clean bonding without dripping or overflow.
- Minimum adhesive waste.
- Die-cut into complex shapes to facilitate bonding of complex parts or parts with narrow bonding surfaces.

Hot melts are supplied as solid sticks, cartridges, pellets, or similar shapes. Handling and storage is easy and neat.

## Classify by strength

Another classification for industrial applications is by relative strength and solidification process. Generally, those adhesives that bond through a chemical reaction are stronger than those that bond through a physical change.

### Structural adhesives bond by chemical reaction.

3M™ Structural Strength Adhesives bond the load-bearing parts of a product. 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* are available in one and two-part liquids and pastes. Of all 3M adhesives, these provide the highest strength and elevated temperature resistance.
- *Acrylic adhesives* are two-part liquids and pastes to bond the widest variety of substrates including hard-to-bond plastics and oily metals. The distinction is high strength bonding without the surface preparation needed for epoxies and urethanes.
- *Urethane adhesives* are generally lower cost two-part liquids and pastes that 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.

- *Anaerobic adhesives* are liquids that cure to a tough plastic in the absence of oxygen and in the presence of metal. Typical applications include threadlocking, retaining, gasketing, and sealing.

### Non-structural adhesives bond with a physical change.

Non-structural adhesives vary in strength from repositionable to strength equal to or greater than the strength of the substrate being bonded. These adhesives are typically less than 1000 psi and bond materials in cushions, gaskets, insulation, veneers, and general assembly. 3M formulations include the following:

- *Hot melt adhesives* melt and flow under heat to wet the substrates and make bonds quickly upon cooling. Products are available with a variety of characteristics such as short set times, sprayable formulas, and permanent PSA properties. Applications range from sealing to bonding automotive interior trim.
- *Rubber adhesives* are solvent-based or water-based and solidify through evaporation of the carrier. Products are designed for adhesion to various substrates, application methods, and environmental resistance of the bonded product.
- *Contact bond adhesives* are usually rolled, brushed, or sprayed on the two surfaces to be mated and permitted to become dry to the touch with a variety of open times. When the surfaces are pressed together, near ultimate bond strength is achieved.

### Pressure sensitive adhesives

*Pressure sensitive adhesives* (PSAs) found in 3M tapes grip immediately to mating surfaces. With dwell time, the adhesive conforms to surface irregularities.

### 3M hybrid classifications

- *Curing hot melts (Polyurethane Reactive [PUR] adhesives)* are moisture-curing urethanes that apply like a hot melt adhesive but cool to bond strength usually associated with two-part structural adhesives.
- *Reclosable fasteners* combine adhesive and mechanical fastening principles. Pressure sensitive adhesive permanently bonds two reclosable mating strips to the substrates that need to be opened and closed multiple times.

# Substrates and adhesion – a surface phenomenon, so know surfaces well

Adhesives attach to the surfaces of two substrates, unlike a process that fuses substrates into a unified whole such as welding metal or solvent activation of plastics. In selecting a 3M adhesive or tape, surface condition must be considered: roughness, smoothness, porosity, coated, uncoated, cleanliness, flexibility, size of the part, and surface energy of the part.

Adhesive paste, for example, flows readily into a rough surface for improved effective adhesion. Flexible materials such as paper or thin gauge metal can be bonded with a thin adhesive transfer tape. Large rigid parts with smooth clean surfaces can be bonded with a variety of 3M products ranging from double coated foam tapes to two-part structural adhesives. Some plastics have plasticizers which migrate to the surface and degrade the bond over time, so a plasticizer-resistant adhesive or tape is essential. If the substrate has been powder coat painted, the coating is the bonding surface rather than the substrate, and you would want to consider a 3M tape or adhesive developed specifically for that surface.

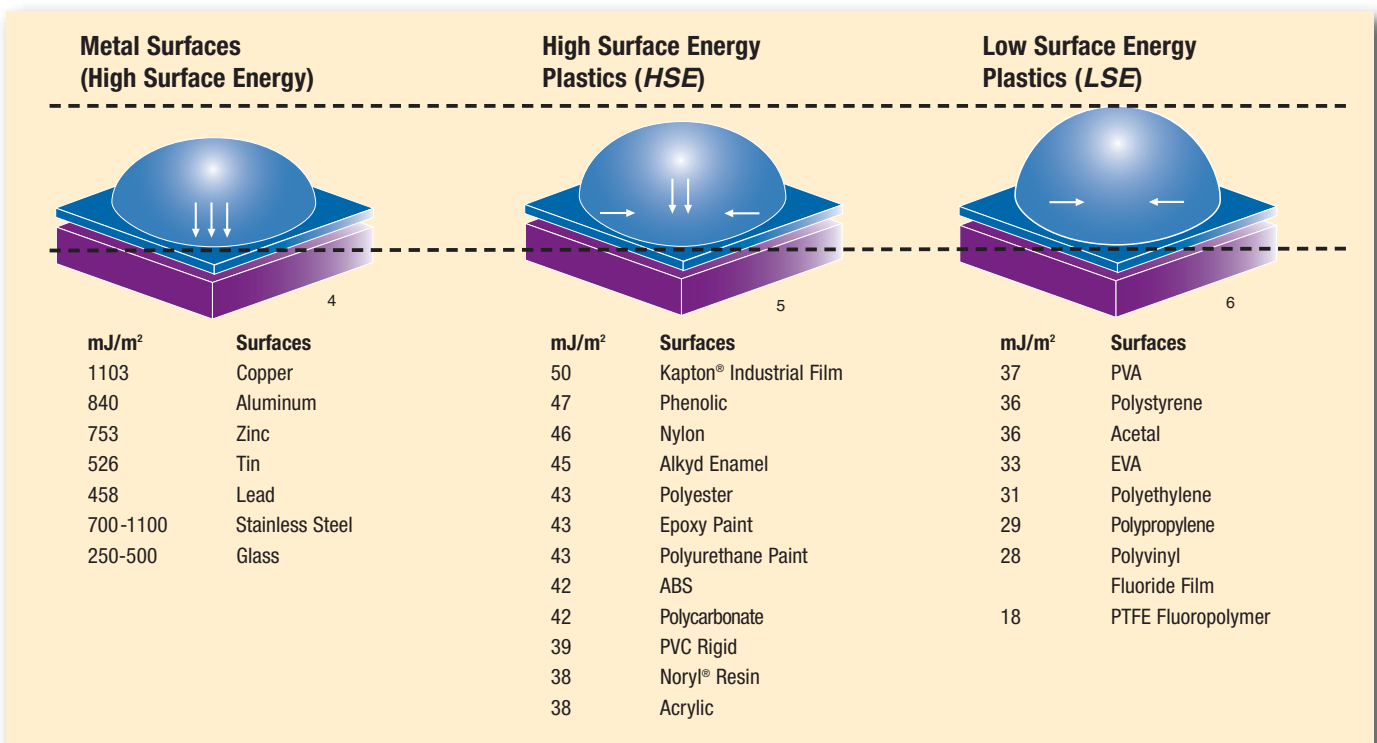
Surface energy ranges from high to low. To illustrate the concept of

surface energy, think of water on the unwaxed hood of a car. The unwaxed hood has high surface energy and water on the hood flows into puddles. In comparison, a waxed hood has low surface energy and the water beads up rather than flows out. Similar to water, adhesive on a high surface energy surface flows and “wets out” the surface. “Wetting out” is required to form a strong bond.

*As a rule of thumb, the higher the surface energy, the greater the strength of adhesion.*

Specially formulated adhesives are available for low surface energy surfaces. The following illustrations and surface rankings give you an idea of relative surface energy.

Regardless of surface energy, the substrate must be unified, dry, and clean to maximize adhesive contact.



Note: These values are provided as a guide. Formulation modifications can substantially alter surface energies.



# Adhesive economics

In considering cost, consider more than just the cost per gallon or roll. The true value of a 3M adhesive or tape is determined by applied cost per unit. This includes adhesive coverage and the time and labor to apply it. Coverage is usually expressed in terms of adhesive thickness or weight.

For a true cost picture, there are a number of facts and questions to consider; questions not only about the adhesive itself, but also substrates, application methods, and more.

**Q** *Has a realistic acceptance test conclusively screened out a lower cost bonding solution?*

A common error is excessive or meaningless test standards that might rule out satisfactory products. Use the lowest cost adhesive consistent with end use performance.

**Q** *Has a minimum coverage been determined that consistently meets performance requirements?*

100% adhesive coverage is not always necessary. 50% may be completely satisfactory. Or even a single bead of adhesive or strip of high strength tape.

**Q** *Have all physical properties of the substrate been considered?*

High absorption materials, for example, soak up low viscosity adhesives and need multiple coats. In that case, a higher viscosity product or spraying is needed.

**Q** *Does the adhesive require special ventilation or safety equipment?*

Many adhesives are now low or no VOC's, or 100% solids, and require little or no special ventilation equipment. PSA tapes in application are solventless.

**Q** *Can the adhesive or tape be applied with low cost equipment, or even no equipment?*

Equipment needs only be consistent with the desired production rate. A collapsible squeeze tube may be all that's necessary to bond plastic parts. Tape can be simply rolled on by hand. If more demanding equipment is needed for the application, 3M technical service will work with you to evaluate processes and equipment.



7



8

**Q** *Is the adhesive or tape easy to use to save training time?*

The level of training will vary. A one-part structural adhesive will require a more skilled operator than is necessary to seal a carton with a hot melt adhesive.

**Q** *Does the adhesive or tape give the engineer greater flexibility in design and materials?*

Less expensive substrates and simplified designs can reduce overall cost and increase the market appeal of the end product.

An evaluation of your answers will indicate an appropriate selection of adhesives for the job and true cost. The final adhesive selection will be based on a comparison between applied cost per unit and specific required performance.

# 3M™ Structural Adhesives



14

With high cohesive strength, each 3M™ Structural Adhesive bonds high strength materials and potentially replaces mechanical fasteners and welds. Depending on the adhesive, you can bond metals, wood, rubber, ceramic, composites, engineering grade plastics, glass, and more.

Industries worldwide take advantage of the wide selection of adhesives and innovative dispensing for many applications, for example: bushing assembly in appliances, headlight assembly in cars, relays and controls in electronic equipment, lawn sprinklers, office partitions, pump casting components, golf clubs, and home furniture.

Products include the following:

- 3M™ Scotch-Weld™ Epoxy, Acrylic, and Urethane Adhesives
- 3M™ Scotch-Weld™ Instant Adhesives
- Rite-Lok™ Cyanoacrylate Adhesives
- Rite-Lok™ Anaerobic Adhesives
- 3M™ Scotch-Weld™ Polyurethane Reactive (PUR) Adhesive Systems



# 3M™ Scotch-Weld™ Epoxy, Acrylic, and Urethane Adhesives

## Load-bearing formulations for metals, rubber, glass and more

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

To meet application and end-use requirements, there are formulations for bonding steel, aluminum, copper, low surface energy plastics, rubber, glass, wood, masonry and more. Depending on adhesive, select from duo-pak cartridges, cans, tubes, pails, and drums.

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



With handling strength in 2 hours and full cure in 24 hours, 3M™ Scotch-Weld™ Epoxy Adhesive DP420 bonds the shaft into the head of a golf club. Flexibility of the toughened two-part formulation helps absorb repeated impact for a secure bond. Available in 37ml, 200ml and 400ml duo-pak cartridges for use with any of the convenient hand-held 3M™ EPX™ Applicators.

16



With a 400ml cartridge, the 3M™ EPX™ Pneumatic Applicator applies 3M™ Scotch-Weld™ Epoxy Adhesive DP420 to bond ABS components of an automotive breather valve. The toughened epoxy at the inlet port seals in the high pressure and air/fuel mixture.

19



With no surface preparation, 3M™ Scotch-Weld™ Structural Acrylic Adhesive DP8005 bonds the mitered corners of a simulated-wood composite plastic P.O.P. display, eliminating nails that would compromise appearance.

17



3M™ Scotch-Weld™ Low Odor Acrylic Adhesive DP810 requires minimal surface preparation for bonding metal hinges into awning frames. Reaches handling strength in only 10 minutes.

18



Brush-applied 3M™ Scotch-Weld™ Epoxy Adhesive 2216 B/A provides a tough, flexible bond between honeycomb and the framework in entry step panels of commuter aircraft.

20



3M™ Scotch-Weld™ Epoxy Adhesive DP420 bonds steel couplings into aluminum tubing of a bicycle frame. Couplings are threaded for easy assembly and disassembly.

21



### 3M™ Scotch-Weld™ Structural Adhesives in Duo-Pak Cartridges and Bulk

| Product (Color)       | Key Features                               | Mix Ratio (Volume) B:A | Approximate Viscosity 75°F (24°C) (cps) | Approximate Mixed Worklife at 75°F (24°C) | Approximate Time to Handling Strength at 75°F (24°C) | Average T-Peel at 75°F (24°C) (piw) | Overlap Shear (psi) |             |              |
|-----------------------|--|------------------------|---|---|--|-------------------------------------|---------------------|-------------|--------------|
|                       |  |                        |   |   |  |                                     | -67°F (-55°C)       | 75°F (24°C) | 180°F (82°C) |
| DP100 (Clear)         | General Purpose Rigid bonds                | 1:1                    | 13,000                                  | 5 minutes                                 | 20 minutes   | 2                                   | 900                 | 1,500       | 300          |
| DP100 Plus (Clear)    | Very flexible Colorless                    | 1:1                    | 8,500                                   | 4 minutes                                 | 20 minutes   | 10                                  | 3,000               | 3,500       | 200          |
| DP100NS (Translucent) | General Purpose Non-sag                    | 1:1                    | 95,000                                  | 5 minutes                                 | 20 minutes   | 2                                   | 900                 | 1,500       | 300          |
| DP100FR (White)       | Flame Retardant UL94 V-0 rating            | 1:1                    | 80,000                                  | 6 minutes                                 | 20 minutes   | 2                                   | 1,250               | 2,200       | 800          |
| DP105 (Clear)         | Very flexible Colorless                    | 1:1                    | 6,500                                   | 5 minutes                                 | 20 minutes   | 35                                  | 3,500               | 2,000       | 150          |
| DP110 (Gray)          | General Purpose Flexible bonds             | 1:1                    | 55,000                                  | 8 minutes                                 | 20 minutes   | 20                                  | 2,700               | 3,500       | 250          |
| DP110 (Translucent)   | General Purpose Flexible bonds             | 1:1                    | 50,000                                  | 8 minutes                                 | 20 minutes   | 20                                  | 2,500               | 2,500       | 200          |
| DP125 (Gray)          | High Performance Very flexible bonds       | 1:1                    | 52,500                                  | 25 minutes                                | 2.5 hours  | 35                                  | 3,400               | 4,300       | 400          |
| DP125 (Translucent)   | High Performance Very flexible bonds       | 1:1                    | 15,000                                  | 25 minutes                                | 2.5 hours  | 35                                  | 4,000               | 2,500       | 150          |
| DP190 (Gray)          | High Performance Flexible bonds            | 1:1                    | 80,000                                  | 90 minutes                                | 10 hours   | 20                                  | 1,500               | 2,500       | 400          |
| DP190 (Translucent)   | High Performance Flexible bonds            | 1:1                    | 10,000                                  | 80 minutes                                | 6 hours  | 20                                  | 3,500               | 1,200       | 150          |
| DP270 (Black, Clear)  | Rigid potting compound Non-corrosive       | 1:1                    | 12,000                                  | 60 minutes                                | 3 hours  | 2                                   | 1,200               | 2,500       | 300          |
| DP420 (Off-White)     | Tough durable bonds High impact resistance | 2:1                    | 30,000                                  | 20 minutes                                | 2 hours  | 50                                  | 4,500               | 4,500       | 450          |
| DP420 (Black)         | Tough durable bonds High impact resistance | 2:1                    | 30,000                                  | 20 minutes                                | 2 hours  | 50                                  | 4,500               | 4,500       | 1,250        |
| DP420NS (Black)       | Tough durable bonds Non-sag                | 2:1                    | 180,000                                 | 20 minutes                                | 2 hours  | 50                                  | 4,500               | 4,500       | 1,250        |
| DP460 (Off-White)     | Tough durable bonds High impact resistance | 2:1                    | 30,000                                  | 60 minutes                                | 4 hours  | 60                                  | 4,500               | 4,500       | 700          |
| DP460NS (Off-White)   | Tough durable bonds Non-sag                | 2:1                    | 125,000                                 | 60 minutes                                | 4 hours  | 60                                  | 4,900               | 4,650       | 1,350        |
| EC2216* (Gray)        | High Performance Very flexible bonds       | 2:3                    | 80,000                                  | 90 minutes                                | 10 hours   | 25                                  | 3,000               | 3,200       | 400          |

Note: The technical information and data on these pages should be considered representative or typical only and should not be used for specification purposes.

\* Available in Duo-Pak Cartridges only.



3M™ Concrete Repair DP600 Self-Leveling sets quickly to anchor bolts.



3M™ Scotch-Weld™ Epoxy Adhesive 2214 bonds and seals refrigerant coils with overlap shear strength of 4500 psi. One part eliminates metering and mixing.



3M™ Scotch-Weld™ Structural Adhesive EC2216 bonds honeycomb to aluminum for common applications in aerospace and transportation.

3M™ Scotch-Weld™ Structural Adhesives in Duo-Pak Cartridges and Bulk (cont.)

|                    | Product (Color)                                    | Key Features   | Mix Ratio (Volume) B:A | Approximate Viscosity 75°F (24°C) (cps) | Approximate Mixed Worklife at 75°F (24°C) | Approximate Time to Handling Strength at 75°F (24°C) | Average T-Peel at 75°F (24°C) (piw) | Overlap Shear (psi) |             |              |
|--------------------|--|--|------------------------|---|---|--|-------------------------------------|---------------------|-------------|--------------|
|                    |  |  |                        |   |   |  |                                     | -67°F (-55°C)       | 75°F (24°C) | 180°F (82°C) |
| Urethane           | DP600 (Gray)                                       | Concrete repair<br>Self-leveling                     | 1:1                    | 6,000                                   | 1 minute                                  | 4 minutes  | -                                   | -                   | 3,580       | -            |
|                    | DP600NS (Gray)                                     | Concrete repair<br>Non-sag                           | 1:1                    | Paste                                   | 1 minute                                  | 2 minutes  | -                                   | -                   | 2,300       | -            |
|                    | DP601 (Gray)                                       | Flexible<br>Self-leveling                            | 1:1                    | 6,000                                   | 1 minute                                  | 4 minutes  | -                                   | -                   | 2,300       | -            |
|                    | DP601NS (Gray)                                     | Flexible<br>Non-sag                                  | 1:1                    | Paste                                   | 1 minute                                  | 2 minutes  | -                                   | -                   | 2,300       | -            |
|                    | DP604NS (Black)                                    | Flexible<br>Non-sag                                  | 1:1                    | Paste                                   | 4 minutes                                 | 20 minutes   | -                                   | -                   | 900         | -            |
|                    | DP605NS (Off-White)                                | Semi-rigid<br>Non-sag                                | 1:1                    | 150,000                                 | 5 minutes                                 | 20 minutes   | -                                   | -                   | 1,250       | -            |
|                    | DP608 (Black)                                      | Flexible<br>Non-sag                                  | 1:1                    | Paste                                   | 10 minutes                                | 90 minutes   | -                                   | -                   | 2,000       | -            |
|                    | DP620NS (Black)                                    | Flexible<br>Non-sag                                  | 1:1                    | Paste                                   | 20 minutes                                | 4 hours  | -                                   | -                   | 2,500       | -            |
|                    | DP640* (Brown)                                     | Tough flexible bonds<br>Non-sag                      | 1:1                    | 25,000                                  | 40 minutes                                | 8 hours  | -                                   | -                   | 2,000       | -            |
|                    | DP5001 (Black)                                     | Flexible<br>Conveyor belt repair                     | 1:1                    | 100,000                                 | 1 minute                                  | 15 minutes   | -                                   | -                   | 600         | -            |
|                    | DP5003 (Black)                                     | Non-sag<br>Vertical applications                     | 1:1                    | Paste                                   | 3 minutes                                 | 60 minutes   | -                                   | -                   | 500         | -            |
|                    | DP5105 (Gray)                                      | Low temperature flexibility<br>Expansion joint seals | 1:1                    | 32,000                                  | 5 minutes                                 | 9 hours  | -                                   | -                   | 150         | -            |
|                    | DP5106 (Gray)                                      | High strength<br>Control joint seals                 | 1:1                    | 34,000                                  | 4 minutes                                 | 40 minutes   | -                                   | -                   | 1,100       | -            |
| Acrylic            | DP805 (Lt. Yellow)                                 | Fast strength build-up<br>Minimal surface prep       | 1:1                    | 110,000                                 | 3 minutes                                 | 10 minutes   | 35                                  | 2,500               | 3,500       | 2,200        |
|                    | DP807 (Lt. Yellow)                                 | Fast strength build-up<br>Minimal surface prep       | 1:1                    | 50,000                                  | 5 minutes                                 | 10 minutes   | 20                                  | -                   | 2,500       | -            |
|                    | DP810 (Tan, Black)                                 | Tough durable bonds<br>High impact resistance        | 1:1                    | 20,000                                  | 10 minutes                                | 20 minutes   | 30                                  | 1,200               | 3,600       | 500          |
|                    | DP8010NS (Off-White)                               | Bonds polyolefins and low surface energy materials   | 10:1                   | 65,000                                  | 10 minutes                                | 2 hours  | 30                                  | -                   | 2,400       | 400          |
|                    | DP812 (Lt. Yellow)                                 | Fast strength build-up<br>Minimal surface prep       | 1:1                    | 50,000                                  | 10 minutes                                | 20 minutes   | 20                                  | -                   | 2,500       | -            |
|                    | DP810NS (Tan)                                      | Tough durable bonds<br>Non-sag                       | 1:1                    | 95,000                                  | 10 minutes                                | 20 minutes   | 20                                  | 1,200               | 4,000       | 500          |
|                    | DP820* (Lt. Yellow)                                | Medium work life<br>Minimal surface prep             | 1:1                    | 55,000                                  | 15 minutes                                | 40 minutes   | 20                                  | 3,100               | 3,150       | 1900         |
|                    | DP825 (Lt. Yellow to Lt. Amber)                    | Medium worklife<br>Minimal surface prep              | 1:1                    | 50,000                                  | 25 minutes                                | 40 minutes   | 20                                  | -                   | 2,500       | -            |
|                    | DP8005 (Off-White, Black)                          | Bonds polyolefins and low surface energy materials   | 10:1                   | 25,000                                  | 3 minutes                                 | 3 hours  | 17                                  | -                   | 2,400       | 300          |
| DP8010 (Off-White) | Bonds polyolefins and low surface energy materials | 10:1   | 20,000                 | 10 minutes                              | 2 hours                                   | 35   | -                                   | 1,800               | 400         |              |

\* Available in Duo-Pak Cartridge only.

Rite-Lok™ 2-Step Structural Acrylic Adhesives\*

Step 1: apply adhesive to one surface. Step 2: apply activator to second surface and reach handling strength in 3-5 minutes.

| Product | Typical Use   | Color | Chemical Type | Typical Viscosity (cps) | Temp Range                    | Time to Handling | Full Cure (hours) | Activator | Size               |
|---------|---|-------|---------------|-------------------------|-------------------------------|------------------|-------------------|-----------|--------------------|
| SA24    | Impact resistant for a wide variety of dissimilar substrates                        | Amber | Acrylic       | 15,000                  | -65° to 275°F (-54° to 135°C) | 3 min.           | 24                | AC380D    | 50 ml btl.         |
| SA30    | High viscosity with superior peel and impact strength                               | Straw |               | 22,000                  | -65° to 250°F (-54° to 121°C) | 5 min.           |                   |           | 300 gram cartridge |
| AC380D  | Structural adhesive activator; solventless, non-flammable for use with SA24 or SA30 |       |               |                         |                               |                  |                   |           | 2 fl. oz. btl.     |

Note: The technical information and data should be considered representative only and should not be used for specification purposes.

\* Other Rite-Lok™ Products on pages 16-21.

### 3M™ Scotch-Weld™ Two-Part Structural Adhesives

|          | Product (Color)         | Key Features  | Mix Ratio (Volume) B:A | Approximate Viscosity 75°F (24°C) (cps) | Approximate Mixed Worklife at 75°F (24°C) | Approximate Time to Handling Strength at 75°F (24°C) | Average T-Peel at 75°F (24°C) (piw) | Overlap Shear (psi) |             |              |
|----------|-------------------------|---|------------------------|---|---|--|-------------------------------------|---------------------|-------------|--------------|
|          |                         |   |                        |   |   |  |                                     | -67°F (-55°C)       | 75°F (24°C) | 180°F (82°C) |
| Epoxy    | 1751 B/A (Gray)         | Excellent void filler<br>Rigid bonds                | 3:2                    | 700,000                                 | 45 minutes                                | 10 hours   | 4                                   | 1,400               | 2,000       | 500          |
|          | 1838 B/A (Green)        | Multi-purpose<br>Rigid bonds                        | 4:5                    | 400,000                                 | 60 minutes                                | 8 hours  | 4                                   | 1,500               | 3,000       | 500          |
|          | 1838 B/A (Tan)          | Multi-purpose<br>Rigid bonds                        | 5:6                    | 250,000                                 | 60 minutes                                | 8 hours  | 4                                   | 1,500               | 2,000       | 500          |
|          | 1838L B/A (Translucent) | Multi-purpose<br>Rigid bonds                        | 1:1                    | 10,000                                  | 60 minutes                                | 8 hours  | 4                                   | 2,000               | 2,500       | 300          |
|          | 2158 B/A (Gray)         | Multi-purpose<br>Rigid bonds                        | 1:1                    | 375,000                                 | 2 hours                                   | 10 hours   | 3                                   | 1,500               | 2,000       | 400          |
|          | 2216 B/A (Gray)         | High performance<br>Very flexible bonds             | 2:3                    | 80,000                                  | 90 minutes                                | 10 hours   | 25                                  | 3,000               | 3,200       | 400          |
|          | 2216 B/A (Translucent)  | General purpose<br>Very flexible bonds              | 1:1                    | 10,000                                  | 2 hours                                   | 14 hours   | 25                                  | 3,000               | 1,700       | 140          |
|          | 2216 B/A NS (Tan)       | High performance<br>Non-sag                         | 2:3                    | 350,000                                 | 2 hours                                   | 10 hours   | 25                                  | 2,000               | 2,500       | 400          |
|          | 3501 B/A (Gray)         | Multi-purpose<br>Rigid bonds                        | 1:1                    | 500,000                                 | 7 minutes                                 | 25 minutes   | 4                                   | 1,500               | 2,400       | 300          |
|          | Fast Set Wood           | Low viscosity with short time to handling strength  | 1:1                    | 12,000                                  | 4 minutes                                 | 20 minutes   | –                                   | –                   | –           | –            |
|          | Fast Set Non-Sag Wood   | High viscosity with short time to handling strength | 1:1                    | 95,000                                  | 4 minutes                                 | 20 minutes   | –                                   | –                   | –           | –            |
|          | Medium Set Wood         | Low viscosity with longer time to handling strength | 1:1                    | 10,000                                  | 45 minutes                                | 8 hours  | –                                   | –                   | –           | –            |
| Urethane | 3532 B/A (Brown)        | Multi-purpose<br>Semi-rigid bonds                   | 1:1                    | 30,000                                  | 10 minutes                                | 90 minutes   | 25                                  | 2,500               | 2,000       | 300          |
|          | 3535 B/A (Off-White)    | Multi-purpose<br>Semi-rigid bonds                   | 1:1                    | 30,000                                  | 3 minutes                                 | 30 minutes   | 25                                  | 2,500               | 2,000       | 300          |
|          | 3549 B/A (Brown)        | Tough Flexible bonds<br>Non-sag                     | 1:1                    | 30,000                                  | 60 minutes                                | 8 hours  | 25                                  | 2,500               | 2,000       | 300          |

### 3M™ Scotch-Weld™ One-Part Epoxy Adhesives and Metal Primers

|       | Product (Color)                  | Key Features  | Approximate Viscosity 75°F (24°C) (cps) | Cure Conditions |                     |                | Average T-Peel at 75°F (24°C) (piw) | Overlap Shear (psi) |             |              |               |
|-------|----------------------------------|---|---|-----------------|---------------------|----------------|-------------------------------------|---------------------|-------------|--------------|---------------|
|       |                                  |   |   | Time (min)      | Temperature (°F/°C) | Pressure (psi) |                                     | -67°F (-55°C)       | 75°F (24°C) | 180°F (82°C) | 250°F (121°C) |
| Epoxy | 1386 (Cream)                     | High temperature strength<br>Impact resistance            | 150,000                                 | 60              | 350/177             | 10             | 10                                  | 3,000               | 5,500       | 4,500        | 2,500         |
|       | 1469 (Cream)                     | High temperature strength<br>Low viscosity                | 60,000                                  | 120             | 350/177             | 10             | 2                                   | 3,150               | 3,700       | 3,700        | 3,600         |
|       | 2086 (Gray)                      | High temperature strength<br>High viscosity               | Paste                                   | 60              | 350/177             | 10             | 5                                   | 3,000               | 5,000       | 5,000        | 2,200         |
|       | 2214 Regular (Gray)              | High temperature strength<br>Low temp curing              | Paste                                   | 60              | 250/121             | 10             | 5                                   | 3,000               | 4,500       | 4,500        | 1,500         |
|       | 2214 Hi-Density (Gray)           | High temperature strength<br>Deaerated, dense bonds       | Paste                                   | 60              | 250/121             | 10             | 5                                   | 3,000               | 4,500       | 4,500        | 1,700         |
|       | 2214 Hi-Temp Original (Gray)     | High temperature strength and<br>environmental resistance | Paste                                   | 60              | 250/121             | 10             | 2                                   | 2,000               | 2,000       | 3,000        | 2,500         |
|       | 2214 Hi-Temp New Formula (Gray)  | High temperature strength and<br>environmental resistance | Paste                                   | 60              | 250/121             | 10             | 2                                   | 2,800               | 2,800       | 2,800        | 2,500         |
|       | 2214 Non-Metallic Filled (Cream) | High temperature strength<br>Higher insulation value      | Paste                                   | 60              | 250/121             | 10             | 7                                   | 3,000               | 4,000       | 4,500        | 1,500         |
|       | 2290 (Amber)                     | Low solids liquid coating for metal laminations           | 60                                      | 30              | 350/177             | 50             | 10                                  | 5,000               | 5,000       | 3,500        | 1,200         |

|        | Product (Color) | Description   | Viscosity (cps) | Comments   |
|--------|-----------------|---|-----------------|--|
| Primer | 3901 (Red)      | Adhesion promoter<br>Organo-silane base<br>Brush or spray | 5               | A primer for film and liquid adhesives for improved metal and glass adhesion or improved resistance to environmental exposure with epoxy and urethane adhesives. Protects cleaned surfaces until bonding can be completed. Imparts improved corrosion protection to metal. |

Note: The technical information and data on these pages should be considered representative or typical only and should not be used for specification purposes.



## 3M™ EPX Applicators for Duo-Pak Cartridges

For low volume applications and take-it-to-the-job convenience, the 3M™ EPX Plus II and EPX metal manual applicators comfortably dispense any of the many 3M™ Scotch-Weld™ Duo-Pak Structural Adhesives.

For higher volume, select the 200ml manual dispenser or the 200ml or 400ml pneumatic dispenser.

For concrete repair, you also have manual or pneumatic options.

### Manual Applicators



25

EPX Plus II Applicator  
35ml with 10:1 plunger  
37ml with 2:1 plunger included  
50ml with 1:1 plunger included



26

EPX Metal Applicator  
with 2:1 plunger included



27

EPX 200ml Applicator  
with 2:1 and 1:1 plunger included



28

Concrete repair 12-ounce  
cartridge applicator

### Pneumatic Applicators



29

EPX 50ml Applicator  
for 50ml 1:1 and for 37ml 2:1 low  
viscosity products



30

EPX 200ml Applicator  
for 200ml 1:1 and 2:1, and 250ml  
10:1 (conversion kit)



31

EPX 400ml Applicator  
for 1:1 and 2:1



32

Concrete repair 12-ounce cartridge  
applicator

## 3M™ Nozzles for EPX Applicators and Duo-Pak Cartridges

Choose either the square gold or helical nozzle.

With the unique chambered design of the square gold, the two parts of the adhesive cascade through the nozzle with just low pressure to mix and apply even higher viscosity adhesives.

The helical design is your choice whenever you want extended reach for convenience and access.



33

Helical 35ml 10:1  
and 250ml 10:1



34

Helical and  
square gold 37ml  
2:1, 50ml 1:1,  
and 43ml 2:1



35

Helical and square  
gold 200/400ml  
1:1 and 2:1



36

Concrete repair  
helical



37

Concrete repair  
square for 8.4 oz.  
cartridge



38

3M™ EPX Nozzles simultaneously mix, meter, and dispense 3M™ Scotch-Weld™ 2-Part Adhesives or Concrete Repair from Duo-Pak cartridges. Extended reach helical nozzle is shown here bonding ABS components of a pump housing.

# 3M™ Scotch-Weld™ Instant Adhesives

## Fast bonding combinations of strength, cure time, and viscosity

For speed and performance, you'll likely find a product in this line with precisely the right combination of bond strength, cure time and viscosity.

These one-part cyanoacrylate adhesives rapidly reach handling strength at room temperature without a catalyst. On many applications, bonds reach handling strength in 5-10 seconds and 80% of full strength in an hour. A single drop per square inch can bond many plastics, rubber, metals and more with tensile strength up to 5,000 psi.



3M™ Scotch-Weld™ CA40 Instant Adhesive works on many problem surfaces where other adhesives may fail, such as EPDM rubber.



For wood and veneer repair, 3M™ Scotch-Weld™ Instant Adhesive CA40H is a high viscosity liquid for a fast void-filling bond.

## 3M™ Scotch-Weld™ Instant Adhesives

| Product                      | Description  | Base   | Time <sup>(1)</sup><br>To<br>Handling<br>Strength<br>(Sec.) | Viscosity<br>(cps) | Average <sup>(2)</sup><br>T-Peel<br>At 75°F<br>(24°C)<br>(PIW) | Overlap Shear Strength <sup>(3)</sup><br>@ 75°F (24°C) (PSI) |               |                   |                    |      |              |
|------------------------------|--|--------|---|--------------------|--|--|---------------|-------------------|--------------------|------|--------------|
|                              |  |        |   |                    |  | Steel  | Alumi-<br>num | Nitrile<br>Rubber | Neoprene<br>Rubber | ABS  | Rigid<br>PVC |
| CA4                          | <ul style="list-style-type: none"> <li>Fast setting for a variety of plastics and rubbers</li> </ul>   | ethyl  | 5-40  | 150                | 1-2  | 2300   | 2800          | 35*               | 55*                | 800* | 800*         |
| CA5                          | <ul style="list-style-type: none"> <li>Higher viscosity, slower setting version of CA4 for filling gaps</li> <li>Meets CID A-A-3097, Type II, Class 3</li> </ul>             | ethyl  | 15-60   | 2000               | 1-2  | 2500   | 650           | 35*               | 55*                | 800* | 800*         |
| CA7                          | <ul style="list-style-type: none"> <li>Very fast setting • Excellent adhesion to metals, plastics, and rubbers</li> </ul>  | methyl | 1-30  | 15-40              | 2-4  | 2500   | 2400          | 35*               | 55*                | 900* | 1000*        |
| CA8                          | <ul style="list-style-type: none"> <li>Slower setting than CA7 • Excellent adhesion to metals, plastics and rubbers</li> <li>Meets CID A-A-3097, Type II, Class 2</li> </ul> | ethyl  | 5-40  | 70-130             | 2-4  | 2000   | 2100          | 35*               | 55*                | 900* | 1000*        |
| CA9                          | <ul style="list-style-type: none"> <li>Slower setting version of CA8 for wire tacking and coil terminating</li> <li>Meets CID A-A-3097, Type II, Class 3</li> </ul>          | ethyl  | 20-70   | 1000-1700          | 2-4  | 2000   | 2400          | 35*               | 55*                | 900* | 1000*        |
| CA40                         | <ul style="list-style-type: none"> <li>Very fast setting • Excellent adhesion to many substrates including flexible vinyl and EPDM rubber</li> </ul>                         | ethyl  | 3-20  | 20                 | 1-2  | 1700   | 2600          | 35*               | 55*                | 800* | 800*         |
| CA40H                        | <ul style="list-style-type: none"> <li>Higher viscosity version of CA40</li> <li>Better void filling capabilities</li> </ul>   | ethyl  | 5-40  | 400-600            | 1-2  | 1500   | 1500          | 35*               | 55*                | 900* | 1000*        |
| CA50 Gel                     | <ul style="list-style-type: none"> <li>High-viscosity, non-sag gel</li> <li>Less sensitive to acidic surfaces</li> </ul>   | ethyl  | 60-120  | 45,000-85,000      | 1-2  | 2000   | 900           | 105*              | 130*               | 800* | 600*         |
| CA100                        | <ul style="list-style-type: none"> <li>High peel and impact strength</li> <li>High thermal shock and heat resistance</li> </ul>  | ethyl  | 20-70   | 2500-4500          | 15   | 2000   | 2900          | 95*               | 120*               | 600* | 700*         |
| Thin Instant Wood Adhesive   | <ul style="list-style-type: none"> <li>Very fast handling strength for general furniture, cabinet, and veneer assembly</li> </ul>  | —      | 5   | 10                 | —  | 1550   | 1700          | —                 | —                  | —    | —            |
| Medium Instant Wood Adhesive | <ul style="list-style-type: none"> <li>Short time to handling strength with some gap filling</li> </ul>  | —      | 10  | 450                | —  | 2850   | 1950          | —                 | —                  | —    | —            |
| Thick Instant Wood Adhesive  | <ul style="list-style-type: none"> <li>Longer time to handling strength with additional gap filling</li> <li>Some repositionability of parts on porous surfaces</li> </ul>   | —      | 60  | 2250               | —  | 2850   | 2700          | —                 | —                  | —    | —            |
| Surface Activator            | <ul style="list-style-type: none"> <li>Clear, colorless organic-based liquid helps speed curing and prime surfaces</li> <li>Comes with brush and spray pump</li> </ul>       | —      | —   | —                  | —  | —  | —             | —                 | —                  | —    | —            |

(1) The time it takes assembled parts to reach a strength where further handling and processing can take place. Times will depend on surface to be bonded, temperature and humidity.

(2) Tested per ASTM D 1876-61T.

(3) Tested per ASTM D 1002-64.

\* Substrate failure.

Note: The technical information and data on these pages should be considered representative or typical only and should not be used for specification purposes.

# Rite-Lok™ Cyanoacrylate Adhesives

**Choices for instant performance and productivity...flexible bond line, low bloom, low odor, more**

Known as instant adhesives, Rite-Lok™ Cyanoacrylate Adhesives offer more than a range of seconds-fast bonding for substrates ranging from metal to plastic, wood to rubber. These liquid and gel formulations give you a wide selection of other properties to help improve production and end use:

- Super fast curing
- Low odor
- Low blooming
- High temperature resistance
- Rubber-toughened for impact resistance
- Flexible to resist vibration
- Engineered grade for hard-to-bond plastics and rubbers
- Optimized metal bonding
- Bonding insensitive surfaces
- Gap filling



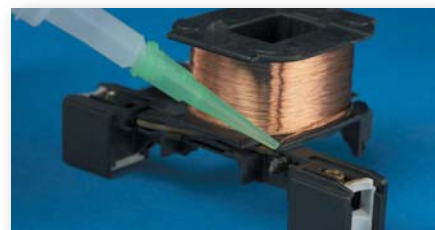
With a unique polymer, rubber-toughened Rite-Lok™ Cyanoacrylate Adhesives cure to a flexible bond line between dissimilar materials to maximize resistance to impact, peel, and thermal recycling. Choose low viscosity for close-fitting parts or high viscosity for gap filling.



For visual appeal, Rite-Lok™ Cyanoacrylate Adhesive LO100 is a low blooming formulation that bonds the plastic riser into a lipstick casing without chlorosis (white residue at the joint). Low odor reduces the need for sophisticated ventilation equipment.



To speed production and reliably assemble plastic and rubber, super fast curing Rite-Lok™ Cyanoacrylate Adhesives reach handling strength in 3-30 seconds. Also bond EPDM and other hard-to-bond substrates with confidence.



For coil termination, high temperature Rite-Lok™ Cyanoacrylate Adhesive HT700 resists continuous temperature up to 223°F (106°C) and intermittent exposure as high as 250°F (121°C).



Consider one of the engineered grade Rite-Lok™ Cyanoacrylate Adhesives for productivity and performance in bonding difficult-to-bond plastics and rubbers to themselves or in combination with metals or composites.



With more than 30 Rite-Lok™ Cyanoacrylate Adhesives, you have choices for application success with surfaces that are dissimilar, porous, non-porous, rough, smooth, oily, clean, low surface energy, high energy, and more.



## Rite-Lok™ Cyanoacrylate Adhesives

| Product   | Typical Use   | Color | Chemical Type | Typical Viscosity (cps) | Temperature Range  | Time to Handling | Full Cure (hours) | Markets  |
|---|---|-------|---------------|-------------------------|--|------------------|-------------------|--|
| <b>Super Fast Cyanoacrylate Adhesives</b>       |   |       |               |                         |  |                  |                   |  |
| SF20  | Optimum performance on wide range of rubber and plastic     | Clear | Ethyl Hybrid  | 20                      | -65° to 180°F<br>(-54° to 82°C)  | 3-30 sec.        | 24                | Automotive, appliance, leather working, hand tools, electronics, power tools         |
| SF100   | Fast cure, high strength with EPDM and other elastomers     |       |               | 100                     |  | 3-30 sec.        |                   |  |
| <b>Low Odor Cyanoacrylate Adhesives</b>         |   |       |               |                         |  |                  |                   |  |
| L05   | Very low viscosity wicking grade                            | Clear | Methoxyethyl  | 5                       | -65° to 160°F<br>(-54° to 71°C)  | 5-60 sec.        | 24                | Cosmetic cases, appearance-critical applications, black substrates, close-up bonding |
| L0100   | Low-medium viscosity for close fitting parts                |       |               | 100                     |  | 10-60 sec.       |                   |  |
| PR03  | Medium-high viscosity for gap filling                       |       |               | 1000                    |  | 20-70 sec.       |                   |  |
| <b>Rubber-Toughened Cyanoacrylate Adhesives</b> |   |       |               |                         |  |                  |                   |  |
| PR80  | Low viscosity for close fitting parts                       | Black | Ethyl Hybrid  | 300                     | Continuous<br>-65° to 200°F<br>(-54° to 93°C)<br>Intermittent<br>-65° to 225°F<br>(-54° to 107°C)  | 20-50 sec.       | 24                | Automotive, appliance, electric motors, hand tools, electronics, power tools         |
| PR10  | High viscosity for gap filling                              |       |               | 3500                    |  | 20-90 sec.       |                   |  |
| <b>Flexible Cyanoacrylate Adhesives</b>         |   |       |               |                         |  |                  |                   |  |
| PR851   | Medium viscosity with some gap filling                      | Clear | Ethyl Hybrid  | 300                     | -65° to 160°F<br>(-54° to 71°C)  | 10-35 sec.       | 24                | Automotive, appliance, hand tools, electronics, power tools                          |
| <b>High Temperature Cyanoacrylate Adhesives</b> |   |       |               |                         |  |                  |                   |  |
| HT40  | Low viscosity for close fitting parts                       | Clear | Ethyl Hybrid  | 40                      | Continuous<br>-65° to 223°F<br>(-54° to 106°C)<br>Intermittent<br>-65° to 250°F<br>(-54° to 121°C) | 5-20 sec.        | 24                | Appliance, electronics, electric motors, automotive, transformers                    |
| HT700   | Medium viscosity with some gap filling                      |       |               | 700                     |  | Same as HT40     |                   |  |
| <b>Engineered Grade Cyanoacrylate Adhesives</b> |   |       |               |                         |  |                  |                   |  |
| PR5   | Very low viscosity wicking grade for plastics/rubbers       | Clear | Ethyl Hybrid  | 5                       | -65° to 180°F<br>(-54° to 82°C)  | 1-10 sec.        | 24                | Automotive, appliance, electronics, hand tools, power tools                          |
| PR40  | Low viscosity for close fitting plastics/rubber parts       |       |               | 40                      |  | 3-20 sec.        |                   |  |
| SB14  | General purpose, low viscosity plastic bonder               |       |               | 100                     |  | 10-30 sec.       |                   |  |
| PR600   | Medium viscosity with some gap filling for plastics/rubbers |       |               | 600                     |  | 4-25 sec.        |                   |  |
| SB16  | General purpose, high viscosity for gap filling             |       |               | 1500                    |  | 20-100 sec.      |                   |  |
| PR54  | Fast cure, gel viscosity for max gap filling                |       |               | Gel                     |  | 3-60 sec.        |                   |  |
| PR600B  | Black version of PR600                                      |       |               | Black                   |  | 600              |                   |  |

Note: The technical information and data on these pages should be considered representative or typical only and should not be used for specification purposes.

Rite-Lok™ Cyanoacrylate Adhesives (cont.)

| Product   | Typical Use  | Color | Chemical Type | Typical Viscosity (cps) | Temperature Range               | Time to Handling | Full Cure (hours) | Markets   |
|---|--|-------|---------------|-------------------------|---------------------------------|------------------|-------------------|---|
| <b>Metal Cyanoacrylate Adhesives</b>                    |  |       |               |                         |                                 |                  |                   |   |
| SB93  | Low viscosity to penetrate between parts   | Clear | Methyl        | 5                       | -65° to 180°F<br>(-54° to 82°C) | 15-35 sec.       | 24                | Costume jewelry, treated metals, plated metals, metal working                 |
| SB30  | Multi-purpose metal bonder   |       |               | 100                     |                                 | 5-20 sec.        |                   |   |
| <b>Surface Insensitive Cyanoacrylate Adhesives</b>      |  |       |               |                         |                                 |                  |                   |   |
| SB20  | Very low viscosity wicking grade   | Clear | Ethyl Hybrid  | 2                       | -65° to 180°F<br>(-54° to 82°C) | 15-35 sec.       | 24                | Woodworking, luggage and fabric, hobby, costume jewelry, leather              |
| SB95  | Low viscosity for close fitting parts  |       |               | 40                      |                                 | 2-20 sec.        |                   |   |
| SI100   | Low-med viscosity for medium gaps  |       |               | 100                     |                                 | 3-20 sec.        |                   |   |
| SI1500  | High viscosity for gap filling   |       |               | 1500                    |                                 | 5-60 sec.        |                   |   |
| SI2500  | Very high viscosity for gap filling  |       |               | 2500                    |                                 | 15-40 sec.       |                   |   |
| SB09  | Fast cure, gel viscosity for max gap filling   |       |               | Gel                     |                                 | 3-60 sec.        |                   |   |
| <b>General Purpose Cyanoacrylate Adhesives</b>          |  |       |               |                         |                                 |                  |                   |   |
| EC40  | General purpose, fast curing   | Clear | Ethyl         | 40                      | -65° to 180°F<br>(-54° to 82°C) | 10-30 sec.       | 24                | Automotive, general bonding, consumer products, toys, rubber/plastic assembly |
| EC100   | General purpose, fast curing   |       |               | 100                     |                                 | 10-40 sec.       |                   |   |
| EC600   | Higher viscosity to reduce migration from bond area  |       |               | 600                     |                                 | 5-60 sec.        |                   |   |
| EC2500  | Slow cure for porous material or gap filling   |       |               | 2500                    |                                 | 20-60 sec.       |                   |   |
| ECIGEL  | Industrial strength thixotropic gel for maximum gap filling  |       |               | Gel                     |                                 | 45-180 sec.      |                   |   |
| <b>Cyanoacrylate Primers, Activators, and Debonders</b> |  |       |               |                         |                                 |                  |                   |   |
| AC12  | Cyanoacrylate accelerator with isopropyl alcohol formulation for insensitive plastics, cosmetically critical bond lines, and medical applications. |       |               |                         |                                 |                  |                   |   |
| AC68  | Cyanoacrylate debonder for cleanup.  |       |               |                         |                                 |                  |                   |   |
| AC77  | Cyanoacrylate polyolefin primer for very fast bonding of difficult-to-bond polyethylene and polypropylene.   |       |               |                         |                                 |                  |                   |   |
| AC78  | Adhesion promoter for use with silicone, Santoprene®, Viton® and EPDM.   |       |               |                         |                                 |                  |                   |   |
| AC79  | California compliant version of AC78 (acetone based).  |       |               |                         |                                 |                  |                   |   |
| AC113   | Cyanoacrylate general purpose accelerator will not attack plastics.  |       |               |                         |                                 |                  |                   |   |
| AC452   | Cyanoacrylate acetone-based accelerator flashes off rapidly; excellent adhesion; overspray may attack some plastics.                               |       |               |                         |                                 |                  |                   |   |

Note: The technical information and data should be considered representative only and should not be used for specification purposes.

**Rite-Lok™ 2-Step Structural Acrylic Adhesives on page 12.**

# Rite-Lok™ Anaerobic Adhesives

## The easy choice for running a tight operation

When you need secure tight fits and seals to keep production up and running, Rite-Lok™ Anaerobic Adhesives offer a wide selection of properties to help you save the time and cost of disruptive, unscheduled downtime due to leaks and loose fasteners.

For threadlocking, sealing, retaining, and gasketing, application is fast and easy with just a targeted squeeze of a bottle or tube. In the absence of oxygen and in the presence of metal, the anaerobic formulation cures quickly to a tough plastic that fills, seals, and secures.

**Rite-Lok™ Threadlockers** weld fasteners in place for blind holes and thru holes and prevent loosening from vibration.

**Rite-Lok™ Pipe Sealants** seal instantly to stop leaks when applied to the threads or compression fittings of most metal or certain plastic pipes.

**Rite-Lok™ Retaining Compounds** bond and seal non-threaded cylindrical assemblies.

**Rite-Lok™ Gasket Makers** fill voids between metal flanges and cure to a tight, rigid or flexible seal.



47

Rite-Lok™ Threadlockers on threaded metal fasteners help keep production equipment up and running. You save the cost and time of disruptive, unscheduled downtime due to nuts, bolts, and screws that vibrate loose in such areas as gear housings and motor mounts.



50

Rite-Lok™ Gasket Makers eliminate pre-cut or compression gaskets, or hold pre-cut gaskets in place during production. Seal without shimming effect or creeping.



48

Rite-Lok™ Threadlockers fill and seal threads completely to help stop corrosion, rust, and leaks. Securely hold even dissimilar metals.



49

Rite-Lok™ Retaining Compounds readily tighten tolerances in worn bearing seats, keyways, splines, tapers, shims, gears, and shafts. Fill voids completely to seal out moisture.



51

To save the cost of leaking fluid or gas, Rite-Lok™ Pipe Sealants cure quickly to a tight, continuous seal without the creep and shrinkage of pastes.



52

With a fast and easy squeeze, Rite-Lok™ Pipe Sealants eliminate the cost and problems of shredding tapes, O-rings, and other mechanical sealants.

**Rite-Lok™ Anaerobic Adhesives**

| Product                                       | Typical Use  | Color  | Typical Viscosity (cps) | Temperature Range             | Time to Handling | Full Cure (hours)                                       | Size   |
|---|--|--------|-------------------------|-------------------------------|------------------|---|--|
| <b>Threadlocker Anaerobic Adhesives</b>       |  |        |                         |                               |                  |   |  |
| TL22  | Screwlock – Low removal torque for small fasteners less than a 1/4" (6mm) (HTR <sup>1</sup> )            | Purple | 1200                    | -65° to 300°F (-54° to 149°C) | < 20 min.        | 24  | 50, 250 ml btl.  |
| TL42  | Nutlock – Medium strength, general purpose (HTR <sup>1</sup> )   | Blue   | 1200                    |                               |                  |   | 1 ml pipette<br>10, 50, 250 ml btl.<br>1 liter pipette |
| TL43  | Oil tolerant, medium strength general purpose (HTR <sup>1</sup> )  | Blue   | 3300                    |                               |                  |   | 10, 50, 250 ml btl.                                    |
| TL62  | Studlock – High strength with controlled torque tension (HHR <sup>2</sup> )                              | Red    | 1600                    |                               |                  |   | 10, 50, 250 ml btl.<br>1, 14 liter btl.                |
| TL71  | Permanent studlock for bolts and studs up to 1" (25mm) (HHR <sup>2</sup> )                               |        | 500                     |                               |                  | 1 ml pipette<br>10, 50, 250 ml btl.<br>1, 14 liter btl. |  |
| TL72  | High temperature studlock with gap filling for larger diameter coarse threaded parts (HHR <sup>2</sup> ) |        | 7000                    | -65° to 450°F (-54° to 232°C) |                  | 10, 50, 250 ml btl.<br>1 liter btl.                     |  |
| TL77  | Heavy duty permanent for fasteners up to 1.5" (38mm) with coarse threads (HHR <sup>2</sup> )             |        | 7000                    | -65° to 300°F (-54° to 149°C) | < 60 min.        | 10, 50, 250 ml btl.<br>1, 14 liter btl.                 |  |
| TL90  | Penetrating adhesive for pre-assembled fasteners and porosity sealing of welds (HHR <sup>2</sup> )       | Green  | 20                      | -65° to 300°F (-54° to 149°C) | < 20 min.        |   | 10, 50, 250 ml btl.<br>1 liter btl.                    |
| Product                                       | Typical Use  | Color  | Typical Viscosity (cps) | Temperature Range             | Time to Handling | Seal to Operating Pressure (hours)                      | Size   |
| <b>Pipe Sealant Anaerobic Adhesives</b>       |  |        |                         |                               |                  |   |  |
| HP45  | High pressure sealant for all hydraulic and pneumatic fittings; will not clog valve or filters           | Purple | 14,000                  | -65° to 300°F (-54° to 149°C) | NA               | 4   | 1 ml pipette<br>50, 250 ml btl.                        |
| HP54  | Refrigerant sealant with excellent chemical resistance   | Red    | 2500                    |                               |                  |   | 50, 250 ml btl.  |
| HP69  | High pressure sealant for all fine threaded hydraulic and pneumatic fittings                             | Brown  | 500                     |                               |                  |   | 50, 250 ml btl.  |
| PS65  | General purpose for applications requiring easy disassembly  | White  | Paste                   |                               |                  |   | 50 ml tube<br>250 ml btl.                              |
| PS67  | Fast curing paste sealant for inactive surfaces such as stainless steel                                  |        | Paste                   | -65° to 400°F (-54° to 204°C) |                  |   | 50 ml tube<br>250 ml btl.                              |
| PS92  | High temperature for sealing tapered and parallel threaded components                                    |        | Paste                   |                               |                  |   | 50 ml tube<br>250 ml btl.                              |
| Product                                       | Typical Use  | Color  | Typical Viscosity (cps) | Temperature Range             | Time to Handling | Full Cure (hours)                                       | Size   |
| <b>Retaining Compound Anaerobic Adhesives</b> |  |        |                         |                               |                  |   |  |
| RT09  | For tight tolerances and press fit augmentation  | Green  | 125                     | -65° to 300°F (-54° to 149°C) | 10-30 min.       | 24  | 10, 50, 250 ml tube                                    |
| RT20  | For assembly of automotive/marine cylinder liners and heat exchanger tubes                               |        | 7000                    | -65° to 450°F (-54° to 232°C) | 30-40 min.       |   | 10, 50, 250 ml tube                                    |
| RT35  | High strength for slip fits  |        | 2000                    | -65° to 300°F (-54° to 149°C) | 10-60 min.       |   | 50, 250 ml btl.  |
| RT40  | Secures all types and sizes of bearings, shafts and cylindrical parts                                    |        | 600                     | -65° to 400°F (-54° to 204°C) | 10-15 min.       |   | 50, 250 ml btl.  |
| RT41  | Medium strength for disassembly for service and bearing re-use   | Tan    | 600                     | -65° to 300°F (-54° to 149°C) | 15-20 min.       |   | 250 ml tube  |
| RT60  | High strength, high viscosity paste  | Grey   | Paste                   |                               | 10-30 min.       |   | 10 ml btl.   |
| RT80  | High strength, high viscosity to bond rigid assemblies   | Green  | 1600                    |                               | 5-15 min.        |   | 10 ml btl.   |
| RT142   | Seal core plugs in engines for assembly or repair of loose fitting parts                                 | Blue   | 10,000                  |                               | 5-15 min.        |   | 250 ml btl.  |

Note: The technical information and data should be considered representative only and should not be used for specification purposes.

<sup>1</sup> Hand tool for removal    <sup>2</sup> Heat and hand tool for removal



## Rite-Lok™ Anaerobic Adhesives

| Product                                 | Typical Use  | Color  | Typical Viscosity (cps) | Temperature Range              | Cured Speed unprimed (primed) | Cured State | Size                                |
|---|--|--------|-------------------------|--------------------------------|-------------------------------|-------------|-------------------------------------|
| <b>Gasket Maker Anaerobic Adhesives</b> |  |        |                         |                                |                               |             |                                     |
| GM04                                    | Instant low pressure seal for gaps to .030"  | Orange | Paste                   | -65° to 300°F (-54° to 149°C)  | 4-24 hours (30 min.-4 hrs)    | Rigid       | 50 ml tube<br>250 ml tube           |
| GM10                                    | Making or dressing gaskets in rigid assemblies; can be screen printed; high temperature resistance                   | Red    | Paste                   | -65° to 400° F (-54° to 204°C) | 4-24 hours (30 min.-4 hrs)    | Rigid       | 50 ml tube                          |
| GM15                                    | General purpose; flexible to withstand vibration   | Purple | Paste                   | -65° to 300°F (-54° to 149°C)  | 1-12 hours (15 min.-2 hrs)    | Flexible    | 50, 250 ml tube<br>300 ml cartridge |
| GM18                                    | Instant seal without a primer on mating aluminum flanges   | Red    | Paste                   | -65° to 300°F (-54° to 149°C)  | 4-24 hours (30 min.-4 hrs)    | Flexible    | 50 ml tube<br>300 ml cartridge      |
| Product                                 | Typical use  |        |                         |                                |                               |             | Size                                |
| <b>Anaerobic Adhesives Primers</b>      |  |        |                         |                                |                               |             |                                     |
| AC471                                   | Fast-acting surface cleaner and primer for use with all anaerobic adhesives; seven day part life for pre-application |        |                         |                                |                               |             | 2 fl. oz.<br>1 gal. btl.            |
| AC649                                   | Acetone-based green primer for inactive or very cold surfaces; 30 day part life for pre-application                  |        |                         |                                |                               |             | 2, 8 fl. oz.<br>1 gal. btl.         |
| 3989                                    | 3M™ Scotch-Weld™ Anaerobic Activator to accelerate curing; dry time 30-60 seconds; solvent-based (flammable acetone) |        |                         |                                |                               |             | 4.5 fl. oz.                         |

Note: The technical information and data should be considered representative only and should not be used for specification purposes.



53

# 3M™ Scotch-Weld™ Polyurethane Reactive (PUR) Adhesive Systems

## Dual power of speed and strength in the palm of your hand

Put a powerful production capability in your assembly operation.

### Production typical of hot melt adhesive

- **Fast set** and handling strength in as few as 5 seconds help eliminate or minimize fixturing to speed assembly
- **Low VOCs and 100% solids** eliminate drying and ventilation equipment and will not attack plastics
- **Choice of open times and viscosities** depending on the applicator and adhesive
- **One-component and moisture-curing** adhesives eliminate metering, mixing, and curing time and equipment

### Performance typical of structural adhesive

- **Greater than 1,000 lbs. holding strength within minutes** exceeds strength of conventional hot melt and PVA adhesives
- **Save finishing steps** with the elimination of nails and other mechanical fasteners in many applications



3M™ Scotch-Weld™ Polyurethane Reactive (PUR) Adhesive Systems with lower application temperature for heat sensitive substrates

3M™ Scotch-Weld™ Polyurethane Reactive (PUR) Easy 250 Adhesive Systems with higher application temperature for longer open time

With either applicator and the variety of 3M™ Scotch-Weld™ PUR Polyurethane Reactive Adhesives, you have hot melt speed with structural adhesive benefits for bonding a wide range of substrate combinations: wood to wood, MDF to MDF, PVC to SBR, FRP to FRP, glass to wood, and much more. Both self-contained applicators are easy to use and maintain with disposable nozzles and no purging. Trigger a neat bead of adhesive at up to 11 lbs./hr. for many applications.

## Thin, flexible bond line to improve fit, appearance, and durability



Two pieces of oak are edge spliced with 3M™ Scotch-Weld™ Polyurethane Reactive (PUR) Adhesive System.

56



After staining, the bond line is hard to find. Look inside the circle.

57



The wood fails before the bond line in this test and many other applications.

58



For both PUR Easy and PUR Easy 250, an optional filter/pressure regulator is available to remove particulate material and water.

59



Bond mirrors to wood doors with immediate handling strength to keep assembly moving.

60



Choice of viscosities and open time to match application requirements for bonding wood to wood and other substrates.

61



Bond wood components throughout a hot tub enclosure. Durable bond resists temperature differentials, weathering, moisture, and chemicals.

62



# 3M™ Scotch-Weld™ Polyurethane Reactive (PUR) Easy Adhesive Systems

## Lower application temp for many substrates including heat sensitive

- Electrically-heated pneumatic green applicator dispenses adhesive at 170°F (77°C) with the squeeze of a trigger
  - Adhesive can stay in applicator at dispensing temperature for up to 40 hours
- Four adhesives with a range of properties including adhesion to heat sensitive substrates
- Optional pre-heater to keep cartridges ready to use



Bond wood or plastic rosettes to wood drawers without fixturing or drying time.

64



63



Permanently and quickly bond wood and MDF (Medium Density Fiberboard) bottoms and side panels in drawers.

65



Adhesives are available for bonding a variety of wood sizes and configurations such as this mortise and tenon assembly.

66

## 3M™ Scotch-Weld™ Polyurethane Reactive (PUR) Easy Adhesives

| Product | Description  | Viscosity @ 170°F (77°C) (cps) | Open Time (Min.) | Set Time (Sec.) | Shore D | Tensile Strength (PSI) | Elongation (%) |
|---------|--|--------------------------------|------------------|-----------------|---------|------------------------|----------------|
| 17005   | <ul style="list-style-type: none"> <li>• Very fast set time</li> <li>• Excellent wood bonding adhesive</li> <li>• Medium open time</li> </ul>                              | 28,600                         | 0.75             | 5               | 65      | 3900                   | 725            |
| 17010   | <ul style="list-style-type: none"> <li>• Fast set time</li> <li>• Best for bonding wood and plastics</li> <li>• Small-to-medium parts assembly</li> </ul>                  | 14,200                         | 0.75             | 10              | 35      | 1055                   | 750            |
| 17030   | <ul style="list-style-type: none"> <li>• Medium set time</li> <li>• Low viscosity</li> <li>• Best for bonding wood to select plastics</li> <li>• Thin glue line</li> </ul> | 15,700                         | 1                | 30              | 60      | 4000                   | 625            |
| 17060   | <ul style="list-style-type: none"> <li>• Long open time</li> <li>• Lower viscosity</li> <li>• Thin glue line</li> </ul>  | 9600                           | 2.5              | 60              | 30      | 1625                   | 400            |

Note: The technical information and data should be considered representative only and should not be used for specification purposes.

### Shelf Life

12 Months is the maximum amount of time an end-user has to use the product while stored within the conditions recommended by 3M.

### Open Time

This is the maximum time between the application of the adhesive and when the parts must be joined together. This information is based on 1/8" bead and non-metallic substrates at 75°F (20°C).

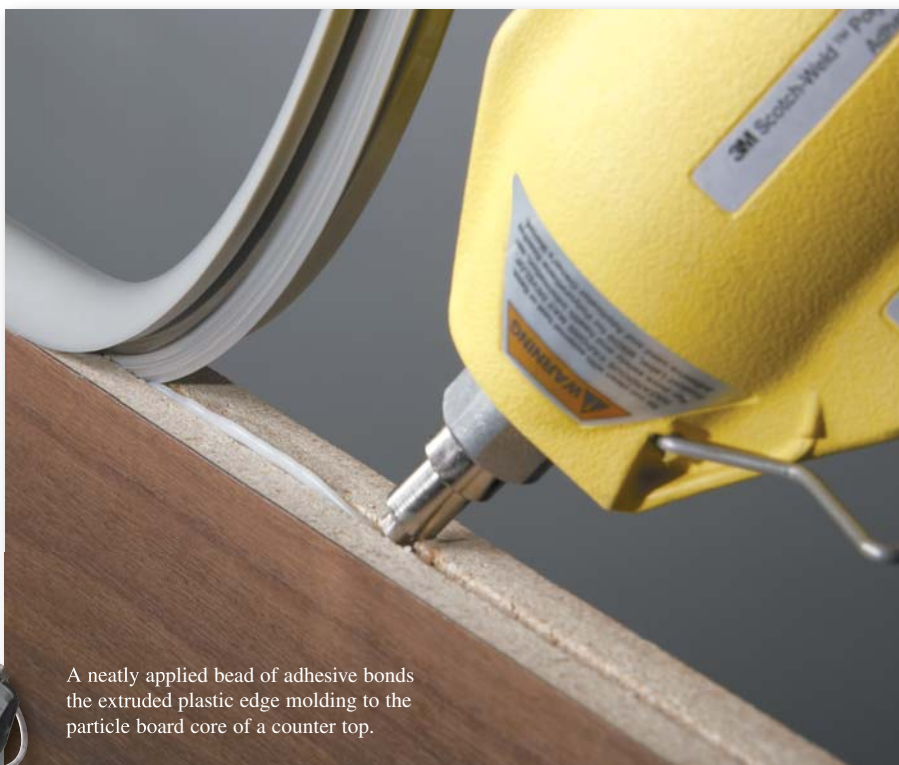
### Set Time

Also known as fixturing/clamping time. This is the minimum amount of time required for the adhesive to solidify and hold the parts together (able to support a tensile load of 5 psi).

# 3M™ Scotch-Weld™ Polyurethane Reactive (PUR) Easy 250 Adhesive Systems

## Higher application temp for longer open time and many difficult-to-bond applications

- Electrically-heated pneumatic yellow applicator dispenses adhesive at 250°F (121°C) with the squeeze of a trigger
  - Adhesive can stay in applicator at dispensing temperature for up to 16 hours
- Five adhesives with a range of properties including adhesion in difficult-to-bond jobs such as hardwood miter corners
- Optional dual temperature pre-heater to keep cartridges ready to use



A neatly applied bead of adhesive bonds the extruded plastic edge molding to the particle board core of a counter top.

68



67



69

With a thin bond line, PUR 250 adhesive makes a secure, aesthetically-pleasing crown molding assembly.



70

For furniture and upholstery, PUR 250 adhesive bonds leather or fabric gimping and seams.

## 3M™ Scotch-Weld™ Polyurethane Reactive (PUR) Easy 250 Adhesives

| Product                  | Description   | Viscosity @ 250°F (121°C) (cps) | Open Time (Min.) | Set Time (Sec.) | Shore D | Tensile Strength (PSI) | Elongation (%) |
|--------------------------|---|---------------------------------|------------------|-----------------|---------|------------------------|----------------|
| <b>Wood Adhesives</b>    |   |                                 |                  |                 |         |                        |                |
| 250015                   | • Fast set time for wood and select plastics  | 7000                            | 1.5              | 15              | 65      | 3900                   | 750            |
| 250060                   | • Medium set time for wood and select plastics  | 7000                            | 2                | 60              | 60      | 4200                   | 675            |
| 250120                   | • Medium set time • Low viscosity<br>• Very thin bond line for wood   | 3000                            | 4                | 120             | 60      | 4000                   | 625            |
| <b>Plastic Adhesives</b> |   |                                 |                  |                 |         |                        |                |
| 250030                   | • Fast set time for many plastics including polystyrene and polyacrylic   | 13,000                          | 2                | 30              | 50      | 3900                   | 725            |
| 250150                   | • Long open and set times for wood, plastics, and material combinations such as aluminum or glass to plastics or wood | 9000                            | 4                | 150             | 45      | 3300                   | 700            |

Note: The technical information and data should be considered representative only and should not be used for specification purposes.



## 3M™ Scotch-Weld™ Polyurethane Reactive (PUR) Easy 250 Adhesives

| Product   | Description   | Application temperature | Viscosity @250°F (cps) | Color(s)               | Open time (min.) | Set time (sec.) | Shore D | Tensile strength (PSI) | Elongation % |
|-----------|---|-------------------------|------------------------|------------------------|------------------|-----------------|---------|------------------------|--------------|
| TE015     | • Extrudable with very fast set time • Bond wood and selected plastics  | 250°F (121°C)           | 7,000                  | White/Off-White        | 1.5              | 15              | 65      | 3950                   | 750          |
| TE030     | • Extrudable with fast set time • Bond wood and selected plastics   | 250°F (121°C)           | 16,000                 | White/Off-White        | 1                | 30              | 60      | 3800                   | 725          |
| TE031     | • Extrudable with fast set time • Bond a wide variety of plastics, including polystyrene and polyacrylic  | 250°F (121°C)           | 13,000                 | White/Off-White, Black | 2                | 30              | 50      | 3900                   | 725          |
| TE040     | • Extrudable with fast set time • Low viscosity • Strong, flexible bonds • Bond plastics, wood, aluminum, and glass                                       | 250°F (121°C)           | 7,000                  | White/Off-White        | 2                | 40              | 35      | 2750                   | 860          |
| TE100     | • Extrudable with medium set time • Bond wood and selected plastics • Thin bond lines   | 250°F (121°C)           | 7,000                  | White/Off-White, Black | 2                | 60              | 61      | 4200                   | 675          |
| TE200     | • Extrudable with fast set time • Low viscosity • Bond wood and selected plastics • Thin bond lines   | 250°F (121°C)           | 3,000                  | White/Off-White        | 4                | 120             | 60      | 4000                   | 625          |
| TS230     | • Sprayable/extrudable with long set time • Bond variety of plastics, including polystyrene and polyacrylic • Bond aluminum and glass to plastic and wood | 250°F (121°C)           | 9,000                  | White/Off-White, Black | 4                | 150             | 45      | 3300                   | 700          |
| TS115 HGS | • Sprayable/extrudable/roll coatable with fast set time • Bond wood, FRP, other plastics to themselves, metal, glass                                      | 250°F (121°C)           | 16,000                 | White/Off-White        | 10               | 60              | 47      | 3200                   | 600          |

Note: The technical information and data on these pages should be considered representative or typical only and should not be used for specification purposes.



### Job-matched tips –

- 1) Nozzle assembly (021200-89514) supplied with either PUR Easy or PUR Easy 250 applicator.
- 2) Threaded cap for sealing tip after use.
- 3) Extension tip for improved sight line in hard-to-reach areas.
- 4) .062" tip for low flow applications.
- 5) .125" tip for high flow applications.



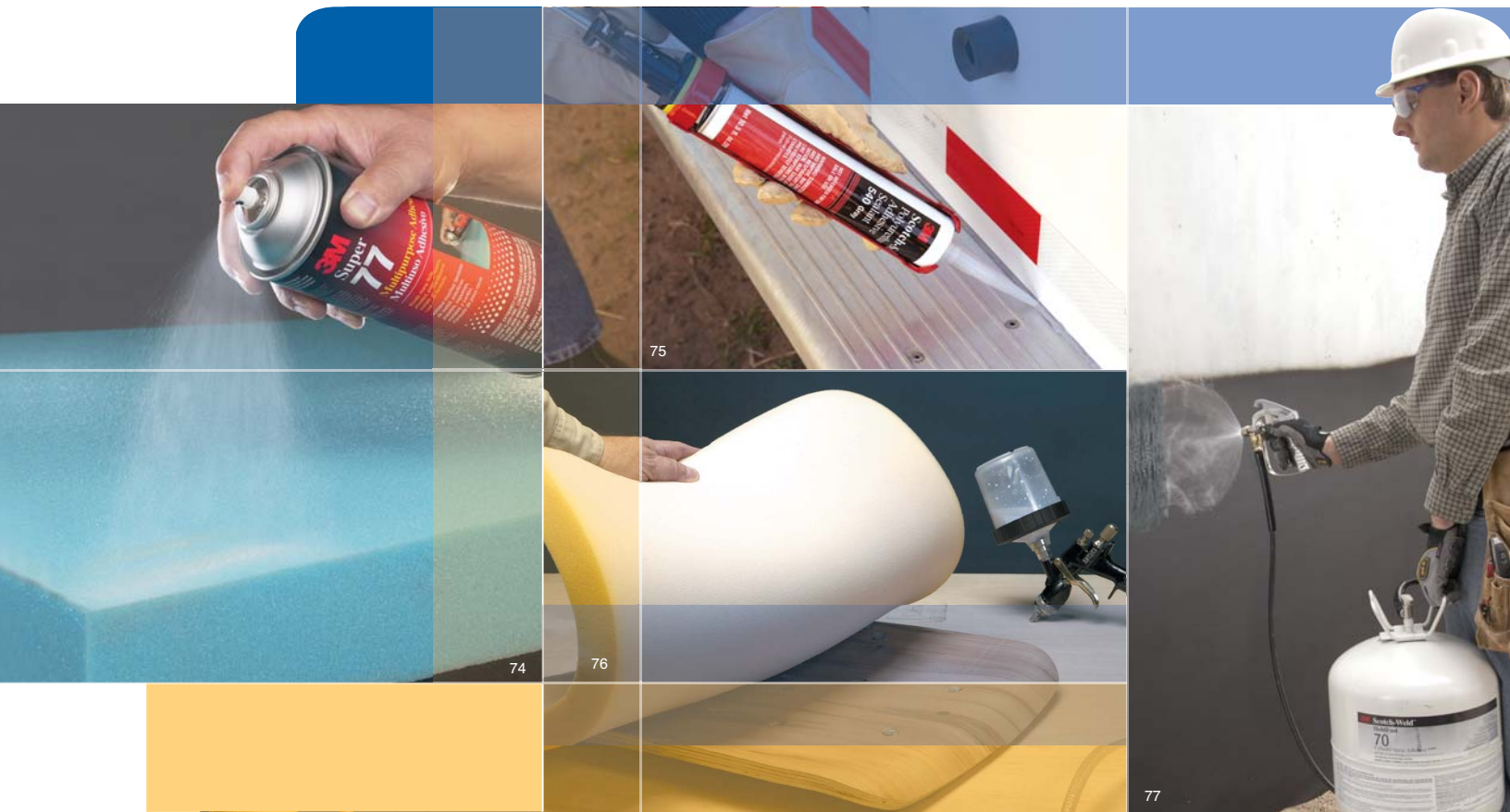
Benchmark system with foot pedal activation for hands-free operation of either PUR Easy or PUR Easy 250 applicator.

### Container sizes to meet your production volume –

- 10 fl.oz. cartridges
- 2k foil packs
- 5-gallon pail
- 55-gallon drum



# 3M™ Non-Structural Adhesives



78

3M™ Non-Structural Strength Adhesives bond substrates used in insulation applications, cushioning, decorative trim, packaging, paneling, sealing, gasketing, countertops, furniture, woodworking, and general assembly. Materials include rubbers, plastics, fabric, leather, wood, metals, and glass. A range of bond strength is available to help meet specific requirements wherever structural strength is not required.

Products include the following:

- 3M™ Fastbond™ and Scotch-Weld™ Industrial Adhesives
- 3M™ Fastbond™ and Scotch-Weld™ Contact Adhesives
- 3M™ Scotch-Weld™ Cylinder Spray Adhesives
- 3M™ Scotch-Weld™ Hot Melt Spray Adhesives
- 3M™ Aerosol Adhesives
- 3M™ Cleaners and Lubricants
- 3M™ Concrete Repair Products
- 3M™ Sealants



# 3M™ Fastbond™ and Scotch-Weld™ Industrial Adhesives

## Innovative answers to a wide variety of non-structural bonding challenges

3M™ Fastbond™ and Scotch-Weld™ Adhesives are industrial tools designed to provide innovative answers to a wide variety of non-structural bonding problems.

Some formulations are tailored to specific types of applications such as 3M™ Scotch-Weld™ Rubber and Gasket Adhesives. These high strength, fast drying elastomers bond polycarbonate, vinyl, and many other plastics to themselves and materials such as wood or metal. With 3M™ Scotch-Weld™ Rubber and Gasket Adhesives you can easily bond neoprene, EPDM, and many more.

Depending on the specific 3M industrial adhesive, you can select drums, cans, pails, or handy tubes. These collapsible squeeze tubes are self-contained, lightweight applicators to give you “take-it-to-the-job” convenience for multi-station or low volume assembly and field repairs.



For a reliable non-structural adhesive, you're likely to find just what you need in the 3M™ Fastbond™ and Scotch-Weld™ lines backed with more than 50 years of 3M adhesives research and engineering. For example, 3M™ Fastbond™ Insulation Adhesive 49 is a fast tacking, pressure sensitive formulation for bonding fabric, insulation, and other lightweight materials to themselves, or to metal, wood, and other substrates.

79



When refurbishing a pinball machine, 3M™ Scotch-Weld™ Plastic Adhesive 4693H bonds and seals decorative translucent plastic inserts into the underside of the playing surface.

80



To prevent moisture penetration, a pressure flow gun applies 3M™ Scotch-Weld™ Rubber and Gasket Adhesive to bond a rubber gasket into a commercial light fixture cover.

81



With excellent resistance to fuel and oil, 3M™ Scotch-Weld™ Nitrile High Performance Rubber and Gasket Adhesive 847 bonds and seals chemical drum gaskets in place.

82



HVAC duct insulation is easy and economical to apply with 3M™ Fastbond™ Insulation Adhesive 49. This single-component, water-based pressure sensitive formulation speeds up assembly with instant tack.

83



In washing machine repair, 3M™ Scotch-Weld™ Neoprene High Performance Rubber and Gasket Adhesive 1300 bonds with high immediate strength and seals the doughnut ring seal in the outer tub.

84



In bonding plastic feathers and nocks onto arrow shafts, fast-tacking 3M™ Scotch-Weld™ Industrial Plastic Adhesive 4475 dries quickly and resists plasticizers, water, and heat up to 200°F (93°C).

85

3M™ Scotch-Weld™ Plastic Adhesives

| Product | Description   | Solids Weight (Approx.) | Flash Point (Closed Cup) | Consistency   | Color Dry Film | Application Method | Bonding Range    | Overlap Shear Strength (PSI)         |                       | Peel Strength (PIW) |
|---------|---|-------------------------|--------------------------|---------------|----------------|--------------------|------------------|--------------------------------------|-----------------------|---------------------|
|         |   |                         |                          |               |                |                    |                  | 75°F (24°C)                          | 180°F (82°C)          | 75°F (24°C)         |
| 826     | <ul style="list-style-type: none"> <li>Fast drying for many plastic films</li> <li>Resists aromatic and aliphatic fuels, water, oil</li> </ul>  | 24%                     | 35°F (3°C)               | Thin liquid   | Amber          | Spray, brush       | Up to 45 minutes | 198 <sup>(1)</sup> 59 <sup>(1)</sup> | 27 <sup>(3)</sup>     | N/A                 |
| 1099    | <ul style="list-style-type: none"> <li>Fast drying and heat curable</li> <li>Resists weathering, water, oil, plasticizer migration, aliphatic fuels</li> <li>Meets MMM-A-189C, Class 2</li> </ul> | 32%                     | 0°F (-18°C)              | Medium liquid | Light Tan      | Brush, flow        | Up to 40 minutes | 1306 <sup>(1)(2)</sup>               | 643 <sup>(1)(2)</sup> | 31 <sup>(3)</sup>   |
| 1099L   | <ul style="list-style-type: none"> <li>Sprayable version of 1099 Adhesive</li> </ul>  | 24%                     | 0°F (-18°C)              | Thin liquid   | Light Tan      | Spray, brush       | Up to 20 minutes | 1306 <sup>(1)(2)</sup>               | 643 <sup>(1)(2)</sup> | 31 <sup>(3)</sup>   |
| 2262    | <ul style="list-style-type: none"> <li>Quick tack, clear, non-staining</li> <li>Resists plasticizer migration for bonding many flexible vinyls</li> </ul>   | 25%                     | 0°F (-18°C)              | Thin liquid   | Clear          | Brush, flow        | Up to 20 minutes | N/A                                  | N/A                   | 17 <sup>(4)</sup>   |
| 4475    | <ul style="list-style-type: none"> <li>Clear, fast tacking, dries quickly</li> <li>Resists water, plasticizers detergent, oils and grease</li> </ul>  | 42%                     | 20°F (-7°C)              | Medium liquid | Clear          | Flow               | Up to 10 minutes | N/A                                  | N/A                   | 44 <sup>(3)</sup>   |
| 4491    | <ul style="list-style-type: none"> <li>Resists weathering, water, fuels, oil, and plasticizers</li> <li>HAPS-free and SCAQMD Rule 1168 compliant solvent-based adhesive</li> </ul>                | 22-26%                  | 0°F (-18°C)              | Thin liquid   | Light Tan      | Spray              | Up to 20 minutes | 1306 <sup>(1)(2)</sup>               | 643                   | N/A                 |
| 4693    | <ul style="list-style-type: none"> <li>Long tack range</li> <li>Water and heat resistant bond for many plastics, including polyethylene and polypropylene</li> </ul>                              | 24%                     | 1°F (-17°C)              | Thin liquid   | Clear          | Spray, brush       | Up to 60 minutes | N/A                                  | N/A                   | 22 <sup>(3)</sup>   |
| 4693H   | <ul style="list-style-type: none"> <li>High viscosity version of 4693 Adhesive for collapsible tubes</li> </ul>   | 36%                     | 1°F (-17°C)              | Medium liquid | Clear          | Flow, brush        | Up to 60 minutes | N/A                                  | N/A                   | 22 <sup>(3)</sup>   |

(1) Aluminum to aluminum @ 0.1 inches/minute separation rate.

(3) Canvas to cold rolled steel @ 2.0 inches/minute separation rate.

(4) Unsupported vinyl to steel @ 2.0 inches/minute separation rate.

(2) Bonds heat cured for 15 minutes @ 325°F, 150 PSI

3M™ Scotch-Weld™ Rubber and Gasket Adhesives

| Product | Description   | Solids Weight (Approx.) | Flash Point (Closed Cup) | Consistency   | Color Dry Film | Application Method | Bonding Range    | Overlap Shear Strength (PSI) |                    | Peel Strength (PIW) |
|---------|---|-------------------------|--------------------------|---------------|----------------|--------------------|------------------|------------------------------|--------------------|---------------------|
|         |   |                         |                          |               |                |                    |                  | 75°F (24°C)                  | 180°F (82°C)       | 75°F (24°C)         |
| 847     | <ul style="list-style-type: none"> <li>Quick drying and flexible with fuel and oil resistance</li> <li>Heat and solvent reactivatable</li> <li>Curable with heat</li> <li>Meets MIL-C-4003</li> </ul> | 36%                     | 0°F (-18°C)              | Medium liquid | Brown          | Flow, brush        | Up to 15 minutes | 200 <sup>(1)</sup>           | 9 <sup>(1)</sup>   | 40 <sup>(2)</sup>   |
| 847L    | <ul style="list-style-type: none"> <li>Lower viscosity version of 847 Adhesive for spray application</li> </ul>   | 24%                     | 0°F (-18°C)              | Thin syrup    | Brown          | Spray, brush       | Up to 20 minutes | 200 <sup>(1)</sup>           | 9 <sup>(1)</sup>   | 40 <sup>(2)</sup>   |
| 847H    | <ul style="list-style-type: none"> <li>Higher viscosity version of 847 Adhesive</li> </ul>  | 50%                     | 0°F (-18°C)              | Thick syrup   | Brown          | Flow, brush        | Up to 10 minutes | 200 <sup>(1)</sup>           | 9 <sup>(1)</sup>   | 40 <sup>(2)</sup>   |
| 1300    | <ul style="list-style-type: none"> <li>High immediate strength</li> <li>Fast-drying and heat resistant for rubber and metal</li> <li>Meets MIL-M-81288</li> </ul>                                     | 37%                     | -14°F (-26°C)            | Medium liquid | Yellow         | Flow, brush        | Up to 12 minutes | 549 <sup>(1)</sup>           | 136 <sup>(1)</sup> | 52 <sup>(2)</sup>   |
| 1300L   | <ul style="list-style-type: none"> <li>Lower viscosity version of 1300 Adhesive • Sprayable</li> <li>Meets Mil Spec MMM-A-121</li> </ul>  | 29%                     | -14°F (-26°C)            | Thin liquid   | Yellow         | Spray, brush       | Up to 8 minutes  | 549 <sup>(1)</sup>           | 136 <sup>(1)</sup> | 52 <sup>(2)</sup>   |
| 2141    | <ul style="list-style-type: none"> <li>Easy brushing • General purpose with excellent water resistance</li> <li>Meets MIL-A-5092B</li> </ul>  | 30%                     | -14°F (-26°C)            | Medium liquid | Light Yellow   | Flow, brush        | Up to 15 minutes | 377 <sup>(1)</sup>           | 68 <sup>(1)</sup>  | 32 <sup>(2)</sup>   |
| 4799    | <ul style="list-style-type: none"> <li>Brushable paste consistency with low soak-in on porous surfaces • Can bond EPDM rubber</li> </ul>  | 36%                     | -14°F (-26°C)            | Thin paste    | Black          | Brush, trowel      | Up to 15 minutes | N/A                          | N/A                | 28 <sup>(2)</sup>   |

Note: The technical information and data on these pages should be considered representative or typical only, and should not be used for specification purposes.

(1) Birch plywood to birch plywood @ 0.1 inches/minute separation rate.

(2) Canvas to cold rolled steel @ 2.0 inches/minute separation rate.



### 3M™ Insulation and Light-Duty Adhesives

|                            | Product                        | Description  | Solids Weight (Approx.) | Flash Point (Closed Cup) | Consistency     | Color Dry Film | Application Method                         | Bonding Range              | Peel Strength (PIW)75°F (24°C) |
|----------------------------|--------------------------------|--|-------------------------|--------------------------|-----------------|----------------|--|----------------------------|--------------------------------|
| 3M™ Fastbond™ Adhesives    | 49                             | <ul style="list-style-type: none"> <li>Fast tacking, high performance pressure sensitive adhesive for lightweight materials</li> <li>Low VOCs</li> <li>UL component recognition MAGW2 file MH 6288</li> <li>GREENGUARD™ Certified</li> </ul> | 55%                     | None                     | Thin liquid     | Clear          | Spray, brush, roller                       | 30 days plus               | 3.0 <sup>(a)</sup>             |
|                            | 4213NF                         | <ul style="list-style-type: none"> <li>Resists staining and discoloration</li> <li>Dries clear</li> <li>Low VOCs</li> </ul>  | 54%                     | None                     | Medium liquid   | Clear          | Brush, roller, trowel                      | 5 minutes                  | 12.0 <sup>(a)</sup>            |
|                            | 4224NF                         | <ul style="list-style-type: none"> <li>Permanently pressure sensitive with aggressive tack</li> <li>Plasticizer resistant</li> <li>Low VOC content</li> <li>GREENGUARD™ Certified</li> </ul>   | 40%                     | None                     | Thick liquid    | Blue, Clear    | Spray, brush, roller, trowel, coater       | 30 days plus               | 4.4 <sup>(a)</sup>             |
| 3M™ Scotch-Weld™ Adhesives | 1870                           | <ul style="list-style-type: none"> <li>Single surface application</li> <li>Very long tack range</li> <li>Flexible bond</li> <li>Resists bleed through</li> </ul>   | 26%                     | -7°F (-22°C)             | Thin liquid     | Tan            | Spray, brush                               | Up to 40 minutes           | 7.0 <sup>(a)</sup>             |
|                            | 4323                           | <ul style="list-style-type: none"> <li>Resists wear, heat and dead load creep</li> </ul>   | 66%                     | 1°F (-17°C)              | Mastic          | Gray           | Caulk, flow, trowel                        | Up to 20 minutes           | N/A                            |
|                            | 4550                           | <ul style="list-style-type: none"> <li>Fast tacking</li> <li>Long bonding range</li> </ul>   | 35%                     | Less than -20°F (-29°C)  | Medium liquid   | Trans-lucent   | Low pressure spray                         | Up to 60 minutes           | 23.0 <sup>(b)</sup>            |
| Other 3M™ Adhesives        | Product                        | Features   |                         |                          | Size            | % Solids       | Sq. Ft. Coverage @ 1 gram dry (per gallon) | SCAQMD Rule 1168 Compliant |                                |
|                            | Super 77™                      | <ul style="list-style-type: none"> <li>High coverage, low soak-in for long lasting bonds</li> <li>High temperature resistance</li> <li>Clear and Red</li> </ul>  |                         |                          | 5 gal., 52 gal. | 37             | 1,092                                      | No                         |                                |
|                            | Polystyrene Foam Insulation 78 | <ul style="list-style-type: none"> <li>Bonds most insulation, including expanded polystyrene and extruded polystyrene</li> <li>Will not attack foam board</li> <li>Clear</li> </ul>  |                         |                          | 5 gal.          | 35             | 1,049                                      | No                         |                                |

### 3M™ Solvent

| Product       | Features   | Base                    | Solids Weight (Approx.) | Flash Point (Closed Cup) | Consistency      | Color | Application Method |
|---------------|--|-------------------------|-------------------------|--------------------------|------------------|-------|--------------------|
| Solvent No. 2 | <ul style="list-style-type: none"> <li>Contains petroleum distillate and toluene for removing many oil-soluble adhesives, coatings and sealers</li> <li>Not recommended for surface preparation</li> </ul> | Toluene aliphatic blend | 0%                      | -14°F (-26°C)            | Very thin liquid | Clear | Brush, dip, spray  |

### 3M™ Adhesive Remover

| Product          | Features  | Size                    | % Solids | Sq. Ft. Coverage @ 1 gram dry (per gallon) | SCAQMD Rule 1168 Compliant |
|------------------|---|-------------------------|----------|--|----------------------------|
| Adhesive Remover | <ul style="list-style-type: none"> <li>Ideal for removal of adhesive residue or for surface preparation</li> <li>Solvent-free</li> <li>Also removes heavy oils, grease, silicone, tar and grime</li> <li>Pale Yellow</li> </ul> | 1 gal., 5 gal., 52 gal. | NA       | NA   | No                         |

Note: The technical information and data on these pages should be considered representative or typical only, and should not be used for specification purposes.

- Canvas to cold rolled steel @ 2.0 inches/minute separation rate.
- Supported vinyl to wood @ 2.0 inches/minute separation rate.
- Primed polyester to steel @ 2.0 inches/minute separation rate.
- Maple to itself @ 50% R.H. Test at 0.1 inches/minute separation rate.



## 3M™ Fastbond™ and Scotch-Weld™ Contact Adhesives

**A tradition of 40 years and the performance you'll want for a long time to come**

This line offers a wide range of choices for contact adhesive applications. Select from bonding ranges, strengths, solids content, and solvent or water-based formulations to meet requirements for bonding laminate, foam, and more.

In the line, you'll find the water-based pioneer 3M™ Fastbond™ Contact Adhesive 30NF – proven for about 40 years in cabinet shops and compliant with the stringent requirements of South Coast Air Quality Management District Rule 1168. Plus, there's 3M™ Fastbond™ Contact Adhesive 2000NF with handling speed exceeding most solvent-based systems and up to 350 psi in overlap shear.

### The 3M™ Fastbond™ Water-Based Story

While competition pressures you to improve productivity, regulatory legislation demands that you move toward more environmentally-responsible technologies. Some local and regional regulations have made traditional solvent-based contact adhesives virtually obsolete.

By replacing solvent-based adhesives with a water-based 3M™ Fastbond™ Adhesive, compliance is getting easier in more and more applications. At the same time, you have a choice of production and end-use characteristics as you can see in the chart at far right.



87

Fastbond is the 3M trademark on a continually growing line of water-based adhesives. For example, 3M™ Fastbond™ Foam Adhesive 100 is a one-part, water-dispersed formulation for bonding many porous substrates to porous or non-porous substrates with minimal dry time.



88

For tabletop lamination, 3M™ Fastbond™ Contact Adhesive 2000NF gives you three times the coverage of a typical solvent-based system. For production speed, you go from spray to trim in seconds.



89

In compound cushion assembly, 3M™ Fastbond™ Foam Adhesive 100 holds curves in seconds. Lighter density foam is adhered around the higher density core with a smooth rounded edge.



90

3M™ Fastbond™ Foam Adhesive 100 quickly bonds substrates throughout chairs and couches. Bond foam to foam and fiber fill, foam to wood, fiber fill to fabric, and more.



91

In cabinet assembly, 3M™ Fastbond™ Contact Adhesive 30NF is a formulation proven in shops for four decades. Combines open time of up to 4 hours with high immediate bond strength. Apply with roller, brush, or spray gun.



92

In bonding carpet to fiberglass flooring and steps, 3M™ Fastbond™ Contact Adhesive 2000NF helps withstand the foot traffic and moisture in boat cabins.

Photo courtesy of Grady White Boats Incorporated.

### 3M™ Fastbond™ Contact Adhesives, Water-Based

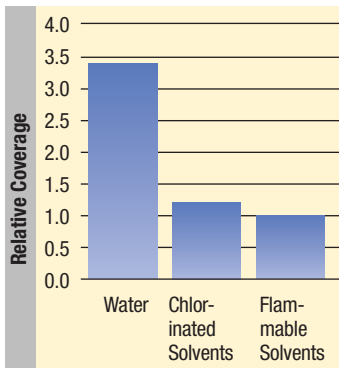
| Product                        | Description | Solids Weight (Approx.)   | Flash Point (Closed Cup) | Consistency | Color Dry Film   | Application Method          | Bonding Range                   | Overlap Shear Strength (PSI) |                    | Peel Strength (PIW) |                    |
|--------------------------------|-------------|---|--------------------------|-------------|------------------|-----------------------------|---------------------------------|------------------------------|--------------------|---------------------|--------------------|
|                                |             |   |                          |             |                  |                             |                                 | 75°F (24°C)                  | 180°F (82°C)       | 75°F (24°C)         |                    |
| Contact Adhesives, Water-Based | 30NF        | • Long bonding range with high immediate bond strength<br>• Economical high coverage<br>• Meets MIL-A-24179A, Type I<br>• GREENGUARD™ Certified | 50%                      | None        | Thin liquid      | Green, Neutral              | Spray, roller, brush            | Up to 4 hours                | 480 <sup>(1)</sup> | 60 <sup>(1)</sup>   | 5.9 <sup>(2)</sup> |
|                                | 30H         | • High viscosity version of 30NF for roll coating<br>• GREENGUARD™ Certified  | 50%                      | None        | Medium liquid    | Green                       | Spray, roller, brush, roll coat | Up to 4 hours                | 480 <sup>(1)</sup> | 60 <sup>(1)</sup>   | 5.9 <sup>(2)</sup> |
|                                | 2000NF      | • Water-dispersed, activated adhesive<br>• Immediate bonding and handling strength without forced drying<br>• GREENGUARD™ Certified             | 49%                      | None        | Thin liquid      | Blue, Light Orange, Neutral | Co-Spray                        | Up to 2 hours                | 350 <sup>(1)</sup> | 50 <sup>(1)</sup>   | 4.1 <sup>(2)</sup> |
|                                | 100NF       | • One-part, fast setting with neoprene base<br>• Bonds many porous substrates to porous or non-porous substrates<br>• GREENGUARD™ Certified     | 47%                      | None        | Very thin liquid | Lavender, Neutral           | Spray                           | Up to 20 minutes             | NA                 | NA                  | 1.1 <sup>(2)</sup> |

### 3M™ Scotch-Weld™ Contact Adhesives

| Product           | Description | Solids Weight (Approx.)  | Flash Point (Closed Cup) | Consistency   | Color Dry Film | Application Method       | Bonding Range | Overlap Shear Strength (PSI) |                    | Peel Strength (PIW) |                   |
|-------------------|-------------|--|--------------------------|---------------|----------------|--------------------------|---------------|------------------------------|--------------------|---------------------|-------------------|
|                   |             |  |                          |               |                |                          |               | 75°F (24°C)                  | 180°F (82°C)       | 75°F (24°C)         |                   |
| Contact Adhesives | 5           | • Rapid strength buildup<br>• Heat and creep resistant bond  | 19%                      | -14°F (-26°C) | Thin liquid    | Green, Light Yellow      | Spray         | 30 minutes maximum           | 482 <sup>(1)</sup> | 65 <sup>(1)</sup>   | 19 <sup>(2)</sup> |
|                   | 10          | • Similar performance to 5<br>• Brushable with higher coverage<br>• Meets requirements of MMM-A-121, MMM-A-130B, and A-A-1936A         | 22%                      | -14°F (-26°C) | Thin liquid    | Light Yellow             | Brush, roller | 30 minutes maximum           | 482 <sup>(1)</sup> | 65 <sup>(1)</sup>   | 19 <sup>(2)</sup> |
|                   | 1357        | • Rapid buildup to a very high strength bond for metal<br>• Resists heat and continuous load stress<br>• Meets MIL-A-21366A, MMM-A-121 | 25%                      | -14°F (-26°C) | Thin liquid    | Gray-green, Light Yellow | Brush, spray  | 30 minutes maximum           | 536 <sup>(1)</sup> | 199 <sup>(1)</sup>  | 42 <sup>(2)</sup> |
|                   | 1357L       | • Lower solids, lower viscosity version of 1357 for automatic spray  | 18%                      | -14°F (-26°C) | Thin liquid    | Gray-green               | Spray         | 30 minutes maximum           | 536 <sup>(1)</sup> | 199 <sup>(1)</sup>  | 42 <sup>(2)</sup> |

(1) Birch plywood to birch plywood @ 0.1 inches/minute separation rate. (2) Canvas to cold rolled steel @ 2.0 inches/minute separation rate.

3M™ Hi-Strength 90 Bulk Adhesive is available in 5-gallon and 55-gallon containers. See page 43 for features and details.



| Carrier              | Water | Chlorinated Solvents | Flammable Solvents |
|----------------------|-------|----------------------|--------------------|
| % Solids             | 50%   | 15%                  | 20%                |
| Density (lbs/gal)    | 9.1   | 10.8                 | 6.7                |
| lbs. of adhesive/gal | 4.6   | 1.6                  | 1.3                |
| Relative coverage    | 3.4   | 1.2                  | 1.0                |
| Issues               |       | Toxicity             | Flammability       |



**Buy only the quantity you need** – Depending on the specific adhesive, you can select tubes, quart or gallon jugs for convenient handling, or 5-gallon pails and 55-gallon drums for large bulk dispensing.

Note: The technical information and data on these pages should be considered representative or typical only and should not be used for specification purposes.



## 3M™ Scotch-Weld™ Cylinder Spray Adhesives

### Aerosol convenience with bulk productivity for bonding HPL, foam, rubber, and more

With these self-contained pressurized cylinders, you simplify many applications. No air, no waste, no costly maintenance,

- Helps increase productivity with fast application and no time-consuming equipment setup and cleanup
- Freedom from expensive capital equipment and maintenance of spray equipment and compressor
- Targets adhesive where you want with little waste
- High solids, high coverage gives you more usable adhesive for your money



For HPL countertop assembly, 3M™ Scotch-Weld™ Cylinder Spray Adhesive 94 CA dries quickly to reach postformable strength in 1-5 minutes. 1-15 minute open time provides flexibility in assembly speed. Formulated specifically with low telegraphing for thin veneers and glossy laminates.



96

With 3M™ Foam Fast Cylinder 74 Spray Adhesive a fast light coat bonds quilted fabric to solid core mattress. High coverage reduces applied cost. Foam-tearing strength prevents cover spin.



97

When you want a water-based adhesive to bond rubber to metal flooring, insulation to duct work, and more, 3M™ Fastbond™ 30NF Cylinder Spray Contact Adhesive is SCAQMD Rule 1168 Compliant and GREENGUARD™ Certified.



99

For fast, easy foam board installation above and below grade, simply spray and stick with 3M™ Scotch-Weld™ HoldFast 70 Cylinder Spray Adhesive. Bonds foam to concrete, waterproofing, OSB, and more without damaging the foam.



100

With heavy web spray and low soak-in, 3M™ Scotch-Weld™ HoldFast 70 Cylinder Spray Adhesive attaches noise abatement foam to the plywood walls of an anechoic chamber.



101

In motor home construction, 3M™ Scotch-Weld™ HoldFast 70 Cylinder Spray Adhesive or Polystyrene Foam Insulation 78 ET not only bonds foam insulation to wall panels but also plastic panels to wood framing in shower enclosures.



102

3M™ Scotch-Weld™ Cylinder Spray Adhesives help improve speed and productivity for tilt-up contractors. Just spray and adhere reveal strips, shoe plates, chamfers and inlays to the casting slab without nailing or mechanical fasteners.



# Equipment simplification with 3M™ Scotch-Weld™ Cylinder Spray Adhesives

Traditional compressor and drum equipment, tools, and maintenance



103



104



105

What you see here is all you need



106



107



108

9501 6501 4001 QSS



109

Hose swivel T-Fitting

## 3M™ Scotch-Weld™ Cylinder Spray Adhesive Equipment and Accessories

|  |
|--|
| Cylinder Adhesive Applicator (includes 9501 Tip)             |
| Cylinder Adhesive Applicator H (includes 4001 Tip)           |
| Cylinder Adhesive Applicator EX w/18" Extension and 9501 Tip |
| Cylinder Adhesive 9501 Spray Tip                             |
| Cylinder Adhesive 4001 Spray Tip                             |
| Cylinder Adhesive 6501 Spray Tip                             |
| Cylinder Adhesive 250050 Spray Tip                           |
| Cylinder Adhesive 650050 Spray Tip                           |
| Cylinder Adhesive 730154 Spray Tip                           |
| Cylinder Adhesive QSS Spray Tip                              |
| Cylinder Adhesive Hose Swivel                                |
| Cylinder Adhesive T-Fitting                                  |
| Cylinder Adhesive 6-Foot Hose                                |
| Cylinder Adhesive 12-Foot Hose                               |
| Cylinder Adhesive 25-Foot Hose                               |
| Cylinder Adhesive 50-Foot Hose                               |

## Uniform spray patterns with adjustable tip for economical use of adhesive



110



111



112



113

Left to right: Wide web for fast coverage and minimized overspray. Narrow web for neat targeted application. Lay-flat pebble pattern to reduce telegraphing even on thin laminates.

No wasteful "fire hosing," puddling, and uneven stringing.

## Product Information and Packaging

| Product  | Features   | % Solids | Sq. Ft. Coverage @ 1 gram dry wt/sq.ft (per lb.) <sup>(1)</sup> | Spray Pattern | Bonding Range   |                 | Overlap Shear Strength <sup>(2)</sup> (PSI) |
|--|--|----------|---|---------------|-----------------|-----------------|---|
|  |  |          |   |               | One Surface     | Two Surface     |   |
| Fastbond™ Contact Adhesive 30 NF                 | <ul style="list-style-type: none"> <li>• GREENGUARD™ Certified</li> <li>• High strength, non-flammable, water-based contact adhesive</li> <li>• Postformable adhesive that bonds particle board, plywood, plastic laminate, fabric and more</li> <li>• Green or Neutral</li> </ul>   | 50       | 227   | Mist          | NR              | 15 min. - 4 hrs | up to 400                                   |
| General Purpose 60 CA                            | <ul style="list-style-type: none"> <li>• Very high coverage</li> <li>• General purpose adhesive that bonds many foams, plastics and wood</li> <li>• Clear</li> </ul>   | 43       | 195   | Web           | 2 min - 30 min  | 2 min - 60 min  | up to 300                                   |
| HoldFast 70                                      | <ul style="list-style-type: none"> <li>• Very fast tacking</li> <li>• Low soak-in on porous or irregular surfaces</li> <li>• Bonds polystyrene without degrading the surface</li> <li>• Clear</li> </ul>   | 21       | 95  | Web           | 1 min - 60 min  | 1 min - 60 min  | up to 200                                   |
| Foam Fast 74                                     | <ul style="list-style-type: none"> <li>• Fast tack with foam-tearing strength</li> <li>• Soft non-dimpling glue line</li> <li>• Clear or Orange</li> </ul>   | 22       | 100   | Web           | 30 sec - 15 min | 30 sec - 15 min | up to 200                                   |
| Non-Flammable Foam Fast 74 NF                    | <ul style="list-style-type: none"> <li>• Non-flammable version of Foam Fast 74</li> <li>• Contains Methylene Chloride</li> <li>• Clear</li> </ul>  | 22       | 100   | Web           | 1 min - 60 min  | 1 min - 60 min  | up to 300                                   |
| Super 77™  | <ul style="list-style-type: none"> <li>• Fast, aggressive tack for bonding many lightweight materials</li> <li>• Versatile adhesive can be used on typical infusion materials: fiberglass fabrics, balsa and foam coring, flow media and peel ply</li> <li>• Clear or Red</li> </ul> | 27       | 123   | Mist          | 15 sec - 15 min | 15 sec - 30 min | up to 300                                   |
| Polystyrene Foam Insulation 78 ET                | <ul style="list-style-type: none"> <li>• Extended tack range version of 78</li> <li>• Clear or Green</li> </ul>  | 17       | 77  | Web           | 1 min - 60 min  | 1 min - 60 min  | up to 200                                   |
| Hi-Temperature Polystyrene Foam Insulation 78 HT | <ul style="list-style-type: none"> <li>• High performance, high temperature polystyrene spray adhesive</li> <li>• Blue</li> </ul>  | 15       | 68  | Web           | 1 min - 10 min  | 1 min - 20 min  | up to 500                                   |
| Hi-Strength 90                                   | <ul style="list-style-type: none"> <li>• Fast, high performance contact bond strength</li> <li>• Adheres wood, high pressure laminate, metal, polyethylene, polypropylene and more</li> <li>• Clear</li> </ul>   | 13       | 59  | Web           | NR              | 1 min - 10 min  | up to 600                                   |
| Hi-Strength Laminating 92                        | <ul style="list-style-type: none"> <li>• High strength bonding of wood, laminate, foam and more</li> <li>• Clear or Red</li> </ul>   | 23       | 104   | Web           | 1 min - 20 min  | 1 min - 20 min  | up to 400                                   |
| Hi-Strength Postforming 94 CA                    | <ul style="list-style-type: none"> <li>• GREENGUARD™ Certified, solvent-based adhesive</li> <li>• High strength, postformable contact adhesive</li> <li>• Low telegraphing spray pattern</li> <li>• Clear or Red</li> </ul>  | 28       | 127   | Pebble        | NR              | 1 min - 30 min  | up to 500                                   |
| Hi-Strength Non-Flammable 98NF                   | <ul style="list-style-type: none"> <li>• High strength bonding of wood, laminate, foam and more</li> <li>• Nonflammable</li> <li>• Contains Methylene Chloride</li> <li>• Clear or Red</li> </ul>  | 20       | 91  | Web           | 1 min - 60 min  | 1 min - 60 min  | up to 300                                   |

(1) 1 g/sq ft of adhesive coverage may not be enough for a some products. Higher strength applications may need as much as 2.5 grams dry wt/sq ft. Convert sq ft coverage by dividing by 2.5.

(2) Testing based on ASTM D3163 with birch plywood, 1 inch overlap, 1.5 - 2.5 gm/sq.ft (dry adhesive wt.)

(3) Testing based on ASTM D1876-01 with coated canvas, pulled at 12 in./min.

(4) SAFT Shear Adhesion Failure Test with birch plywood, 1 inch overlap, 100 grams used, temperature start at 90F and ramped 10F every 10 min. until complete failure.

(5) M=Mini; L=Large; I=Intermediate; J=Jumbo

|  | Peel Strength <sup>(3)</sup><br>(PIW) | Heat Resistance<br>in °F. <sup>(4)</sup> | SCAQMD Rule<br>1168 Compliant | Size (Net weight) <sup>(5)</sup>   |
|--|---------------------------------------|--|-------------------------------|--|
|  | 20                                    | 300                                      | Yes                           | L (28.5 lb, 12.9 kg)   |
|  | 18                                    | 170                                      | Yes                           | L (27.2 lb, 12.3 kg)<br>I (129.2 lb, 58.6 kg)<br>J (276.0 lb, 125.2 kg)                        |
|  | 23                                    | 190                                      | No                            | M (8.5 lb, 3.9 kg)<br>L (27.3 lb, 12.4 kg)<br>I (139.0 lb, 63 kg)<br>J (288.0 lb, 130.6 kg)    |
|  | 9                                     | 160                                      | No                            | L (28.8 lb, 12.0 kg)<br>I (148.5 lb, 67.4 kg)<br>J (297.0 lb, 134.7 kg)                        |
|  | 25                                    | 210                                      | No                            | M (10.5 lb, 4.8 kg)<br>L (37.0 lb, 16.8 kg)<br>I (185.6 lb, 84.2 kg)<br>J (371.7 lb, 168.6 kg) |
|  | 5                                     | 150                                      | No                            | L (29.3 lb, 13.3 kg)   |
|  | 16                                    | 200                                      | No                            | L (29.3 lb, 13.3 kg)<br>I (139.0 lb, 63 kg)<br>J (298.0 lb, 135.2 kg)                          |
|  | 16                                    | 260                                      | No                            | M (8.5 lb, 3.9 kg)<br>L (28.5 lb, 12.9 kg)<br>I (138.6 lb, 62.9 kg)<br>J (287.1 lb, 130.2 kg)  |
|  | 14                                    | 250                                      | No                            | L (28.8 lb, 13.1 kg)<br>I (141.6 lb, 64.2 kg)<br>J (283.2 lb, 128.5 kg)                        |
|  | 14                                    | 250                                      | No                            | L (29.3 lb, 13.3 kg)<br>I (139.0 lb, 63.0 kg)<br>J (279.0 lb, 126.6 kg)                        |
|  | 30                                    | 210                                      | Yes                           | M (7.6 lb, 3.4 kg)<br>L (26.2 lb, 11.9 kg)<br>I (128.0 lb, 58.1 kg)<br>J (266.0 lb, 120.7 kg)  |
|  | 26                                    | 240                                      | No                            | M (10.5 lb, 4.8 kg)<br>L (37.0 lb, 16.8 kg)<br>I (185.6 lb, 84.2 kg)<br>J (371.7 lb, 168.3 kg) |

## Size Availability



| Product | Cylinder sizes (lbs.) |       |              |       | Bulk  |        |
|---------|-----------------------|-------|--------------|-------|-------|--------|
|         | Mini                  | Large | Intermediate | Jumbo | 5-gal | 55-gal |
| 60 CA   |                       | X     | X            | X     | X     | X      |
| 70      | X                     | X     | X            | X     |       |        |
| 74      |                       | X     | X            | X     |       | X      |
| 74NF    | X                     | X     | X            | X     |       |        |
| 77      |                       | X     |              |       | X     | X      |
| 78 ET   |                       | X     | X            | X     |       |        |
| 78HT    | X                     | X     | X            | X     |       |        |
| 90      |                       | X     | X            | X     | X     | X      |
| 92      |                       | X     | X            | X     | X     | X      |
| 94 CA   | X                     | X     | X            | X     | X     | X      |
| 30NF    |                       | X     |              |       | *     | *      |
| 98NF    | X                     | X     | X            | X     |       |        |



\* Other sizes



3M™ Fastbond™ Contact Adhesive 30NF in pourable quart and one gallon plastic containers, 5-gallon pail, and 52-gallon drum

# 3M™ Scotch-Weld™ Hot Melt Spray Adhesives

## Solventless fast track for immediate bonding of foam and other lightweight materials

3M™ Scotch-Weld™ Hot Melt Spray Adhesive is a fast, neat alternative to solvent-based systems for bonding most foams, fabrics, plastics, particle board, and light-gauge metals. Applications range from furniture cushions to cushioning inserts, modular office panels to gym floor pads, and more. You simply spray a neat track of 100% solids adhesive right where you want it. Apply to one or both surfaces and bond substrates immediately.

Other features include:

- Up to 10-minute open time for handling convenience and bonding larger areas.
- One-part to eliminate the fuss of mixed systems.
- Designed for hand-held or bulk applicators.



119



120

In display cases for jewelry and other retail items, foam is bonded to foam and fabric. Low temperature spray will not damage heat-sensitive substrates.



121

In carrying case assembly, 3M™ Scotch-Weld™ Hot Melt Spray Adhesive bonds foam to foam, plywood, metal or plastic.

## 3M™ Scotch-Weld™ Hot Melt Spray Adhesives

| Adhesives Characteristics and Suggested Coverage |                           |                        |                           |
|--|---------------------------|------------------------|---------------------------|
|  | 6111/6111 Green           | 6111 HT/6111 HT Blue   | 6116                      |
| Description                                      | Standard product          | Higher heat resistance | Low viscosity             |
| Color  | Tan/Green                 | Tan/Blue               | White                     |
| Open Time <sup>(1)</sup> One surface (Foam/PVC)  | 1 minute                  | 3 minutes              | 2 minutes                 |
| Open Time <sup>(1)</sup> Two surface (Foam/Foam) | 6 minutes                 | 8 minutes              | 6 minutes                 |
| Heat Resistance <sup>(2)</sup>                   | 145°F (63°C)              | 175°F (79°C)           | 160°F (71°C)              |
| Peel Adhesion (PIW) <sup>(3)</sup>               |                           |                        |                           |
| Fir  | 34.4                      | 25.6                   | 21.4                      |
| ABS  | 12.1                      | 16.5                   | 20.3                      |
| Polypropylene                                    | 46.3                      | 14.4                   | 16.4                      |
| PVC  | 9.9                       | 16.3                   | N/A                       |
| Cold Rolled Steel                                | 16.5                      | 29.9                   | 20.4                      |
| High Density Polyethylene                        | 8.2                       | 2.3                    | N/A                       |
| Typical Coverage                                 | Smooth Surface            |                        | Textured Surface          |
| 2-Surface Application                            | 1-2 grams per square foot |                        | 2-3 grams per square foot |
| 1-Surface Application                            | 3-5 grams per square foot |                        | 5-7 grams per square foot |

Note: The technical information and data on these pages should be considered representative or typical only and should not be used for specification purposes.

(1) Bonds were made by spraying adhesive onto 3/4 in. thick, 2 lb. density polyester urethane foam. Open time will vary depending on substrate.

(2) Tested per 3M IATD test method C-3093 using 2 lb. dead load.

(3) According to 3M IATD test method C-3012. 180° peel strength was determined at a cross head speed of 2 inches/minute at 73°F (23°C).



# 3M™ Scotch-Weld™ Hot Melt Adhesives and Applicators

## The 3M systems approach to help you improve productivity and lower costs

3M™ Scotch-Weld™ Hot Melt Adhesives and Applicators are advanced hand-held systems to help you improve productivity, lower cost, and minimize waste.

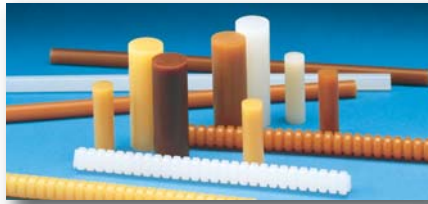
Adhesives are 100% solids thermoplastic resins that become fluid when heated and quickly wet the bonding surface. They cool, harden, and reach bond strength in seconds. You can move assemblies immediately to keep production flowing. This helps eliminate clamps, fixturing and drying, and saves time, energy and space.

Each adhesive is designed and precisely manufactured for efficient use in one of the portable 3M™ Scotch-Weld™ Hot Melt Applicators. Bond wood, plastic, foam, fabric, cardboard, and more.



3M™ Scotch-Weld™ Hot Melt Applicator LT with 3M low temperature (265°F/129°C) adhesive effectively bonds heat-sensitive substrates such as styrene foam to itself, corrugated, or other surfaces without damaging the foam.

123



122



124

For bonding the guide to a drawer bottom, 3M™ Scotch-Weld™ Hot Melt Adhesive 3738 provides high delivery rate and long bonding range to meet production requirements.



125

For versatility in P.O.P. assembly, 3M™ Scotch-Weld™ Hot Melt Adhesives bond a variety of plastics, woods, and light gauge metals.



126

For economical package sealing, 3M™ Scotch-Weld™ Hot Melt Adhesive 3762 is a versatile formulation with 35-second bonding range for production speed. Variety of tips for package types.



127

For great value, 3M™ Scotch-Weld™ Hot Melt Applicator AE II LT combines the best features of a high volume industrial system into a compact, self-contained applicator that delivers up to 4 pounds of adhesive per hour. Plugs into any 110V outlet for convenient portability.



128

3M™ Scotch-Weld™ Hot Melt Applicator LT and 3M™ Scotch-Weld™ Hot Melt Adhesives applied at low temperature (265°F/129°C) make quick work of wetting, gimping, and bonding fabric to wood.



129

Self-contained portable 3M applicators save the cost of bulk equipment for recoupage, manual random size case sealing, and many contract packaging situations.

# Selecting a 3M™ Scotch-Weld™ Hot-Melt Applicator to fit your needs



**A**  
3M™ Scotch-Weld™ Hot Melt Applicator LT. Medium volume using low melt adhesive. 130



**B**  
3M™ Scotch-Weld™ Hot Melt Applicator LT with Quadrack™ Converter. Medium volume using low melt adhesive. 131



**C**  
3M™ Scotch-Weld™ Pneumatic Hot Melt Applicator PG II LT with Speedloader. High volume using low melt adhesive. 132



**D**  
3M™ Scotch-Weld™ Hot Melt Applicator AE II LT. Low volume using low melt adhesive. 133



**E**  
3M™ Scotch-Weld™ Hot Melt Applicator TC. Medium volume. 134



**F**  
3M™ Scotch-Weld™ Hot Melt Applicator TC with Quadrack™ Converter. Medium volume. 135



**G**  
3M™ Scotch-Weld™ Pneumatic Hot Melt Applicator PG II with Speedloader. High volume. 136



**H**  
3M™ Scotch-Weld™ Hot Melt Applicator AE II. Low volume. 137



**I**  
3M™ Scotch-Weld™ Hot Melt Applicator EC. Medium volume; variable temperature control. 138



139



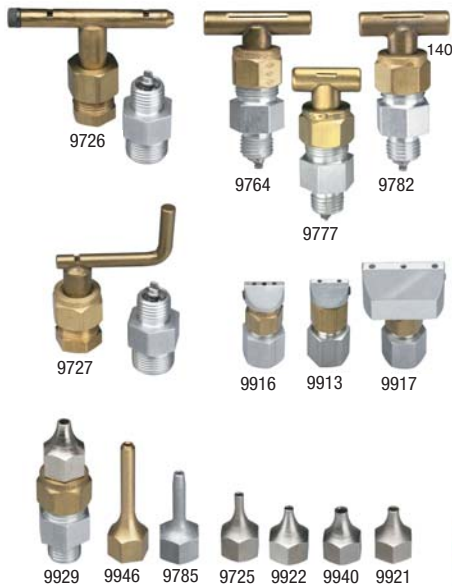
## Lightweight, easy-to-use units... 3M's innovative melt-on-demand or progressive feed technology.

|                      | 3M™ Scotch-Weld™ Hot Melt Applicators | Weight <sup>(1)</sup> | Output <sup>(2)</sup><br>lb/hr | Temperature <sup>(3)</sup>  | Power<br>(120V) | Adhesive<br>dia. x length,<br>inches | Features  | Warranty<br>(Months) |
|----------------------|---------------------------------------|-----------------------|--------------------------------|-----------------------------|-----------------|--------------------------------------|---|----------------------|
| Low Melt Applicators | A LT                                  | 10.0 oz.              | 2.6                            | 265°F (129°C)               | 150W            | 5/8 x 2 TC                           | For use with low melt adhesives                                     | 12                   |
|                      | B LT with Quadrack Converter          | 13.8 oz.              | 2.6                            | 265°F (129°C)               | 150W            | 5/8 x 8 Q                            |   |                      |
|                      | C Pneumatic PG II LT with Speedloader | 4.3 lbs.              | 6.0                            | 265°F (129°C)               | 500W            | 1 x 3 PG                             | Pneumatic high output for low melt adhesives                        | 12                   |
|                      | D AE II LT                            | 20.0 oz.              | 4.0                            | 265°F (129°C)               | 100W            | 1/2 x 12 AE                          | All electric operation for low melt adhesives                       | 6                    |
| Hot Melt Applicators | E TC                                  | 10.0 oz.              | 3.5                            | 385°F (196°C)               | 150W            | 5/8 x 2 TC                           | Easy to use with standard melt adhesives                            | 12                   |
|                      | F TC with Quadrack Converter          | 13.8 oz.              | 3.5                            | 385°F (196°C)               | 150W            | 5/8 x 8 Q                            |   |                      |
|                      | G Pneumatic PG II with Speedloader    | 4.3 lbs.              | 7.5                            | 385°F (196°C)               | 500W            | 1 x 3 PG                             | Pneumatic high output for standard melt adhesives                   | 12                   |
|                      | H AE II                               | 20.0 oz.              | 4.0                            | 400°F (204°C)               | 100W            | 1/2 x 12 AE                          | All electric operation for standard melt adhesives                  | 6                    |
| Variable             | H EC                                  | 24.0 oz.              | 5.5                            | 260°F-450°F<br>(127°-232°C) | 350W            | 5/8 x 8 Q                            | Temperature modules to operate with standard and low melt adhesives | 12                   |

(1) Weight shown is for applicator only — does not include adhesive capacity. (2) Adhesive output will vary with conditions and the adhesive used. Values are approximate and are based on maximum steady-state flow. (3) Temperatures shown are nominal control values. Actual temperature will range slightly above and below this value.

Note: The technical information and data on these pages should be considered representative or typical only and should not be used for specification purposes.

## Accessories to improve your productivity



| Tip No. | Description   |
|---------|---|
| 9726    | "T" Tip (shown with valve and adapter) for all 3M™ Applicators    |
| 9764    | 3/4" Slotted Spreader (3755LM adhesive only)                      |
| 9777    | 1/4" Slotted Spreader (3755LM adhesive only)                      |
| 9782    | 1/2" Slotted Spreader (3755LM adhesive only)                      |
| 9727    | "L" Tip (shown with adapter and valve) for all 3M™ Applicators    |
| 9916    | 3 Hole Spreader   |
| 9913    | 2 Hole Spreader (1/4" hole span)                                  |
| 9917    | 3 Hole 1" Spreader for 3M™ Applicator II only                     |
| 9929    | High Viscosity Valve (TC, EC, PG-II)                              |
| 9946    | .072" Brass Extension for 3M™ Applicators PG II and PG II LT only |
| 9785    | .070" Tapered Aluminum Extension for all 3M™ Applicators          |
| 9725    | Mini Extension Tip .072" Opening for all 3M™ Applicators          |
| 9922    | .063" Fluted Tip  |
| 9940    | .125" Fluted Tip  |
| 9921    | .090" Fluted Tip  |



**Heavy-Duty Benchstands** provide added convenience.

Foot pedal, magazine feeder, and benchmount accessories can provide high capacity, hands-free operation for 3M™ Scotch-Weld™ PG II and 3M™ Scotch-Weld™ PG II LT.

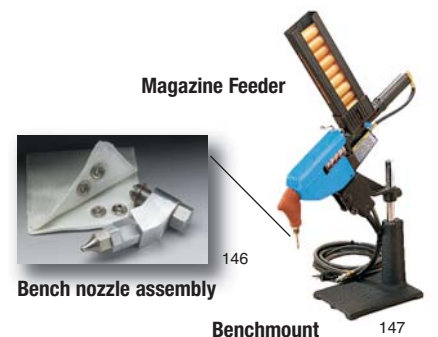
A general purpose tip (.090) is supplied with each 3M™ Scotch-Weld™ Applicator. To increase productivity, optional tips can provide multiple beads, flat ribbons, guided beads for carton sealing, and extended reach.



**Increase loading capacity** and ease of operation with Quadrack Converter and Palm Trigger.



**Foot Pedal**



**Magazine Feeder**

**Bench nozzle assembly**

**Benchmount**



3M™ Scotch-Weld™ Hot Melt Adhesives

|   | Product (Color)          | FDA Listed <sup>1</sup> | UL 94 Listing | Features Application Ideas  |
|---|--------------------------|-------------------------|---------------|---|
| Low Melt Technology:<br>Applied 250°–270°F (127°–132°C) | 3750LM Tan               | N                       | N/A           | <ul style="list-style-type: none"> <li>Excellent “<b>hot tack</b>”, fast setting for corrugated, beadboard, repack, recoup</li> <li><b>Economical, general purpose</b> • Use with <b>AE II LT</b> applicator only</li> </ul>                |
|   | 3755LM Clear             | Y                       | N/A           | <ul style="list-style-type: none"> <li>“<b>Delayed-tack</b>” applied in <b>thin-glue-line</b> ribbon for paper, corrugated, chipboard, displays, exhibits</li> <li>Use with low melt applicator only</li> </ul>                             |
|   | 3762LM* Lt. Amber        | Y                       | N/A           | <ul style="list-style-type: none"> <li>Excellent “<b>hot tack</b>”, fast setting for corrugated, beadboard, recoupage, repacking chipboard, wood</li> <li><b>Economical, general purpose</b> • Use with low melt applicator only</li> </ul> |
|   | 3776LM Tan               | N/A                     | N/A           | <ul style="list-style-type: none"> <li>Bonds variety of <b>plastics, woods and light-gauge metals</b></li> <li>Use with low melt applicator only</li> </ul>   |
|   | 3792LM* Clear            | Y                       | V2            | <ul style="list-style-type: none"> <li><b>Clear, multi-purpose</b> for wood, coated paper, <b>polyolefins</b> and other <b>heat-sensitive materials</b></li> <li>P.O.P. displays • Use with low melt applicator only</li> </ul>             |
|   | 3798LM* Lt. yellow       | Y                       | N/A           | <ul style="list-style-type: none"> <li><b>Removable “gummy glue”</b> for many substrates</li> <li>Removes easily without residual tack • Use with low melt applicator only</li> </ul>   |
| Hot Melt Technology: Applied 350°–385°F (177°–196°C)    | 3731* Tan                | N                       | N/A           | <ul style="list-style-type: none"> <li><b>High heat resistance</b></li> <li>Bonds <b>plastics</b> including <b>polyethylene, polypropylene</b></li> </ul>   |
|   | 3738* Tan                | Y                       | V2            | <ul style="list-style-type: none"> <li><b>High delivery rate and long bonding range</b> • General purpose for foundry sand cores, wood bonding, corrugated, selected plastics and chipboard</li> </ul>                                      |
|   | 3747 Tan                 | Y                       | N/A           | <ul style="list-style-type: none"> <li><b>General purpose</b> for wide variety of plastics, wood and <b>lightweight metals</b></li> </ul>   |
|   | 3748* Off-white          | Y                       | V2            | <ul style="list-style-type: none"> <li>Good thermal shock resistance • <b>Non-corrosive to copper</b> for many <b>electronic applications</b></li> <li>Bonds polyolefins</li> </ul>   |
|   | 3748 VO Light Yellow     | N                       | V0            | <ul style="list-style-type: none"> <li><b>Self-extinguishing</b> version of 3748</li> <li>Meets UL 1410 requirements</li> </ul>   |
|   | 3750 Tan                 | N                       | N/A           | <ul style="list-style-type: none"> <li><b>Low viscosity</b> for high flow rate, increased production</li> <li><b>Good hot tack</b>, quick grab for <b>packaging</b> and <b>woodworking</b></li> </ul>                                       |
|   | 3750 Clear               | N                       | N/A           | <ul style="list-style-type: none"> <li><b>Low viscosity</b> for high flow rate, increased production</li> <li><b>Good hot tack</b>, quick grab for <b>packaging</b> and <b>woodworking</b></li> </ul>                                       |
|   | 3762 Tan                 | Y                       | V2            | <ul style="list-style-type: none"> <li>Excellent “<b>hot tack</b>”, fast setting for corrugated, beadboard, recoupage, repacking chipboard, wood</li> <li><b>Economical, general purpose</b></li> </ul>                                     |
|   | 3764* Clear              | Y                       | V2            | <ul style="list-style-type: none"> <li>Bonds variety of plastics including <b>polycarbonate, polyethylene, and polypropylene</b></li> <li>Flexible at low temperatures</li> </ul>   |
|   | 3779* Amber              | Y                       | V0            | <ul style="list-style-type: none"> <li><b>High heat resistance</b> • High strength</li> <li>Good fuel and oil resistance • <b>Electronics</b></li> </ul>  |
|   | 3789* Brown              | Y                       | V2            | <ul style="list-style-type: none"> <li><b>High performance for plastics</b> • Impact resistant</li> <li>Bonds vinyl and wood • <b>Good fuel and oil resistance</b></li> </ul>   |
|   | 3792* Clear              | Y                       | V2            | <ul style="list-style-type: none"> <li><b>Clear, multi-purpose</b> for wood, corrugated, fabric, furniture, upholstery, novelties, and other lightweight materials</li> </ul>   |
|   | 3796 Lt. Tan             | N                       | N/A           | <ul style="list-style-type: none"> <li>High performance for <b>plastics and light-gauge metals</b></li> </ul>   |
|   | 3797 Off-white           | Y                       | V2            | <ul style="list-style-type: none"> <li>High ball and ring • Low viscosity</li> <li><b>Good for electrical potting</b></li> </ul>  |
| Bulk Only   | 3794 Hi Tack PSA Lt. Tan | Y                       | N/A           | <ul style="list-style-type: none"> <li><b>Sprayable</b> high tack PSA for bonding <b>plastic, paper, metals</b>, die-cut labels</li> </ul>  |
|   | 6111 Tan                 | N                       | N/A           | <ul style="list-style-type: none"> <li><b>Sprayable</b> 100% solventless adhesive for most foams, fabrics, plastics, particle board, and thin metal</li> </ul>  |
|   | 6111 Green               | N                       | N/A           | <ul style="list-style-type: none"> <li>Same as 6111 tan but green in color.</li> </ul>  |
|   | 6111HT Tan               | N                       | N/A           | <ul style="list-style-type: none"> <li>Similar to 6111 but has <b>higher heat resistance</b>.</li> </ul>  |
|   | 6111HT Blue              | N                       | N/A           | <ul style="list-style-type: none"> <li>Similar to 6111 but has <b>higher heat resistance and blue in color</b>.</li> </ul>  |
|   | 6116 Off-White           | N                       | N/A           | <ul style="list-style-type: none"> <li>Similar to 6111 but <b>lower than normal viscosity</b> and <b>mainly used on fabrics</b>.</li> </ul>   |

\* Also available in bulk. (1) Made from components listed as indirect food additives under FDA regulations for adhesives (21 CFR 175.105).

(2) Brookfield Thermosel Viscometer in Centipoise.

(3) ASTM E-28-6-7 (4) Temperature at which adhesive fails (5) On canvas (6) On Douglas Fir (7) 1/8" semicircular bead, Douglas Fir to Douglas Fir.

|  | Sizes                    | EC Temp Control Modules     | Viscosity cps <sup>2</sup> | Delivery Time (sec) for 1" x 3" Cartridge | Ball & Ring Melt Point <sup>3</sup> (°F/°C) | Heat Resistance <sup>4</sup> (°F/°C) | Peel Strength PIW <sup>5</sup> 72°F (22°C) | Shear Strength PSI <sup>6</sup> 72°F (22°C) | Open Time 1/8" Bead (sec) <sup>7</sup> |
|--|--------------------------|-----------------------------|----------------------------|---|---|--------------------------------------|--|---|--|
|  | 1/2" x 12"AE             | N/A                         | 4000 @250°F                | 45  | 200/95                                      | 128/54                               | 6  | 475   | 25                                     |
|  | 5/8" x 2"TC              | N/A                         | 13,000 @250°F              | N/A                                       | 157/70                                      | 120/49                               | 13   | 500   | 120                                    |
|  | 5/8" x 8"Q<br>1" x 3"PG  | 5/8" x 2"TC<br>1/2" x 12"   | 4000 @250°F                | 45  | 205/96                                      | 130/54                               | 6  | 480   | 25                                     |
|  | 5/8" x 8"Q<br>1" x 3"PG  | 1/2" x 12"                  | 8250 @250°F                | 47  | 184/84                                      | 140/60                               | 9  | 600   | 40                                     |
|  | 5/8" x 8"Q<br>1" x 3"PG  | 5/8" x 2"TC<br>1/2" x 12"   | 10,500 @250°F              | 57  | 178/81                                      | 140/60                               | 13   | 350   | 40                                     |
|  | 5/8" x 2"TC              | N/A                         | 9500 @250°F                | N/A                                       | 191/88                                      | 120/49                               | N/A  | N/A   | 30                                     |
|  | 5/8" x 8"Q<br>1" x 3"PG  | 5                           | 12,000 @375°F              | N/A                                       | 315/157                                     | 265/130                              | 22   | 490   | 30                                     |
|  | 5/8" x 8"Q<br>1" x 3"PG  | 5/8" x 2"TC<br>1/2" x 12"AE | 2875 @375°F                | 35  | 186/86                                      | 130/54                               | 13   | 375   | 50                                     |
|  | 5/8" x 8"Q<br>1" x 3"PG  | 5/8" x 2"TC<br>1/2" x 12"AE | 4100 @375°F                | 45  | 220/104                                     | 145/63                               | 20   | 430   | 45                                     |
|  | 5/8" x 8"Q<br>1" x 3"PG  | 5/8" x 2"TC                 | 5000 @375°F                | 65  | 292/144                                     | 175/79                               | 18   | 250   | 45                                     |
|  | 5/8" x 8"Q<br>1" x 3"PG  | 5/8" x 2"TC                 | 5500 @375°F                | 65  | 305/152                                     | 175/79                               | 15   | 275   | 30                                     |
|  | 1/2" x 12"AE             | N/A                         | 1900 @375°F                | 30-40                                     | 200/93                                      | 125/52                               | 6  | 500   | N/A                                    |
|  | 1/2" x 12"AE             | N/A                         | 4800 @375°F                | 35-45                                     | 178/81                                      | 135/57                               | 12   | 250   | N/A                                    |
|  | 5/8" x 8"Q<br>1" x 3"PG  | 5/8" x 2"TC<br>1/2" x 12"AE | 1870 @375°F                | 30  | 201/94                                      | 130/54                               | 7  | 545   | 35                                     |
|  | 5/8" x 8"Q<br>1" x 3"PG  | 5/8" x 2"TC<br>1/2" x 12"AE | 6000 @375°F                | 55  | 190/88                                      | 140/60                               | 14   | 390   | 40                                     |
|  | 5/8" x 8"Q<br>1" x 3"PG  | 5/8" x 2"TC                 | 7000 @375°F                | 75  | 325/163                                     | 300/149                              | 18   | 700   | 25                                     |
|  | 5/8" x 8"Q<br>1" x 3"PG  | 5                           | 5200 @375°F                | 70  | 270/132                                     | 220/104                              | 16   | 570   | 50                                     |
|  | 5/8" x 8"Q<br>1" x 3"PG  | 5/8" x 2"TC<br>1/2" x 12"AE | 5000 @375°F                | 45  | 179/81                                      | 140/60                               | 13   | 250   | 50                                     |
|  | 1" x 3"PG<br>5/8" x 2"TC | N/A                         | 23,000 @375°F              | 120                                       | 240/116                                     | 200/93                               | 29   | 550   | 40                                     |
|  | 1" x 3"PG<br>5/8" x 2"TC | N/A                         | 2650 @375°F                | 55  | 304/151                                     | 170/77                               | 10   | 350   | 30                                     |
|  | 2 lb. bricks             | N/A                         | 15,000 @325°F              | N/A                                       | 224/107                                     | 120/49                               | 16   | N/A   | > 60                                   |
|  | .75"x.75" chips          | N/A                         | 3,000-5,000 @375°F         | N/A                                       | 284/140                                     | 145/63                               | 34   | N/A   | 1 surface 60<br>2 surface 360          |
|  | .75"x.75" chips          | N/A                         | 3,000-5,000 @375°F         | N/A                                       | 284/140                                     | 145/63                               | 34   | N/A   | 1 surface 60<br>2 surface 360          |
|  | .75"x.75" chips          | N/A                         | 2,500-4,500 @375°F         | N/A                                       | 224/107                                     | 175/79                               | 26   | N/A   | 1 surface 180<br>2 surface 480         |
|  | .75"x.75" chips          | N/A                         | 2,500-4,500 @375°F         | N/A                                       | 224/107                                     | 175/79                               | 26   | N/A   | 1 surface 180<br>2 surface 480         |
|  | .75"x.75" chips          | N/A                         | 1,300 @375°F               | N/A                                       | 199/93                                      | 160/69                               | 20   | N/A   | 1 surface 120<br>2 surface 300         |

N/A = Not available

Note: The technical information and data on these pages should be considered representative or typical only and should not be used for specification purposes.

# 3M™ Aerosol Adhesives

## At the touch of a finger – bonding power for substrates from paper to metal

3M aerosol adhesives go to the job and are always ready when needed. Only a finger's touch puts a job-matched formulation to work on paper, plastic, cardboard, foam, metal, and more.

3M introduced the first industrial-grade aerosol adhesive over 40 years ago, and now you can select from a wide range of performance and application characteristics for production and maintenance jobs. Most 3M aerosol adhesives also have a controlled spray pattern to help minimize overspray and cleanup.

3M aerosol adhesives contain no methylene chloride, chlorofluorocarbons (CFCs), or 1,1,1-trichloroethane (methyl chloroform), and most are California compliant.



148

With pushbutton convenience, 3M™ Polystyrene Foam Insulation 78 Spray Adhesive targets spray for efficient use of adhesive in bonding foam board to concrete walls for thermal protection.



149

With fast tack, long bonding range, and little or no soak-in, 3M™ Super 77™ Multipurpose Spray Adhesive is a versatile tool for bonding lightweight materials that include fabrics, plastics, soft foams, paper, cardboard, and thin gauge metals.



150

3M™ Hi-Strength 90 Spray Adhesive typically bonds edge banding in 60 seconds compared to 15-20 minutes for many typical bulk contact adhesives. Strength increases to an ultimate 230 psi in shear and 25 piw in peel.



151

3M™ Foam Fast 74 Spray Adhesive quickly bonds flexible urethane or latex foams to themselves and many other materials. Bond reaches foam-tearing strength with a soft, non-dimpling bond line.

| 3M™ Aerosols Adhesives                        |   | Net Weight (Oz.-Grams) | % Solids | Sq. Ft. Coverage @ 1 gram dry wt/sq.ft (per can) <sup>(1)</sup> | Spray Pattern | Bonding Range   |                 | Overlap Shear Strength <sup>(2)</sup> (PSI) | Peel Strength <sup>(3)</sup> (PIW) | Heat Resistance in °F <sup>(4)</sup> | CA Compliant <sup>(5)</sup> |
|---|---|------------------------|----------|---|---------------|-----------------|-----------------|---|------------------------------------|--------------------------------------|-----------------------------|
| Product                                       | Features  |                        |          |   |               | One Surface     | Two Surface     |   |                                    |                                      |                             |
| Blue 72 Spray Adhesive                        | <ul style="list-style-type: none"> <li>• Repositionable with aggressive tack</li> <li>• Bond polyethylene film, foam and carpet</li> <li>• Blue</li> </ul>  | 17.33 - 490            | 15.1     | 74  | Variable Web  | 1 min - 8 hrs   | 1 min - 1 wk    | up to 100                                   | 11                                 | 170                                  | Yes                         |
| Foam Fast 74 Spray Adhesive                   | <ul style="list-style-type: none"> <li>• Fast tack with foam-tearing strength</li> <li>• Soft non-dimpling glue line</li> <li>• Clear or Orange</li> </ul>  | 16.9 - 480             | 22       | 106   | Variable Web  | 30 sec - 15 min | 30 sec - 15 min | up to 300                                   | 9                                  | 180                                  | Yes                         |
| Repositionable 75 Spray Adhesive              | <ul style="list-style-type: none"> <li>• "Tape-like" PSA bonds</li> <li>• No bleeding, staining or wrinkling</li> <li>• Clear</li> </ul>  | 10.25 - 290            | 9.4      | 27  | Mist          | 15 sec - 1 hr   | 15 sec - 3 hrs  | up to 100                                   | 4                                  | 110                                  | Yes                         |
| Hi-Tack 76 Spray Adhesive                     | <ul style="list-style-type: none"> <li>• Multi-purpose with high temperature resistance</li> <li>• Strong one-surface bonds</li> <li>• Clear</li> </ul>   | 18.1 - 515             | 13.5     | 70  | Variable Web  | 2 min - 10 min  | 2 min - 1 hr    | up to 300                                   | 10                                 | 230                                  | Yes                         |
| Super 77™ Multipurpose Spray Adhesive         | <ul style="list-style-type: none"> <li>• High coverage, low soak-in</li> <li>• Fast, aggressive tack for bonding many lightweight materials</li> <li>• Clear</li> </ul>   | 16.75 - 475            | 25       | 119   | Mist          | 15 sec - 15 min | 15 sec - 30 min | up to 300                                   | 5                                  | 150                                  | Yes                         |
| Polystyrene Foam Insulation 78 Spray Adhesive | <ul style="list-style-type: none"> <li>• Bonds most insulation, including expanded polystyrene and extruded polystyrene</li> <li>• Will not attack foam board • Clear</li> </ul>                                  | 17.9 - 508             | 19.1     | 97  | Variable Web  | 1 min - 5 min   | 1 min - 15 min  | up to 300                                   | 7                                  | 190                                  | Yes                         |
| Rubber & Vinyl 80 Spray Adhesive              | <ul style="list-style-type: none"> <li>• Neoprene-based contact adhesive with plasticizer resistance</li> <li>• Bonds supported vinyl, leather, most rubber, most plastics, laminate and wood • Yellow</li> </ul> | 19 - 539               | 12.9     | 70  | Web           | NR              | 3 min - 30 min  | up to 600                                   | 16                                 | 300                                  | Yes                         |

Note: The technical information and data on these pages should be considered representative or typical only and should not be used for specification purposes.



| 3M™ Aerosols Adhesives (cont.)                     |  | Net Weight (Oz.-Grams) | % Solids | Sq. Ft. Coverage @ 1 gram dry wt/sq.ft (per can) <sup>(1)</sup> | Spray Pattern | Bonding Range  |                 | Overlap Shear Strength <sup>(2)</sup> (PSI) | Peel Strength <sup>(3)</sup> (PIW) | Heat Resistance in °F <sup>(4)</sup> | CA Compliant <sup>(5)</sup> |
|--|--|------------------------|----------|---|---------------|----------------|-----------------|---|------------------------------------|--------------------------------------|-----------------------------|
| Product  | Features   |                        |          |   |               | One Surface    | Two Surface     |   |                                    |                                      |                             |
| Hi-Strength 90 Spray Adhesive                      | • Fast, high performance contact bond strength • Adheres wood, high pressure laminate, metal, polyethylene, polypropylene and more • Translucent | 17.6 - 500             | 13       | 65  | Variable Web  | NR             | 1 min - 10 min  | up to 600                                   | 13                                 | 250                                  | Yes                         |
| Hi-Strength 94 Woodworking Laminate Spray Adhesive | • High strength wood to laminate bonding • Clear   | 14.8 - 420             | 18       | 76  | Variable Web  | NR             | 1 min - 30 min  | up to 300                                   | 25                                 | 240                                  | Yes                         |
| Industrial Spray Adhesive                          | • General purpose adhesive for bonding many lightweight materials • Clear  | 15.3 - 433             | 21.1     | 91  | Mist          | 15 sec - 5 min | 15 sec - 10 min | up to 100                                   | 4                                  | 150                                  | Yes                         |

(1) 1 g/sq ft of adhesive coverage may not be enough for a some products. Higher strength applications may need as much as 2.5 grams dry wt/sq ft. Convert sq ft coverage by dividing by 2.5.

(2) Testing based on ASTM D3163 with birch plywood, 1 inch overlap, 1.5 - 2.5 gm/sq.ft (dry adhesive wt.)

(3) Testing based on ASTM D1876-01 with coated canvas, pulled at 12 in/mn.

(4) SAFT Shear Adhesion Failure Test with birch plywood, 1 inch overlap, 100 grams used, temperature start at 90F and ramped 10F every 10 mn. until complete failure.

(5) California Compliant per California Air Resources Board Consumer Product Rules for Aerosol Adhesives

NR = Not Recommended

| 3M™ Specialty Aerosol Adhesives |   | Net Weight (Oz.-Grams) | % Solids | Sq. Ft. Coverage @ 1 gram dry wt/sq.ft (per can) <sup>(1)</sup> | Spray Pattern | Bonding Range   |                | CA Compliant <sup>(2)</sup> |
|---------------------------------|---|------------------------|----------|---|---------------|-----------------|----------------|-----------------------------|
| Product                         | Features  |                        |          |   |               | One Surface     | Two Surface    |                             |
| Case Sealing Adhesive           | • Convenient for shipping room carton closure and warehouse reclosure after inspection • High heat resistance • Clear   | 17.33 - 490            | 14.3     | 70  | Variable Web  | NR              | 1 min - 15 min | Yes                         |
| Palletizing Adhesive            | • Nearly immediate tack permits bags to be stacked on pallets without slipping • Easy separation after shipment • Clear   | 16.75 - 475            | 25       | 119   | Mist          | 15 sec - 10 min | NR             | Yes                         |
| Dry Lay-Up Adhesive             | • Fast, aggressive tack for bonding many lightweight materials • Versatile adhesive can be used on typical infusion materials: fiberglass fabrics, balsa and foam coring, flow media and peel ply • Red | 16.5 - 467             | 25       | 117   | Mist          | 15 sec - 15 min | NR             | No                          |
| Vac-U-Mount Spray Adhesive 6096 | • Permanently mounts pictures, photos and other lightweight materials • pH neutral • Clear  | 15.9 - 450             | 15.1     | 68  | Mist          | NR              | 1 min - 5 min  | Yes                         |

(1) 1 g/sq ft of adhesive coverage may not be enough for a some products. Higher strength applications may need as much as 2.5 grams dry wt/sq ft. Convert sq ft coverage by dividing by 2.5.

(2) California Compliant per California Air Resources Board Consumer Product Rules for Aerosol Adhesives NR = Not Recommended

| 3M™ Aerosols and Cylinders in Bulk |  | Size                         | % Solids | Sq. Ft. Coverage @ 1 gram dry (per gallon) | SCAQMD Rule 1168 Compliant |
|------------------------------------|--|------------------------------|----------|--|----------------------------|
| Product                            | Features   |                              |          |  |                            |
| Fastbond™ Contact Adhesive 30NF    | • GREENGUARD™ Certified, water-based • High strength, bonds particle board, plywood, plastic laminate, fabric and more • Green or Neutral                  | Quart through 270 gal. Tote* | 50       | 2,066                                      | Yes                        |
| General Purpose 60 CA              | • Very high coverage • Temporary and permanent bonds • Clear   | 5 gal., 54 gal.              | 43       | 1,581                                      | Yes                        |
| Super 77™                          | • High coverage, low soak-in for long lasting bonds • High temperature resistance • Clear and Red  | 5 gal., 52 gal.              | 37       | 1,092                                      | No                         |
| Polystyrene Foam Insulation 78     | • Bonds most insulation, including expanded polystyrene and extruded polystyrene • Will not attack foam board • Clear                                      | 5 gal.                       | 35       | 1,049                                      | No                         |
| Hi-Strength 90                     | • Fast, high performance contact bond strength • Adheres wood, high pressure laminate, metal, polyethylene, polypropylene and more • Clear                 | 5 gal., 52 gal.              | 23       | 679  | No                         |
| Hi-Strength Laminating 92          | • High coverage • Clear or Red   | 5 gal., 54 gal.              | 34.4     | 1,109                                      | No                         |
| Hi-Strength Postforming 94 CA      | • High coverage • Clear or Red   | 5 gal., 54 gal.              | 34       | 1,235                                      | Yes                        |
| Adhesive Remover                   | • Ideal for removal of adhesive residue or for surface preparation • Solvent-free • Also removes heavy oils, grease, silicone, tar and grime • Pale Yellow | 1 gal., 5 gal., 52 gal.      | NA       | NA   | No                         |

\* Refer to Non-Structural Adhesives, Contact Adhesives, for additional information.

Note: The technical information and data on these pages should be considered representative or typical only and should not be used for specification purposes.

## 3M™ Cleaners and Lubricants

### Convenience and a fistful of work power for maintenance and production

In thousands of factories and plants, these aerosol chemicals are proven daily to save time and effort in maintenance and production. Lubricating, cleaning, inhibiting rust, and other tough jobs become finger-touch easy.

Compact container fits in a tool box to go readily to any job site and can help you reduce storage space and cost. With targeted application you get more useable product for your money.

3M aerosol chemicals contain no methylene chloride, chlorofluorocarbons (CFCs), or 1,1,1-trichloroethane (methyl chloroform).



152



153

3M™ Silicone Lubricant lubricates cutting tools and tables. Fast, easy application helps prevent buildup of adhesive, wax, inks, and paints. Won't stain or become gummy.



154

For fast, easy cleanup of gears, 3M™ Citrus Base Cleaner helps soften and loosen grease, oil and grime. After using this heavy-duty degreaser/cleaner, just wipe away with a shop towel.



155

Freeing rusted nuts, bolts, and frozen threaded parts are only a few of the many applications for 3M™ 5-Way Penetrant.

### 3M™ Aerosol Chemicals

| Product                    | Description   | Temperature Resistance |
|----------------------------|---|------------------------|
| Silicone Lubricant         | <ul style="list-style-type: none"> <li>Lubricates cutting tools and tables</li> <li>Helps prevent buildup of glues, wax, inks, paints</li> <li>Won't stain or become gummy</li> <li>FDA listed ingredients*</li> </ul>  | 350°F (177°C)          |
| 5-Way Penetrant            | <ul style="list-style-type: none"> <li>Penetrates, lubricates, demisterizes, cleans and helps prevent rust</li> <li>Frees rusted, frozen nuts</li> <li>"Dries out" electrical apparatus</li> <li>Inhibits corrosion and pitting of molding dies and extension screws</li> </ul> | N/A                    |
| Citrus Base Cleaner        | <ul style="list-style-type: none"> <li>Multi-purpose, citrus-scented cleaner removes grease, dirt, oil and adhesive overspray from equipment</li> <li>Softens liquid adhesive and tape residue</li> </ul>   | N/A                    |
| Adhesive Remover           | <ul style="list-style-type: none"> <li>Specifically formulated to remove adhesive from many substrates with no residue</li> <li>Citrus-scented</li> <li>Also available in bulk (55, 5, and 1 gallon)</li> </ul>   | N/A                    |
| Sticker and Marker Remover | <ul style="list-style-type: none"> <li>Same as aerosol Adhesive Remover but more precise application with pen tip</li> </ul>  | N/A                    |
| Multi-Surface Wipes        | <ul style="list-style-type: none"> <li>Convenient, pre-moistened, pleasant scent</li> <li>Large, thick and durable for cleaning with little effort</li> <li>No need to rinse or wash hands after use</li> </ul>   | N/A                    |

\*FDA Listed Ingredients: The ingredients of this product, when dried after application, are listed as indirect food contact additives when used with minimal opportunity for exposure. See 21 CFR 178.3570, 178.3910, and 181.28

Note: The technical information and data on these pages should be considered representative or typical only and should not be used for specification purposes.

# 3M™ Concrete Repair Products

## Fast, convenient crack and spall repair, expansion joints, custom threading and anchoring, and more

3M™ Concrete Repair Products offer a complete line of conveniently packaged and dispensed adhesives/sealants for every job from cracks and joints to spalls and more.

Repairs are long lasting with strong, flexible bonds that resist weathering, expansion, and contraction.

Fast setting allows you and your customers to drive on repaired surfaces in as few as five minutes. You can choose non-sag or self-leveling formulations for repairs on both vertical and horizontal surfaces. Non-sag formulation facilitates step and ledge repair.



50ml and 12 fl. oz. duo-pak cartridges, 5-gallon pails, and 55 gallon drums are available to meet your production volume requirements. Nozzle automatically and precisely meters, mixes, and dispenses two-part urethane formulation. Apply material precisely where needed to conserve material.



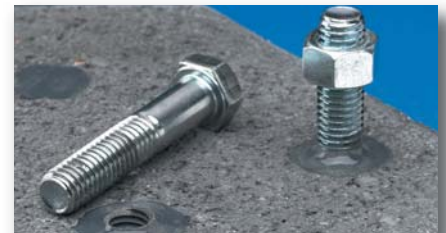
Self-leveling 3M™ Concrete Repair 600 flows smoothly into cleaned cracks and gaps and hardens in as little as 5 minutes.

156



Make fast work of lengthy expansion or control joints and other larger jobs with the heavy-duty manual applicator and 12 fl. oz. duo-pak cartridges.

158



3M concrete repair formulations harden to any depth without cracking for custom threading and anchoring.

159

## 3M™ Concrete Repair Products

| Product/Color                          | Size        | Description   | Work life | Handling time | Cure time |
|--|-------------|---|-----------|---------------|-----------|
| DP600 Gray Self-leveling               | 12 fl. oz.* | <ul style="list-style-type: none"> <li>• Repair of cracks or spalls and setting anchors in floors or horizontal surfaces</li> </ul>   | 70 sec.   | 5 min.        | 1 hr.     |
| DP600 Gray Non-sag                     | 12 fl. oz.* | <ul style="list-style-type: none"> <li>• Repair of cracks in walls and setting anchors in vertical surfaces</li> <li>• Repair chipped or broken steps and ledges</li> </ul>         | 50 sec.   | 4 min.        | 1 hr.     |
| Concrete Repair 600 Gray Self-leveling | 8.4 fl. oz. | <ul style="list-style-type: none"> <li>• Flows smoothly into cleaned cracks and gaps</li> <li>• Hardens in as little as 5 minutes</li> <li>• Use in common caulking guns</li> </ul> | 70 sec.   | 5 min.        | 60 min.   |
| DP5105 Gray**                          | 12 fl. oz.* | <ul style="list-style-type: none"> <li>• Helps seal and stress-relieve large concrete areas</li> </ul>  | 5 min.    | 9 hrs.        | 24 hr.    |
| DP5106 Gray                            | 12 fl. oz.* | <ul style="list-style-type: none"> <li>• Helps relieve stress in large segments of concrete floors</li> </ul>   | 6 min.    | 40 min.       | 24 hr.    |
| Manual Dispenser 6997-1                | 12 fl. oz.  | <ul style="list-style-type: none"> <li>• Heavy-duty applicator</li> </ul>   | -         | -             | -         |
| Pneumatic Dispenser 6985-1             | 12 fl. oz.  | <ul style="list-style-type: none"> <li>• Applicator for high volume jobs</li> </ul>   | -         | -             | -         |
| Blunt End Mix Tip 4901                 | 12 fl. oz.  | <ul style="list-style-type: none"> <li>• General use tip</li> </ul>   | -         | -             | -         |
| Tapered Mix Tip 4902                   | 12 fl. oz.  | <ul style="list-style-type: none"> <li>• Fine or precise placement of adhesive and sealant</li> </ul>   | -         | -             | -         |
| Mixing Nozzle                          | 8.4 fl. oz. | <ul style="list-style-type: none"> <li>• Mixes 600</li> </ul>   | -         | -             | -         |

\*Also available in 50 ml cartridges, 5 gallon pails and 55 gallon drums \*\*Also available in black (56623-3) and beige (96334-6)

Note: The technical information and data on these pages should be considered representative or typical only and should not be used for specification purposes.



# 3M™ Sealants

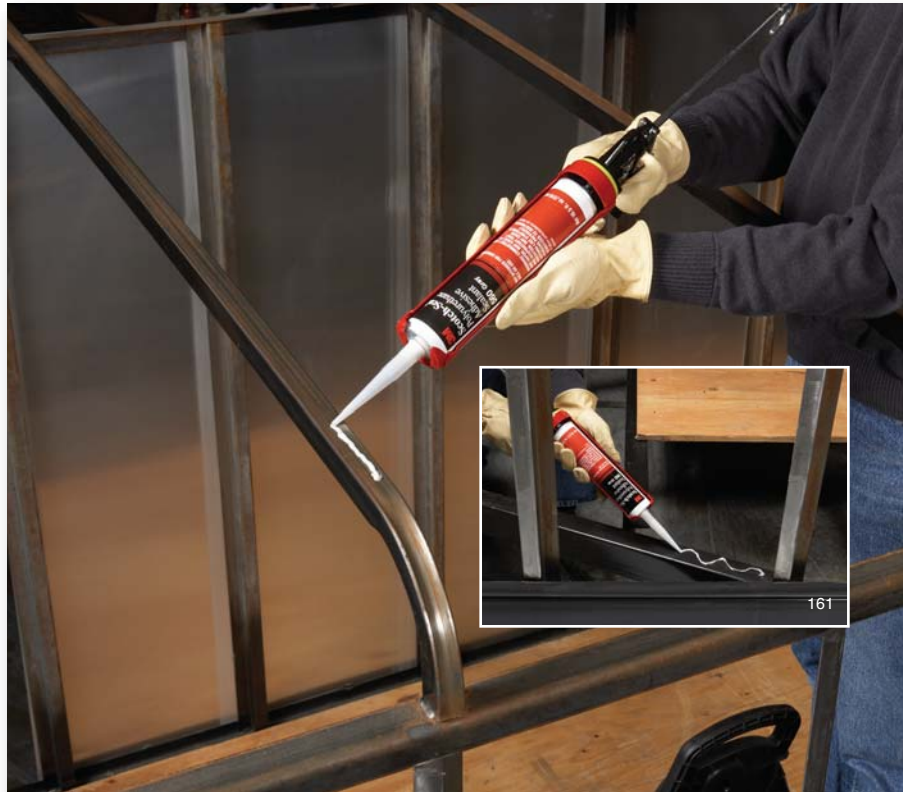
## Solutions for the elements from windows to ductwork

The elements – air, wind, water, dirt, sunlight, fuel, cold, heat – keeping them in or out is a design challenge for applications such as vehicle windows, trailer seams, HVAC ductwork, wood doors, boat deck fittings, and many more. With 3M™ Sealants, you have a wide selection of solutions based on more than 50 years of development and innovation.

As you can see on these pages, you'll find the 3M name on formulations from acrylic to urethane and forms from liquids to solids for manual or pneumatic application.

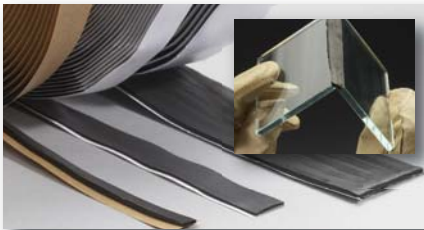


160



161

From trailer roof to floor, polyurethane 3M™ Scotch-Seal™ Adhesive Sealant 560 moisture cures rapidly to a flexible seal/bond between exterior skins and metal framework, and wood flooring and framework. Tensile strength of up to 580 psi is enough to replace mechanical fasteners in many situations.



163

3M™ Weatherban™ Sealant Tapes are butyl sealants available in a variety of widths and thicknesses for applications demanding high tack, aggressive adhesion, weather resistance, and flexibility.



164

3M™ Marine Adhesive Sealant 5200 Fast Cure cures completely in only 24 hours to a strong flexible seal for applications above or below the waterline such as hull and stern joints, hull to deck seams, marine hardware and more.



165

166

To indicate that a valve setting is not to be changed and to know if it has, 3M™ Scotch-Seal™ Tamper-indicating Sealant 1252 clearly communicates before and after tampering.



167

To seal vertical cracks in concrete walls, 3M™ Scotch-Weld™ Sealant DP5003NS is a two-part non-sagging urethane that flows to fill the space but but resists gravity to stay in place during application and long after.



168

For ductwork seam sealing with 3M™ Scotch-Seal™ Sealant 540, a bead cures in about 24 hours to keep air and dust in or out. Flexible polyurethane resists vibration to hold tight.



169

170

For gaps and seams outside and inside of a trailer, 3M™ Scotch-Seal™ Sealant 540 stays flexible and secure at -40° to 194°F (-40° to 90°C) compensating for thermal expansion/contraction even between dissimilar surfaces.

### 3M™ Sealants

|                           | Product   | Descriptions   | Solids Weight (Approx.) | Flash Point (Closed Cup) | Consistency                  | Color (Dry)                 | Application Method            | Cure or Dry Time             | Service Temperature Range     |
|---------------------------|-----------|--|-------------------------|--------------------------|------------------------------|-----------------------------|-------------------------------|------------------------------|-------------------------------|
| 3M™ Scotch-Seal™ Sealants | 540       | <ul style="list-style-type: none"> <li>Polyurethane</li> <li>Moisture cures rapidly to flexible seal for many plastics, metal, wood, and more</li> <li>250 psi tensile strength</li> </ul>   | 90%                     | 136°F (58°C)             | Mastic                       | Black, Gray, White          | Hand or pressure caulk        | 24 hours (3/16" dia. bead)   | -40° to 194°F (-40° to 90°C)  |
|                           | 560       | <ul style="list-style-type: none"> <li>Similar to 540 but with 580 psi tensile strength for sealing and bonding</li> <li>May replace mechanical fasteners</li> </ul>   | 90%                     | 136°F (58°C)             | Mastic                       | Black, Gray                 | Hand or pressure caulk        | 24 hours (3/16" dia. bead)   | -40° to 194°F (-40° to 90°C)  |
|                           | 800       | <ul style="list-style-type: none"> <li>Flexible, rubbery</li> <li>Resists weather, water, oils, fuel, detergent</li> </ul>   | 51.5%                   | 20°F (-7°C)              | Heavy liquid                 | Reddish brown               | Brush or flow                 | 1-3 days                     | -65° to 200°F (-54° to 93°C)  |
|                           | 900       | <ul style="list-style-type: none"> <li>Firm, rubbery with gap filling properties</li> <li>Economical for HVAC ducts</li> </ul>   | 66%                     | 1°F (-17°C)              | Mastic                       | Gray                        | Hand or pressure caulk        | 1-2 days                     | 0° to 180°F (-18° to 82°C)    |
|                           | 1252      | <ul style="list-style-type: none"> <li>Tamper-indicating</li> <li>Fire-retardant seal</li> <li>Resists oil, gasoline, water, jet fuel, fungus</li> <li>Tack free in 20 seconds</li> </ul>  | 70%                     | 20°F (-7°C)              | Thin paste                   | White                       | Pressure flow gun             | 24 hours (1/8" dia. bead)    | -20° to 250°F (-29° to 121°C) |
|                           | 2084      | <ul style="list-style-type: none"> <li>Seals metal to glass in windows and doors</li> <li>Resists weather, water, oil and gasoline</li> </ul>  | 46%                     | 0°F (-18°C)              | Heavy liquid                 | Aluminum                    | Brush or flow                 | 24 hours (1/8" dia. bead)    | -30° to 250°F (-34° to 121°C) |
| 3M™ Scotch-Weld™ Sealants | DP5001    | <ul style="list-style-type: none"> <li>Fast cure urethane</li> <li>Flexible belt repair</li> </ul>   | 100%                    | >290°F (143°C)           | 2-part liquid                | Black                       | Manual or pneumatic dispenser | 12 hours                     | -60° to 250°F (-51° to 121°C) |
|                           | DP5003NS  | <ul style="list-style-type: none"> <li>Controlled flow urethane for vertical applications</li> <li>Flexible seal</li> </ul>  | 100%                    | >290°F (143°C)           | 2-part paste                 | Black                       | Manual or pneumatic dispenser | 24 hours                     | -60° to 250°F (-51° to 121°C) |
| 3M™ Weatherban™ Sealants  | 606NF     | <ul style="list-style-type: none"> <li>Smooth, weather resistant acrylic for metal, wood, painted or primed surfaces</li> <li>Skins over in 20-40 minutes</li> </ul>   | 78%                     | None                     | Non-stringing pumpable paste | White                       | Hand or pressure caulk        | 7 days (1/4" dia. bead)      | -20° to 180°F (-29° to 82°C)  |
|                           | 5354      | <ul style="list-style-type: none"> <li>High tack butyl adheres aggressively</li> <li>Easy to compress tape, resists cold flow</li> </ul>   | 100%                    | None                     | Solid tape                   | Black                       | Apply by hand                 | Non-drying or curing         | -65° to 190°F (-54° to 88°C)  |
|                           | PF5422    | <ul style="list-style-type: none"> <li>Thread reinforced butyl tape</li> <li>Repositionable with virtually no cleanup</li> <li>Weather resistant</li> </ul>  | 100%                    | None                     | Solid tape                   | Black                       | Apply by hand                 | Non-drying or curing         | -40° to 200°F (-40° to 93°C)  |
|                           | PF5423    | <ul style="list-style-type: none"> <li>Nonreinforced thinner product similar to PF5422</li> </ul>  | 100%                    | None                     | Solid tape                   | Black                       | Apply by hand                 | Non-drying or curing         | -40° to 200°F (-40° to 93°C)  |
| 3M™ Marine Sealants       | 101       | <ul style="list-style-type: none"> <li>High quality polysulfide bedding sealant</li> <li>Chemically cures</li> <li>Firm, rubbery watertight seal</li> <li>Resistant to chemicals, weathering, saltwater and joint movement</li> <li>Removable</li> </ul> | 98%                     | –                        | Medium paste                 | White                       | Hand or pressure caulk        | 2-3 weeks                    | –                             |
|                           | 4000UV FC | <ul style="list-style-type: none"> <li>One part polyurethane</li> <li>Seals above/below waterline</li> <li>Superior UV resistance</li> <li>Tack free in 22 minutes</li> </ul>  | 100%                    | –                        | Medium Paste                 | White, Black                | Hand or pressure caulk        | 24-48 hours (1/8" dia. bead) | -40° to 190°F (-40° to 88°C)  |
|                           | 4200 FC   | <ul style="list-style-type: none"> <li>One part polyurethane</li> <li>Seals above/below waterline</li> <li>Creates strong, flexible bonds</li> <li>Tack free in 1 hour</li> </ul>  | 100%                    | –                        | Non-sagging paste            | White, Black                | Hand or pressure caulk        | 24-48 hours (1/8" dia. bead) | -40° to 190°F (-40° to 88°C)  |
|                           | 5200      | <ul style="list-style-type: none"> <li>One part polyurethane</li> <li>Excellent adhesion to wood, gelcoat, fiberglass</li> <li>Seals above/below waterline</li> <li>Long working time</li> </ul>   | 97%                     | –                        | Medium Paste                 | White, Black, Tan, Mahogany | Hand or pressure caulk        | 7-14 days (1/8" dia. bead)   | -40° to 190°F (-40° to 88°C)  |
|                           | 5200FC    | <ul style="list-style-type: none"> <li>One part polyurethane</li> <li>High-strength, non-shrinking, non-sagging bonds</li> <li>Seals above/below waterline</li> <li>Up to one hour open time</li> </ul>  | 97%                     | –                        | Medium Paste                 | White                       | Hand or pressure caulk        | 24-48 hours (1/8" dia. bead) | -40° to 190°F (-40° to 88°C)  |

Note: The technical information and data on these pages should be considered representative or typical only and should not be used for specification purposes.

# Adhesive/Substrate Selection Guide

## Using this Guide

This guide can be used to assist in choosing a product or products to evaluate for a given application. The substrates that may be involved are listed in the first column. The 3M products that you may want to evaluate are grouped by type in the next seven

columns. For example, you want to bond metal to ceramic and have structural strength. First, select the substrate heading “Metal to:”, shown in the dark green area upper left of page 49. Then move down four lines to “Glass and Ceramics” and look

across the columns under the heading “Structurals”. There are candidate products in this example, available in the 3M™ Scotch-Weld™ Epoxy, Acrylic, Urethane Adhesives column.

| Wood and Hardboard to:                      | Structurals   |                                    |  |   | Non-Structurals                          |                         |   |
|---|---|------------------------------------|--|---|--|-------------------------|---|
|   | 3M™ Scotch-Weld™ Epoxy, Acrylic, Urethane Adhesives | 3M™ Scotch-Weld™ Instant Adhesives | 3M™ Scotch-Weld™ Polyurethane Reactive (PUR) Adhesives | 3M™ Scotch-Weld™ Polyurethane Reactive (PUR) Easy Adhesives | 3M™ Scotch-Weld™ and Fastbond™ Adhesives | 3M™ Aerosol Adhesives   | 3M™ Scotch-Weld™ Hot Melt Adhesives                                       |
| <b>Wood and Hardboard</b>                   | 2-Part Epoxies and Urethanes                        | CA50, CA100                        | TE015, TE100, TE030, EZ250015, EZ250060, EZ250120      | 17005, 17030  | F/B 30NF, 1357 (All), 4323, F/B 2000NF   | 80, 90                  | 3738, 3747, 3776LM, 3789, 3762LM, 3792LM, 3750LM                          |
| <b>Metal</b>                                | Flexible 2-Part Epoxies, 2-Part Urethanes           | CA50, CA100                        | TS115, TS230, TE040, EZ250150                          | 17010, 17060  | 1357 (All), 5, 10, F/B 2000NF            | 80, 90                  | 3747, 3776LM, 3796,   |
| <b>Rubber (except EPDM)</b>                 | Flexible 2-Part Epoxies, 2-Part Urethanes           | CA50, CA100                        | TS115, TS230, TE040, EZ250150                          | 17030, 17060  | 1357 (All), 1300 (All), 2141, F/B 2000NF | 80, 90*                 | 3747, 3796  |
| <b>EPDM Rubber</b>                          | –   | CA40 <sup>1</sup> , CA40H          | –  | –   | 4799                                     | –                       | –   |
| <b>Glass and Ceramics</b>                   | Flexible 2-Part Epoxies                             | CA50, CA100                        | TS115, TS230, TE040, EZ250150                          | 17010, 17060  | 1357 (All), 1300 (All), 2141             | 80, 90*                 | 3747, 3796, 3764, 3792LM  |
| <b>Leather</b>                              | Flexible 2-Part Epoxies, 2-Part Urethanes           | CA50, CA100                        | TE015, TE100, TE031, TS230, EZ250060, EZ250150         | 17010, 17060  | 847 (All), F/B 30NF, F/B 2000NF          | 80, 90                  | 3789, 3779, 3769  |
| <b>Plastics (Polyolefins)</b>               | DP8005, DP8010                                      | –                                  | –  | –   | 4693                                     | 72, 76, 90              | 3748, 3764, 3731, 3792LM, 6111 <sup>1</sup>                               |
| <b>Plastics (ABS, PVC, Acrylic, etc.)</b>   | Flexible, 2-Part Epoxies 2-Part Urethanes           | –                                  | TE031, TS230, TS115, TE040, EZ250030, EZ250150         | 17010, 17060  | 4693, 1099 (All),                        | 76, 77, 80, 90          | 3748, 3764, 3747, 3792LM 3776LM   |
| <b>Plastics (High Performance-Nylon)</b>    | DP460 DP190   | CA50, CA100                        | All Products   | All Products  | 1099 (All), 4693                         | 76, 77, 80, 90          | 3796  |
| <b>Plastics (Flexible Vinyl)</b>            | Flexible 2-Part Epoxies                             | CA50, CA100                        | TE100, EZ250060, EZ250150                              | –   | 1099 (All), 2262, 4475, F/B 2000NF       | 80                      | 3789, 3796  |
| <b>Paper and Cardboard</b>                  | 2-Part Epoxies and Urethanes                        | –                                  | All Products   | All Products  | F/B 30NF, F/B 100, 4550, F/B 2000NF      | 75*, 77                 | 3762LM, 3762, 3750 3792, 3792LM, 3755LM, 6111 <sup>1</sup> , 3750LM, 3738 |
| <b>Fabric, Felt, Cork and Fibrous Glass</b> | 2-Part Epoxies and Urethanes                        | –                                  | All Products   | All Products  | 4550, F/B 49, F/B 2000NF                 | 74, 75*, 76, 77, 80, 90 | 3738, 3747, 3776LM, 3792LM, 6111 <sup>1</sup>                             |
| <b>Flexible Foam (Latex, Urethane)</b>      | 2-Part Urethanes                                    | –                                  | All Products   | All Products  | F/B 100, F/B 2000NF                      | 74, 76, 90              | 3738, 3747, 3764, 3792LM, 6111 <sup>1</sup>                               |
| <b>Rigid Foam (Beadboard, Styrene)</b>      | 2-Part Urethanes, Flexible 2-Part Epoxies           | –                                  | All Products   | All Products  | F/B 30NF, F/B 2000NF, F/B 49             | 78                      | 3762LM, 3792LM, 3750LM, 3755LM, 6111 <sup>1</sup>                         |
| <b>Rigid Foam (Urethane)</b>                | 2-Part Urethanes, Flexible 2-Part Epoxies           | –                                  | All Products   | All Products  | F/B 30NF, 1357(All), 5, F/B 2000NF       | 74, 80                  | 3747, 3764, 3792, 3776LM, 6111 Family                                     |

<sup>1</sup> 6111 is a family of products that includes 6111, 6111HT, and 6111. <sup>2</sup> Evaluate using surface activator.

Note: The technical information and data on these pages should be considered representative or typical only and should not be used for specification purposes. Final product selection should be made only after consideration of a variety of factors and evaluation of sample bonds.



| Metal to:                                   | Structurals   |                                    |  |   | Non-Structurals  |                             |   |
|---|---|------------------------------------|--|---|--|-----------------------------|---|
|   | 3M™ Scotch-Weld™ Epoxy, Acrylic, Urethane Adhesives | 3M™ Scotch-Weld™ Instant Adhesives | 3M™ Scotch-Weld™ Polyurethane Reactive (PUR) Adhesives | 3M™ Scotch-Weld™ Polyurethane Reactive (PUR) Easy Adhesives | 3M™ Scotch-Weld™ and Fastbond™ Adhesives               | 3M™ Aerosol Adhesives       | 3M™ Scotch-Weld™ Hot Melt Adhesives               |
| <b>Metal</b>                                | Acrylics, Epoxies                                   | CA's All Products                  | –  | –   | 1357 (All), 1099 (All), 1300 (All)                     | 80, 90                      | 3747 <sup>(1)</sup> , 3796, 3776LM <sup>(2)</sup> |
| <b>EPDM Rubber</b>                          | –   | CA40, CA40H                        | –  | –   | 4799   | –                           | –   |
| <b>Rubber (except EPDM)</b>                 | Flexible 2-Part Epoxies                             | CA's All Products                  | TS115, TS230, TE040, EZ250150                          | 17030, 17060  | 2141, 1300 (All), 847 (All), F/B 2000NF <sup>(1)</sup> | 80, 90*                     | 3747, 3796, 6111 HT                               |
| <b>Glass and Ceramics</b>                   | Flexible 2-Part Epoxies                             | –                                  | –  | –   | 1357 (All)   | 80, 90, 3796                | 3747, 3796, 3776LM                                |
| <b>Leather</b>                              | Flexible 2-Part Epoxies 2-Part Urethanes            | CA50, CA100                        | TS115, TS230, TE040, EZ250150                          | 17010, 17060, 17030   | 847 (All), F/B 2000NF                                  | 80                          | 3796  |
| <b>Plastics (Polyolefins)</b>               | DP8005, DP8010                                      | –                                  | –  | –   | 4693, F/B 2000NF <sup>(1)</sup>                        | 72, 76, 90                  | 3796  |
| <b>Plastics (ABS, PVC, Acrylic, etc.)</b>   | Flexible 2-Part Epoxies, Acrylics                   | CA's All Products                  | TS115, TS230, TE040, EZ250150                          | 17010, 17060  | 4693, 4475, 1357 (All), F/B 2000NF <sup>(1)</sup>      | 76, 77, 80, 90              | 3747, 3776LM, 3796                                |
| <b>Plastics (High Performance-Nylon)</b>    | DP460, DP190  | CA's All Products                  | –  | –   | 1099 (All), 4693                                       | 76, 77, 80, 90              | 3796  |
| <b>Plastics (Flexible Vinyl)</b>            | Flexible 2-Part Epoxies                             | CA40, CA40H, CA50, CA100           | TS115, TS230, TE040, EZ250150                          | 17010, 17060  | 1099 (All), 2262, 4475                                 | 80                          | 3789, 3796  |
| <b>Paper and Cardboard</b>                  | 2-Part Epoxies, 2-Part Urethanes                    | –                                  | TS115, TS230, TE040, EZ250150                          | 17010, 17060  | 10, F/B 49, F/B 100, 4550, F/B 2000NF                  | 75*, 77                     | 3747, 3776LM, 3796                                |
| <b>Fabric, Felt, Cork and Fibrous Glass</b> | 2-Part Epoxies                                      | –                                  | TS115, TS230, TE040, EZ250150                          | 17010, 17060  | F/B 100, 4550, F/B 49, F/B 2000NF                      | 72, 74, 75*, 76, 77, 80, 90 | 3747, 3776LM, 3796                                |
| <b>Flexible Foam (Latex, Urethane)</b>      | 2-Part Urethanes                                    | –                                  | TS115, TS230, TE040, EZ250150                          | 17010, 17060  | F/B 2000NF, F/B 100                                    | 74, 76, 90                  | 3747, 3796, 3776LM                                |
| <b>Rigid Foam (Beadboard, Styrene)</b>      | Flexible 2-Part Epoxies                             | –                                  | TS115, TS230, TE040, EZ250150                          | 17010, 17060  | F/B 30NF, F/B 2000NF <sup>(1)</sup> , F/B 49           | 78                          | 3776LM  |
| <b>Rigid Foam (Urethane)</b>                | Flexible 2-Part Epoxies                             | CA's All Products                  | TS115, TS230, TE040, EZ250150                          | 17010, 17060  | 1357(All), 5, 10, F/B 2000NF <sup>(1)</sup>            | 74, 80                      | 3747, 3796, 3776LM, 6111                          |
| <b>Rubber (except EPDM) to:</b>             |   |                                    |  |   |  |                             |   |
| <b>Rubber (except EPDM)</b>                 | Flexible 2-Part Epoxies, 2-Part Urethanes           | CA's All Products                  | TS115, TS230, TE031, TE040, EZ250030, EZ250150         | 17030, 17060  | 2141, 1300 (All), 847 (All)                            | 80, 90*                     | 3747, 3796  |
| <b>EPDM Rubber</b>                          | –   | CA40, CA40H                        | –  | –   | 4799   | –                           | 3796  |
| <b>Glass and Ceramics</b>                   | Flexible 2-Part Epoxies                             | –                                  | TS115, TS230, TE040, EZ250150                          | 17010, 17060  | 1300 (All), 2141                                       | 80, 90                      | 3747, 3796  |
| <b>Leather</b>                              | Flexible 2-Part Epoxies, 2-Part Urethanes           | CA50, CA100                        | TS115, TS230, TE031, TE040, EZ250150                   | All Products  | 847 (All), 2141, 1300, F/B 2000NF                      | 80                          | 3796  |
| <b>Plastics (Polyolefins)</b>               | DP8005, DP8010                                      | –                                  | –  | –   | 4693   | 90                          | 3796, 6111 Family                                 |
| <b>Plastics (ABS, PVC, Acrylic, etc.)</b>   | Flexible 2-Part Epoxies, 2-Part Urethanes           | CA's All Products                  | TE031, TS230, TS115, TE040, EZ250030, EZ250150         | 17010, 17060  | 1099 (All), 847 (All), 1300 (All)                      | 80, 90                      | 3747, 3796  |
| <b>Plastics (High Performance Nylon)</b>    | DP460, DP190  | CA's All Products                  | –  | –   | 1099 (All)   | 80, 90                      | 3796  |
| <b>Plastics (Flexible Vinyl)</b>            | Flexible 2-Part Epoxies                             | CA40, CA40H, CA50, CA100           | TS115, TS230, TE031, TE040, EZ250150                   | All Products  | 1099 (All)   | 80                          | 3796  |

Note: The technical information and data on these pages should be considered representative or typical only and should not be used for specification purposes. Final product selection should be made only after consideration of a variety of factors and evaluation of sample bonds. \* Produces a temporary bond on these materials.

(1) Adhesives must be forced dried and bonded while warm.

(2) For best results, preheat the substrate to a minimum of 120°F (49°C).

| Rubber<br>(except EPDM) to:                 | Structurals   |                                    |  |   | Non-Structurals                             |                       |                                     |
|---|---|------------------------------------|--|---|---|-----------------------|-------------------------------------|
|   | 3M™ Scotch-Weld™ Epoxy, Acrylic, Urethane Adhesives | 3M™ Scotch-Weld™ Instant Adhesives | 3M™ Scotch-Weld™ Polyurethane Reactive (PUR) Adhesives | 3M™ Scotch-Weld™ Polyurethane Reactive (PUR) Easy Adhesives | 3M™ Scotch-Weld™ and Fastbond™ Adhesives    | 3M™ Aerosol Adhesives | 3M™ Scotch-Weld™ Hot Melt Adhesives |
| <b>Paper and Cardboard</b>                  | Flexible<br>2-Part Epoxies,<br>2-Part Urethanes     | –                                  | TS115, TS230,<br>TE040, EZ250030,<br>EZ250150          | All Products  | 1300 (All), 2141,<br>F/B 2000NF,<br>F/B 100 | 75*, 77               | 3747, 3796,<br>6111 Family          |
| <b>Fabric, Felt, Cork and Fibrous Glass</b> | 2-Part Urethanes                                    | –                                  | TS115, TS230,<br>TE040, EZ250030,<br>EZ250150          | All Products  | 847, 1300 (All),<br>2141,<br>F/B 2000NF     | 80, 90                | 3747, 3796,<br>6111, 3794           |
| <b>Flexible Foam (Latex, Urethane)</b>      | –   | –                                  | TS115, TS230, TE040,<br>EZ250030, EZ250150             | All Products  | F/B 2000NF,<br>F/B 100                      | 74, 80                | 3747, 3796                          |
| <b>Rigid Foam (Beadboard, Styrene)</b>      | Flexible<br>2-Part Epoxies,<br>2-Part Urethanes     | –                                  | TS115, TS230, TE040,<br>EZ250030, EZ250150             | All Products  | F/B 2000NF                                  | –                     | 3794                                |
| <b>Rigid Foam (Urethane)</b>                | 2-Part Urethanes                                    | –                                  | TS115, TS230, TE040,<br>EZ250030, EZ250150             | All Products  | 1300 (All),<br>1357(All), 2141              | 74, 80                | 3747, 3796                          |
| <b>EPDM Rubber to:</b>                      |   |                                    |  |   |   |                       |                                     |
| <b>EPDM Rubber</b>                          | –   | CA40, CA40H                        | –  | –   | 4799  | –                     | 3796                                |
| <b>Glass and Ceramics</b>                   | –   | –                                  | –  | –   | 4799  | –                     | 3796                                |
| <b>Leather</b>                              | –   | –                                  | –  | –   | –   | –                     | 3796                                |
| <b>Plastics (Polyolefins)</b>               | –   | –                                  | –  | –   | –   | –                     | 3796                                |
| <b>Plastics (ABS, PVC, Acrylic, etc.)</b>   | –   | CA40, CA40H                        | –  | –   | 4799  | –                     | 3796                                |
| <b>Plastics (High Performance-Nylon)</b>    | –   | CA40, CA40H                        | –  | –   | 4799  | –                     | –                                   |
| <b>Plastics (Flexible Vinyl)</b>            | –   | CA40, CA40H                        | –  | –   | –   | –                     | –                                   |
| <b>Paper and Cardboard</b>                  | –   | –                                  | –  | –   | 4799  | –                     | 3796                                |
| <b>Fabric, Felt, Cork and Fibrous Glass</b> | –   | –                                  | –  | –   | 4799  | –                     | 3796                                |
| <b>Flexible Foam (Latex, Urethane)</b>      | –   | –                                  | –  | –   | –   | –                     | 3796                                |
| <b>Rigid Foam (Beadboard, Styrene)</b>      | –   | –                                  | –  | –   | –   | –                     | –                                   |
| <b>Rigid Foam (Urethane)</b>                | –   | –                                  | –  | –   | 4799  | –                     | 3796                                |
| <b>Glass &amp; Ceramics to:</b>             |   |                                    |  |   |   |                       |                                     |
| <b>Glass and Ceramics</b>                   | Flexible<br>2-Part Epoxies                          | –                                  | –  | –   | 4475  | 80, 90                | 3747, 3764,<br>3796, 3792LM         |
| <b>Leather</b>                              | Flexible<br>2-Part Epoxies,<br>2-Part Urethanes     | –                                  | TS115, TS230,<br>TE040, EZ250150                       | 17010, 17060  | 847 (All),<br>1099 (All),<br>F/B 2000NF     | 80, 90                | 3796                                |
| <b>Plastics (Polyolefins)</b>               | –   | –                                  | –  | –   | 4693  | 72, 76,<br>90         | 3764, 3748,<br>3792LM               |
| <b>Plastics (ABS, PVC, Acrylic, etc.)</b>   | Flexible<br>2-Part Epoxies,<br>2-Part Urethanes     | –                                  | TS115, TS230,<br>TE040, EZ250150                       | 17010, 17060  | 4475  | 72, 77,<br>80, 90     | 3764, 3747,<br>3792, 3792LM         |
| <b>Plastics (High Performance-Nylon)</b>    | DP190<br>DP460                                      | –                                  | –  | –   | 1099 (All), 4693                            | 72, 77,<br>80, 90     | 3796                                |

Note: The technical information and data on these pages should be considered representative or typical only and should not be used for specification purposes. Final product selection should be made only after consideration of a variety of factors and evaluation of sample bonds.

| Glass and Ceramics to: (cont.)                 | Structurals   |                                    |  |   | Non-Structurals                             |                        |   |
|--|---|------------------------------------|--|---|---|------------------------|---|
|  | 3M™ Scotch-Weld™ Epoxy, Acrylic, Urethane Adhesives | 3M™ Scotch-Weld™ Instant Adhesives | 3M™ Scotch-Weld™ Polyurethane Reactive (PUR) Adhesives | 3M™ Scotch-Weld™ Polyurethane Reactive (PUR) Easy Adhesives | 3M™ Scotch-Weld™ and Fastbond™ Adhesives    | 3M™ Aerosol Adhesives  | 3M™ Scotch-Weld™ Hot Melt Adhesives             |
| <b>Plastics (Flexible Vinyl)</b>               | Flexible<br>2-Part Epoxies                          | –                                  | TS115, TS230,<br>TE040, EZ250150                       | 17010, 17060  | 2262, 4475                                  | 80                     | 3796  |
| <b>Paper and Cardboard</b>                     | Flexible<br>2-Part Epoxies,<br>2-Part Urethanes     | –                                  | TS115, TS230,<br>TE040, EZ250150                       | 17010, 17060  | 4550,<br>F/B 2000NF, F/B 49                 | 75*, 77                | 3764, 3796,<br>3792LM,<br>3747                  |
| <b>Fabric, Felt, Cork &amp; Fibrous Glass</b>  | Flexible<br>2-Part Epoxies                          | –                                  | TS115, TS230,<br>TE040, EZ250150                       | 17010, 17060  | 4550,<br>F/B 49, F/B 2000NF<br>90           | 72, 74, 76<br>75*, 77, | 3764, 3796,<br>3747, 3792LM                     |
| <b>Flexible Foam (Latex, Urethane)</b>         | 2-Part Urethanes                                    | –                                  | TS115, TS230,<br>TE040, EZ250150                       | 17010, 17060  | F/B 2000NF                                  | 74, 76,<br>90          | 3764, 3796, 3747,<br>3792LM                     |
| <b>Rigid Foam (Beadboard, Styrene)</b>         | Flexible<br>2-Part Epoxies,<br>2-Part Urethanes     | –                                  | TS115, TS230,<br>TE040, EZ250150                       | 17010, 17060  | F/B 30NF,                                   | 77, 78                 | 3792LM  |
| <b>Rigid Foam (Urethane)</b>                   | 2-Part Urethanes                                    | –                                  | TS115, TS230,<br>TE040, EZ250150                       | 17010, 17060  | 1357 (All), 10,<br>F/B 30NF                 | 74, 80                 | 3764, 3796,<br>6111                             |
| <b>Leather to:</b>                             |   |                                    |  |   |   |                        |   |
| <b>Leather</b>                                 | Flexible<br>2-Part Epoxies,<br>2-Part Urethanes     | CA50                               | All Products   | All Products  | 847, F/B 30NF,<br>F/B 2000NF                | 80, 90                 | 3789, 3796,<br>3779                             |
| <b>Plastic (Polyolefins)</b>                   | –   | –                                  | –  | –   | F/B 2000NF                                  | 76, 90                 | 3796  |
| <b>Plastics (ABS, PVC, Acrylic, etc.)</b>      | Flexible<br>2-Part Epoxies,<br>2-Part Urethanes     | CA100                              | TE031, TS230,<br>TE040, EZ250030,<br>EZ250150          | 17010, 17030  | 847 (All), 1099 (All),<br>F/B 2000NF        | 80, 90                 | 3789, 3796, 3779                                |
| <b>Plastics (Flexible Vinyl)</b>               | Flexible<br>2-Part Epoxies                          | CA50, CA100                        | All Products   | All Products  | 4475, 1099 (All),<br>F/B 2000NF             | 80                     | 3789, 3796,<br>3779                             |
| <b>Paper and Cardboard</b>                     | Flexible<br>2-Part Epoxies,<br>2-Part Urethanes     | –                                  | All Products   | All Products  | F/B30NF,<br>F/B 2000NF,<br>F/B 100          | 75*, 77                | 3789, 3796,<br>3779                             |
| <b>Fabric, Felt, Cork and Fibrous Glass</b>    | Flexible<br>2-Part Epoxies,<br>2-Part Urethanes     | –                                  | All Products   | All Products  | F/B 30NF,<br>F/B 100, F/B 2000NF,<br>F/B 49 | 76, 80                 | 3789, 3796,<br>3779                             |
| <b>Flexible Foam (Latex, Urethane)</b>         | 2-Part Urethanes                                    | –                                  | All Products   | All Products  | F/B 2000NF,<br>F/B 100                      | 80                     | 3789, 3796,<br>3779                             |
| <b>Rigid Foam (Beadboard, Styrene)</b>         | Flexible<br>2-Part Epoxies,<br>2-Part Urethanes     | –                                  | All Products   | All Products  | F/B 30NF,<br>F/B 2000NF                     | –                      | –   |
| <b>Rigid Foam (Urethane)</b>                   | 2-Part Urethanes                                    | –                                  | All Products   | All Products  | F/B 30NF,<br>F/B 2000NF                     | 80                     | 3789, 3796,<br>3779                             |
| <b>Plastics (Polyolefins) to:</b>              |   |                                    |  |   |   |                        |   |
| <b>Plastics (Polyolefins)</b>                  | DP8005,<br>DP8010                                   | –                                  | –  | –   | 4693,<br>F/B 2000NF <sup>(1)</sup>          | 72, 76,<br>90          | 3731, 3748, 3764,<br>3792LM, 6111 <sup>2</sup>  |
| <b>Plastics (ABS, PVC, Acrylic, etc.)</b>      | DP8005,<br>DP8010                                   | –                                  | –  | –   | 4693,<br>F/B 2000NF <sup>(1)</sup>          | 76, 90                 | 3731, 3748, 3764,<br>6111 <sup>2</sup> , 3792LM |
| <b>Plastics (High Performance Nylon)</b>       | DP8005,<br>DP8010                                   | –                                  | –  | –   | 4693  | 76, 90                 | 3796  |
| <b>Plastics (Flexible Vinyl)</b>               | DP8005,<br>DP8010                                   | –                                  | –  | –   | –   | –                      | 3796  |
| <b>Paper and Cardboard</b>                     | –   | –                                  | –  | –   | 4693, F/B 100,<br>F/B 2000NF                | 75*, 77                | 3748, 3764, 3731,<br>6111 <sup>2</sup> , 3792LM |
| <b>Fabric, Felt, Cork, &amp; Fibrous Glass</b> | –   | –                                  | –  | –   | 4693, F/B 49,<br>F/B 2000NF                 | 72, 74,<br>76, 90      | 3748, 3764, 6111 <sup>2</sup> ,<br>3792LM, 3731 |

(1) Adhesive *must* be force dried and bonded while warm.  
\* Produces a temporary bond on these materials. <sup>2</sup> 6111 is a family of products that includes 6111, 6111HT, and 6111.

Note: The technical information and data on these pages should be considered representative or typical only and should not be used for specification purposes. Final product selection should be made only after consideration of a variety of factors and evaluation of sample bonds.



| Plastics (Polyolefins) to: (cont.)    | Structurals   |                                    |   |   | Non-Structurals                             |                       |  |
|---------------------------------------|---|------------------------------------|---|---|---|-----------------------|--|
|                                       | 3M™ Scotch-Weld™ Epoxy, Acrylic, Urethane Adhesives | 3M™ Scotch-Weld™ Instant Adhesives | 3M™ Scotch-Weld™ Polyurethane Reactive (PUR) Adhesives            | 3M™ Scotch-Weld™ Polyurethane Reactive (PUR) Easy Adhesives | 3M™ Scotch-Weld™ and Fastbond™ Adhesives    | 3M™ Aerosol Adhesives | 3M™ Scotch-Weld™ Hot Melt Adhesives                        |
| Flexible Foam (Latex, Urethane)       | –   | –                                  | –   | –   | F/B 2000-NF, F/B 100                        | 72, 74, 76, 90        | 3748, 3764, 3731, 3792LM, 3796, 6111 <sup>1</sup>          |
| Rigid Foam (Beadboard, Styrene)       | DP8005, DP8010                                      | –                                  | –   | –   | F/B 2000NF <sup>(1)</sup>                   | –                     | 3792LM, 6111   |
| Rigid Foam (Urethane)                 | DP8005, DP8010                                      | –                                  | –   | –   | 4693, F/B 2000NF <sup>(1)</sup>             | 74, 76, 90            | 3748, 3764, 6111, 3792LM, 3794                             |
| Plastics (ABS, PVC, Acrylic) to:      |   |                                    |   |   |   |                       |  |
| Plastics (ABS, PVC, Acrylic, etc.)    | Flexible 2-Part Epoxies, 2-Part Urethanes, Acrylics | CA's All Products TE040            | TE031, TS115, TS230, EZ250030, EZ250150                           | 17010, 17060  | 1099 (All), 4475, F/B 2000NF <sup>(1)</sup> | 76, 77, 90            | 3731, 3747, 3764, 3748, 3776LM, 3792LM                     |
| Plastics (High Performance-Nylon)     | Flexible 2-Part Epoxies, 2-Part Urethanes, Acrylics | CA's (All)                         | –   | –   | 1099, 4693                                  | 72, 77, 90            | 3796   |
| Plastics (Flexible Vinyl)             | Flexible 2-Part Epoxies                             | CA40, CA50, CA100                  | TE031, TS115, TS230, TE040, EZ250030, EZ250150                    | 17010, 17060  | 1099 (All), 2262, 4475                      | 80*                   | 3789, 3796, 3779   |
| Paper and Cardboard                   | Flexible 2-Part Epoxies, 2-Part Urethanes           | CA40H                              | TE031, TS115, TS230, TE040, EZ250030, EZ250150                    | 17010, 17060  | 4550, F/B 100, F/B 49, F/B 2000NF,          | 75*, 77               | 3764, 3792, 6111 <sup>1</sup> , 3792LM, 3747, 3748, 3776LM |
| Fabric, Felt, Cork & Fibrous Glass    | Flexible 2-Part Epoxies, 2-Part Urethanes           | –                                  | TE031, TS115, EZ250030, EZ250150 TS230, TE040, EZ250030, EZ250150 | 17010, 17060  | 4550, F/B 100, F/B 49, F/B 2000NF,          | 76, 77, 90            | 3747, 3764 3792, 3792LM, 3776LM                            |
| Flexible Foam (Latex, Urethane)       | 2-Part Urethanes                                    | –                                  | TE031, TS115, TS230, TE040, EZ250030, EZ250150                    | 17010, 17060  | F/B 2000NF, F/B 100                         | –                     | 3747, 3764, 3748, 3792LM, 3776LM                           |
| Rigid Foam (Beadboard, Styrene)       | Flexible 2-Part Epoxies, 2-Part Urethanes           | –                                  | TE031, TS115, TS230, TE040, EZ250030, EZ250150                    | 17010, 17060  | F/B 2000NF <sup>(1)</sup> , F/B 100, F/B 49 | 77, 78,               | 3792LM, 3776LM, 6111 <sup>1</sup>                          |
| Rigid Foam (Urethane)                 | Flexible 2-Part Epoxies, 2-Part Urethanes           | –                                  | TE031, TS115, TS230, TE040, EZ250030, EZ250150                    | 17010, 17060  | 1099, 4693, 4475, F/B 2000NF <sup>(1)</sup> | 80                    | 3747, 3764, 3792, 3792LM, 3776LM                           |
| Plastics (High Performance) Nylon to: |   |                                    |   |   |   |                       |  |
| Plastics (High Performance-Nylon)     | DP190, DP460  | CA's All Products                  | –   | –   | 1099 All Products, 4693                     | 76, 77, 90            | 3764, 3796   |
| Plastics (Flexible Vinyl)             | Flexible 2-Part Epoxies                             | CA40, CA50, CA100                  | –   | –   | 1099 All Products                           | 80                    | 3789, 3796   |
| Paper and Cardboard                   | Flexible, 2-Part Epoxies, 2-Part Urethanes          | –                                  | –   | –   | 4550, F/B 100                               | 75*, 77, 90           | 3747, 3764,  |
| Fabric, Felt, Cork & Fibrous Glass    | Flexible, 2-Part Epoxies, 2-Part Urethanes          | –                                  | –   | –   | 4550, 4693, F/B 49                          | 76, 77, 90            | 3747, 3764, 3796   |
| Flexible Foam (Latex, Urethane)       | 2-Part Urethanes                                    | –                                  | –   | –   | F/B 2000NF, F/B 100                         | 74, 76, 90            | 3747, 3764, 3796   |
| Rigid Foam (Beadboard, Styrene)       | Flexible 2-Part Epoxies, 2-Part Urethanes           | –                                  | –   | –   | F/B 2000NF                                  | 78                    | –  |
| Rigid Foam (Urethane)                 | 2-Part Urethanes                                    | –                                  | –   | –   | 1099 All Products, 4693                     | 80                    | 3747, 3764, 3796   |

<sup>1</sup> 6111 is a family of products that includes 6111, 6111HT, and 6111. Note: The technical information and data on these pages should be considered representative or typical only and should not be used for specification purposes. Final product selection should be made only after consideration of a variety of factors and evaluation of sample bonds.

| Plastic (Flexible Vinyl) to:                    | Structurals   |                                    |  |  | Non-Structurals                               |                         |  |
|---|---|------------------------------------|--|--|---|-------------------------|--|
|   | 3M™ Scotch-Weld™ Epoxy, Acrylic, Urethane Adhesives | 3M™ Scotch-Weld™ Instant Adhesives | 3M™ Scotch-Weld™ Polyurethane Reactive (PUR) Adhesives | 3M™ Scotch-Weld™ Polyurethane (PUR) Easy Adhesives | 3M™ Scotch-Weld™ and Fastbond™ Adhesives      | 3M™ Aerosol Adhesives   | 3M™ Scotch-Weld™ Hot Melt Adhesives                                    |
| <b>Plastics (Flexible Vinyl)</b>                | Flexible 2-Part Epoxies                             | CA40, CA50, CA100                  | All Products   | All Products                                       | 1099 All Products, 2262, 4475                 | 80                      | 3789, 3796, 3779   |
| <b>Paper and Cardboard</b>                      | Flexible 2-Part Epoxies                             | –                                  | All Products   | All Products                                       | 1099 (All), 2262, 4475, F/B 2000NF            | 80                      | 3789, 3796, 3779   |
| <b>Fabric, Felt, Cork and Fibrous Glass</b>     | Flexible 2-Part Epoxies, 2-Part Urethanes           | –                                  | All Products   | All Products                                       | 1099 (All), 2262, 4475, F/B 2000NF            | 80                      | 3789, 3796, 3779   |
| <b>Rigid Foam (Beadboard, Styrene)</b>          | Flexible, 2-Part Epoxies, 2-Part Urethanes          | –                                  | All Products   | All Products                                       | –   | –                       | –  |
| <b>Rigid Foam (Urethane)</b>                    | 2-Part Urethanes                                    | –                                  | All Products   | All Products                                       | 1099 (All), 2262, 4475                        | 80                      | 3789, 3796   |
| <b>Paper and Cardboard to:</b>                  |   |                                    |  |  |   |                         |  |
| <b>Paper and Cardboard</b>                      | 2-Part Epoxies, 2-Part Urethanes                    | –                                  | All Products   | All Products                                       | 4550, F/B 100, F/B 30NF, F/B 49, F/B 2000NF   | 75*, 77                 | 3762, 3762LM, 3792LM, 3798LM, 6111 <sup>1</sup> , 3755LM, 3750LM, 3793 |
| <b>Fabric, Felt, Cork &amp; Fibrous Glass</b>   | Flexible 2-Part Epoxies, 2-Part Urethanes           | –                                  | All Products   | All Products                                       | 4550, F/B 100, F/B 4213NF, F/B 49, F/B 2000NF | 75*, 76, 77             | 3738, 3762LM, 3792LM, 3750LM, 3755LM, 3792, 3764                       |
| <b>Flexible Foam (Latex, Urethane)</b>          | 2-Part Urethanes                                    | –                                  | All Products   | All Products                                       | F/B 2000NF, F/B 100                           | 77                      | 3762, 3762LM, 3792, 3792LM, 3750LM, 3755LM, 6111 <sup>1</sup>          |
| <b>Rigid Foam (Beadboard, Styrene)</b>          | 2-Part Epoxies, 2-Part Urethanes                    | –                                  | All Products   | All Products                                       | F/B 30NF, F/B 2000NF                          | 78                      | 3755LM, 3762LM, 3792LM, 3750LM, 6111 <sup>1</sup> , 3794               |
| <b>Rigid Foam (Urethane)</b>                    | 2-Part Urethanes                                    | –                                  | All Products   | All Products                                       | 4550, F/B 2000NF                              | 77, 80                  | 3762, 3762LM, 3792LM, 3776LM, 6111 <sup>1</sup>                        |
| <b>Fabric, Felt, Cork and Fibrous Glass to:</b> |   |                                    |  |  |   |                         |  |
| <b>Fabric, Felt, Cork &amp; Fibrous Glass</b>   | Flexible 2-Part Epoxies, 2-Part Urethanes           | –                                  | All Products   | All Products                                       | 4550, F/B 100, F/B 49, F/B 2000NF             | 72, 74, 75*, 76, 77, 90 | 3738, 3747, 3792LM, 3776LM, 6111 <sup>1</sup> , 3794                   |
| <b>Flexible Foam (Latex, Urethane)</b>          | 2-Part Urethanes                                    | –                                  | All Products   | All Products                                       | F/B 2000NF, F/B 100                           | 74, 76, 77, 90          | 3738, 3747, 3792LM, 3776LM, 6111 <sup>1</sup>                          |
| <b>Rigid Foam (Beadboard, Styrene)</b>          | Flexible 2-Part Epoxies, 2-Part Urethanes           | –                                  | All Products   | All Products                                       | F/B 30NF, F/B 2000NF                          | 77, 78                  | 3755LM, 3762LM, 3792LM, 3750LM, 6111 <sup>1</sup> , 3794               |
| <b>Rigid Foam (Urethane)</b>                    | 2-Part Urethanes                                    | –                                  | All Products   | All Products                                       | F/B 30NF, F/B 2000NF                          | 77, 80                  | 3755LM, 3762LM, 3792LM, 6111, 3776LM, 3778LM, 3794                     |

Note: This chart is intended only to indicate possible product candidates for your particular application requirements. Final product selection should be made only after consideration of a variety of factors and evaluation of sample bonds.

<sup>1</sup> 6111 is a family of products that includes 6111, 6111HT, and 6111.

\* Produces a temporary bond on these materials.

| Flexible Foam (Latex Urethane) to:         | Structurals   |                                    |  |   | Non-Structurals                                 |                       |  |
|--|---|------------------------------------|--|---|---|-----------------------|--|
|  | 3M™ Scotch-Weld™ Epoxy, Acrylic, Urethane Adhesives | 3M™ Scotch-Weld™ Instant Adhesives | 3M™ Scotch-Weld™ Polyurethane Reactive (PUR) Adhesives | 3M™ Scotch-Weld™ Polyurethane Reactive (PUR) Easy Adhesives | 3M™ Scotch-Weld™ and Fastbond™ Adhesives        | 3M™ Aerosol Adhesives | 3M™ Scotch-Weld™ Hot Melt Adhesives                  |
| <b>Flexible Foam (Latex, Urethane)</b>     | 2-Part Urethanes                                    | –                                  | All Products   | All Products  | F/B 2000NF, F/B 100                             | 74, 76, 80, 90        | 3738, 3764, 3792LM, 6111 <sup>1</sup> , 3747         |
| <b>Rigid Foam (Beadboard, Styrene)</b>     | 2-Part Urethanes                                    | –                                  | All Products   | All Products  | F/B 2000NF, F/B 100                             | 78                    | 3762LM, 6111 <sup>1</sup> , 3792LM, 3778LM           |
| <b>Rigid Foam (Urethane)</b>               | 2-Part Urethanes                                    | –                                  | All Products   | All Products  | F/B 2000NF, F/B 100                             | 74, 80                | 3792, 3792LM, 3776LM, 6111, 6114                     |
| <b>Rigid Foam (Beadboard, Styrene) to:</b> |   |                                    |  |   |   |                       |  |
| <b>Rigid Foam (Beadboard, Styrene)</b>     | 2-Part Epoxies, 2-Part Urethanes                    | –                                  | All Products   | All Products  | F/B 49, F/B 2000NF                              | 78                    | 3762LM, 6111 <sup>1</sup> , 3792LM, 3794, 3795, 6114 |
| <b>Rigid Foam (Urethane)</b>               | 2-Part Urethanes                                    | –                                  | All Products   | All Products  | F/B 30NF, F/B 2000NF                            | –                     | 3762LM, 3792LM, 3776LM, 6111, 3778LM, 3794           |
| <b>Rigid Foam (Urethane) to:</b>           |   |                                    |  |   |   |                       |  |
| <b>Rigid Foam (Urethane)</b>               | 2-Part Urethanes                                    | –                                  | All Products   | All Products  | 1357 (All), F/B 30NF, F/B 2000NF <sup>(1)</sup> | 80                    | 3747, 3792, 6111 <sup>1</sup> , 3792LM, 3794         |

<sup>1</sup> 6111 is a family of products that includes 6111, 6111HT, and 6111.

Note: This chart is intended only to indicate possible product candidates for your particular application requirements. Final product selection should be made only after consideration of a variety of factors and evaluation of sample bonds.



# 3M™ Bonding Tapes



Enhanced appearance, improved performance, improved process...if you think these benefits can help you bring a better, more competitive product to market, you'll want to evaluate the many pressure sensitive adhesive bonding tapes from 3M.

Bonding tapes have pressure sensitive adhesive on two sides to bond mating surfaces with strength that ranges from permanent to permanently repositionable. Substrates range from metal to paper. Each tape represents more than 50 years of 3M leadership in providing design and production engineers with innovative adhesive formulations.

The line includes all of the following:

- 3M™ VHB™ Tapes
- 3M™ Double Coated Foam Tapes
- 3M™ Double Coated Tapes
- 3M™ Removable/Repositionable Tapes
- 3M™ Adhesive Transfer Tapes
- 3M™ Extended Liner Tapes
- 3M™ Membrane Switch Adhesives
- Scotch® ATG Adhesive Systems

## 3M™ VHB™ Tapes

### Replace rivets, screws and other mechanical fasteners

For more than 25 years, industries worldwide have been using 3M™ VHB™ Tapes for high holding power in static and dynamic loads. Viscoelastic properties absorb shock and distribute stress evenly for bonding power that helps eliminate mechanical fastening in many jobs.

In the ever growing product line, there are 3M™ VHB™ Tapes for bonding and sealing aluminum, steel, glass, painted and powder coated surfaces, and plastics such as acrylic and polycarbonate. Flexibility compensates for differential thermal expansion so you can even bond many dissimilar materials with confidence.



176



177

3M™ VHB™ Tapes bond the lens on contact in a fish finder and seal against water, moisture, salt, and more. Bonding power eliminates mechanical fasteners for a smooth, clean surface. Viscoelastic properties help absorb shock and vibration for bond reliability.

178



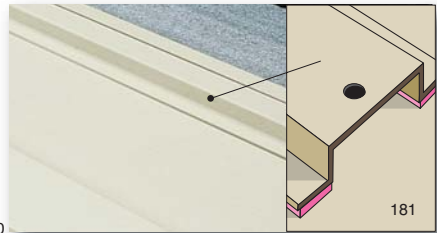
179

To join a variety of materials for high impact visual combinations throughout a refrigerator, 3M™ VHB™ Tape bonds painted and unpainted metal, HSE and LSE plastics, ceramics, and more



180

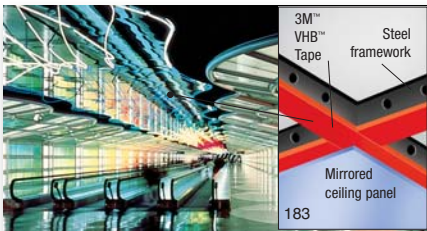
For assembly efficiency, die-cut pieces of 3M™ VHB™ Tapes bond components in a water-resistant video camera case. The foam conforms to help seal the unit.



181

182

3M™ VHB™ Tapes bond panel stiffeners on contact to pre-painted metal cabinetry. Unlike welding, applying the tape does not damage the finish.



183

184

Mirrored ceiling panels are held in place with 3M™ VHB™ Tapes rather than screws. This helps maintain a clean, smooth appearance without distorting the reflective surfaces.



185

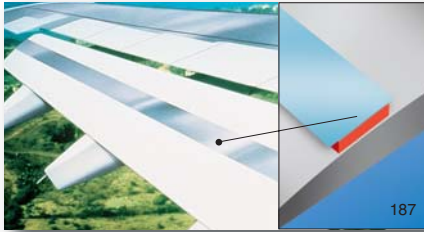
For a heat resistant bond, 3M™ VHB™ Tapes bond and seal stainless steel trim to the glass oven door with strength enough to replace mechanical fasteners. Door surface is smooth and attractive.



186

With high holding power and long-term reliability, 3M™ VHB™ Tape bonds dimensional letters to a painted wall for indoor or outdoor signage.





187 3M™ VHB™ Tapes securely bond stainless steel scuff strips to aluminum wing flaps despite extreme ground-to-air temperature swings of 150°F to -40°F (65°C to -40°C).



188 Perforated stainless steel plates are bonded to I-beams with 3M™ VHB™ Tapes as they replace rivets or screws for a smooth surface envisioned by the architect.



189 For ease of assembly and precise fit, die-cut 3M™ VHB™ Tapes bond and seal components throughout a GPS unit.



191 In assembling this sign with 3M™ VHB™ Tapes, lighter, thinner materials were used for easier installation, helping reduce labor and materials cost.



192 For assembly of an interstate highway sign in the mountains, sheets of 3M™ VHB™ Tapes were drilled and used to attach a precision mask to the LED array. The bond resists cold and extreme weather conditions.



193 3M™ VHB™ Tape bonds on contact with no drying time or fixturing and saves processing steps such as drilling, screwing, welding, cleanup, and refinishing.

### 3M™ Primers

| Product | Solvent                 | Active Ingredients     | VOC's                        | Color | Flashpoint  | Coverage   | Application Ideas   |
|---------|-------------------------|------------------------|------------------------------|-------|-------------|--|---|
| AP 111  | Isopropyl alcohol (IPA) | Less than 5% by weight | 5.91 lbs. / gallon (708 g/l) | Clear | 52°F (11°C) | 19 m <sup>2</sup> /l (800 ft <sup>2</sup> /gal) based on .002" wet coating thickness depending on method of application. | Promote better adhesion for bare metals and painted surfaces. |

| Product | Solvent                     | Active Ingredients     | VOC's                      | Color | Flashpoint  | Coverage   | Application Temp.          | Application Ideas                  |
|---------|-----------------------------|------------------------|----------------------------|-------|-------------|--|----------------------------|------------------------------------|
| AP 115  | Isopropyl alcohol and water | Less than 1% by weight | 6.08 lbs./gallon (728 g/l) | Clear | 53°F (12°C) | 20 - 25 sq. ft. per 4 fl. oz. bottle (1.8 - 2.3 sq. m per 118 ml bottle) | 50°F - 100°F (10°C - 38°C) | Promote better adhesion for glass. |

| Product   | Solids | VOC's   | Color                                | Flashpoint        | Coverage                            | Viscosity    | Application Ideas   |
|-----------|--------|---|--------------------------------------|-------------------|-------------------------------------|--------------|---|
| Primer 94 | 6%     | Approx. 6.3 lbs./gal. (755 g/l) less H <sub>2</sub> O and exempt solvents | Clear light yellow-clear dark orange | -4°F (-20°C) O.C. | 600 sq. ft.(211 sq. m/l) per gallon | 35 +/- 5 cps | Promote better adhesion for a variety of plastic surfaces such as polyethylene, polypropylene, ABS, PET/PBT blends. |

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.

[www.3M.com/vhb](http://www.3M.com/vhb)



## 3M™ VHB™ Tapes

| Product Number         | Tape Thickness w/o liner (mm) | Liner Type | Description  | Adhesive Type   | Temperature Resistance  |               | Solvent Resistance | Relative Adhesion |      | Application Ideas  |   |   |
|------------------------|-------------------------------|------------|--|---|-------------------------|---------------|--------------------|-------------------|------|--|---|---|
|                        |                               |            |  |   | Minutes Hours           | Days Weeks    |                    | HSE               | LSE  |  |   |   |
| Conformable Foam Tapes | 4926                          | 15 (0.4)   | A  | <ul style="list-style-type: none"> <li>Gray, closed-cell acrylic foam carrier</li> <li>Conformable</li> <li>Good adhesion to many painted metals</li> <li>Plasticizer resistant</li> <li>UL 746C</li> </ul>         | Multi-purpose acrylic   | 300°F (149°C) | 200°F (93°C)       | High              | High | Med.   | Bond and seal polycarbonate lens over LCD.<br>Bond and seal plastic windows to pre-painted control panels/switch gear.<br>Mount vinyl wiring ducts and conduit channels.<br>Seam vinyl banners.                         |   |
|                        | 4936                          | 25 (0.64)  | A  |   |                         |               |                    |                   |      |  |   |   |
|                        | 4936F                         | 25 (0.64)  | F  |   |                         |               |                    |                   |      |  |   |   |
|                        | 4941                          | 45 (1.1)   | A  |   |                         |               |                    |                   |      |  |   |   |
|                        | 4941F                         | 45 (1.1)   | D  |   |                         |               |                    |                   |      |  |   |   |
|                        | 4956                          | 62 (1.6)   | A  |   |                         |               |                    |                   |      |  |   |   |
|                        | 4956F                         | 62 (1.6)   | F  |   |                         |               |                    |                   |      |  |   |   |
|                        | 4991                          | 90 (2.3)   | F  |   |                         |               |                    |                   |      |  |   |   |
|                        | 4919F                         | 25 (0.64)  | F  |   |                         |               |                    |                   |      |  |   | <ul style="list-style-type: none"> <li>Black version of 4936F tape</li> </ul> |
|                        | 4947F                         | 45 (1.1)   | F  |   |                         |               |                    |                   |      |  |   | <ul style="list-style-type: none"> <li>Black version of 4941F tape</li> </ul> |
| 4979F                  | 62 (1.6)                      | F          | <ul style="list-style-type: none"> <li>Black version of 4956F tape</li> </ul>  |   |                         |               |                    |                   |      |  |   |   |
| Conformable Foam Tapes | 5915                          | 16 (0.4)   | D  | <ul style="list-style-type: none"> <li>Black, closed-cell acrylic foam carrier</li> <li>Very conformable</li> <li>Good adhesion to many painted surfaces, including powder coated paint</li> <li>UL 746C</li> </ul> | Modified acrylic        | 300°F (149°C) | 250°F (121°C)      | High              | High | Med.   | Bonds to a variety of plastics and paint systems.<br>Various bonding applications for back-lit signs.<br>Bond architectural signs to frames.<br>Bond powder painted metal stiffeners to office desks and file cabinets. |   |
|                        | 5925                          | 25 (0.64)  | D  |   |                         |               |                    |                   |      |  |   |   |
|                        | 5930                          | 32 (0.8)   | D  |   |                         |               |                    |                   |      |  |   |   |
|                        | 5952                          | 45 (1.1)   | D  |   |                         |               |                    |                   |      |  |   |   |
|                        | 5958FR*                       | 40 (1.0)   | D  |   |                         |               |                    |                   |      |  |   |   |
|                        | 5962                          | 62 (1.6)   | D  |   |                         |               |                    |                   |      |  |   |   |
|                        | 4943F                         | 45 (1.1)   | C  |   |                         |               |                    |                   |      |  |   | <ul style="list-style-type: none"> <li>Gray conformable foam</li> </ul>       |
|                        | 4957F                         | 62 (1.6)   | C  |   |                         |               |                    |                   |      |  |   | <ul style="list-style-type: none"> <li>Apply as low as 32°F (0°C)</li> </ul>  |
| Firm Foam Tapes        | 4611                          | 45 (1.1)   | D  | <ul style="list-style-type: none"> <li>Dark gray, closed-cell acrylic foam carrier</li> <li>High temperature resistance</li> <li>UL 746C</li> </ul>   | General purpose acrylic | 450°F (232°C) | 300°F (149°C)      | High              | High | Low  | Pre-powder coat paint applications: hat channels and stiffeners.  |   |
|                        | 4646                          | 25 (0.64)  | D  |   |                         |               |                    |                   |      |  |   |   |
|                        | 4655                          | 62 (1.6)   | D  |   |                         |               |                    |                   |      |  |   |   |
|                        | 4914                          | 10 (0.25)  | A  | <ul style="list-style-type: none"> <li>White, closed-cell acrylic foam carrier</li> <li>All-purpose adhesive</li> <li>UL 746C</li> </ul>  | General purpose acrylic | 300°F (149°C) | 200°F (93°C)       | High              | High | Low  | Attach stiffeners in air conditioners, office furniture and telecommunications equipment.   |   |
|                        | 4920                          | 15 (0.4)   | A  |   |                         |               |                    |                   |      |  |   |   |
|                        | 4930                          | 25 (0.64)  | A  |   |                         |               |                    |                   |      |  |   |   |
|                        | 4950                          | 45 (1.1)   | A  |   |                         |               |                    |                   |      |  |   |   |
|                        | 4929                          | 25 (0.64)  | C  |   |                         |               |                    |                   |      |  |   | <ul style="list-style-type: none"> <li>Black version of 4930</li> </ul>       |
|                        | 4949                          | 45 (1.1)   | C  |   |                         |               |                    |                   |      |  |   | <ul style="list-style-type: none"> <li>Black version of 4950</li> </ul>       |
|                        | 4955                          | 80 (2.0)   | C  | <ul style="list-style-type: none"> <li>White, closed-cell acrylic foam carrier</li> <li>All-purpose adhesive</li> <li>UL 746C</li> </ul>  | 400°F (204°C)           | 300°F (149°C) | High               | High              | Low  | Attach vinyl trim.<br>Bond vinyl extrusions.   |   |   |
|                        | 4959                          | 120 (3.0)  | C  |   |                         |               |                    |                   |      |  |   |   |
|                        | 4945                          | 45 (1.1)   | A  | <ul style="list-style-type: none"> <li>White, closed-cell acrylic foam carrier</li> <li>Plasticizer resistant</li> </ul>  | Multi-purpose acrylic   | 300°F (149°C) | 200°F (93°C)       | High              | High | Low  | Low temperature installed products.   |   |
|                        | 4946                          | 45 (1.1)   | B  | <ul style="list-style-type: none"> <li>Film liner version of 4945</li> <li>UL 746C</li> </ul>   |                         |               |                    |                   |      |  |   |   |
| 4951                   | 45 (1.1)                      | C          | <ul style="list-style-type: none"> <li>White, closed-cell acrylic foam carrier</li> <li>Apply as low as 32°F (0°C)</li> </ul>                            | Low-temp acrylic  | 300°F (149°C)           | 200°F (93°C)  | High               | High              | Low  | Bond powder painted metal stiffeners to office desks and file cabinets.<br>Bond polypropylene and polystyrene. |   |   |
| 4932                   | 25 (0.64)                     | A          | <ul style="list-style-type: none"> <li>White, closed-cell acrylic foam carrier</li> <li>Good adhesion to polypropylene and many powder paints</li> </ul> | LSE   | 200°F (93°C)            | 160°F (71°C)  | High               | High              | High | Mount backlit translucent signs.<br>Edge-bond resin filled glass.  |   |   |
| 4952                   | 45 (1.1)                      | A          |  |   |                         |               |                    |                   |      |  |   |   |
| Clear                  | 4905                          | 20 (0.5)   | D  | <ul style="list-style-type: none"> <li>Clear, acrylic construction for joining transparent material</li> </ul>  | General purpose acrylic | 300°F (149°C) | 200°F (93°C)       | High              | High | Low  | Bond decorative metal trim.<br>Bond flexible circuits to aluminum rigidizers or heat sinks.   |   |
|                        | 4910                          | 40 (1.0)   | D  |   |                         |               |                    |                   |      |  |   |   |
| Transfer               | F9460 PC                      | 2 (0.05)   | E  | <ul style="list-style-type: none"> <li>Clear adhesive transfer tape</li> <li>High shear strength adhesive</li> <li>UL 746C</li> </ul>   | 100MP                   | 500°F (260°C) | 300°F (149°C)      | High              | High | Low  |   |   |
|                        | F9469 PC                      | 5 (0.13)   | E  |   |                         |               |                    |                   |      |  |   |   |
|                        | F9473 PC                      | 10 (0.25)  | E  |   |                         |               |                    |                   |      |  |   |   |

### 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
- F – 5 mil Red Printed Polyethylene Film

### Relative Adhesion:

- HSE – High Surface Energy
- LSE – Low Surface Energy

**Multi Purpose Acrylic:** Bonds to a wide range of materials including metals, glass, and high and medium surface energy plastics and paints. Resists migration of plasticizers in vinyl substrates.

**Modified Acrylic:** Bonds to medium low surface energy paints and plastics, including many powder coated paints in addition to the substrates listed with the multi-purpose acrylic adhesive (except plasticized vinyl).

**General Purpose Acrylic:** Bonds to most higher surface energy substrates including metal, glass, and high surface energy plastics.

**Low Temperature Acrylic:** Bonds down to 32° F (0°C) compared to 50°F (10°C) for most acrylic adhesives. Bonds most high surface energy substrates including metal, glass, and high surface energy plastics.

**Low Surface Energy:** High performance synthetic adhesive bonds to many lower surface energy substrates, including many plastics and powder coated paints, plus smooth general purpose substrates.

**100MP:** Bonds with higher peel strength than most other acrylic formulations. Up to 500°F (260°C) short term heat resistance.

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.

\* 5958FR meets FAR 25.853 (a) 12 sec – vertical burn, Appendix F, Part 1 (a) (ic).

# 3M™ VHB™ Tapes for Commercial Vehicles and Trailers

## Built tough with smooth sides to look good for the long haul

For durability and smooth sides on trailers, trucks, busses, and other commercial vehicles, 3M™ VHB™ Tapes are proven to go the distance.

3M sent two trailers to the Bosch Automotive Proving Grounds for independent testing to compare mechanically-fastened side panels to those attached with 3M™ VHB™ Tape.

After 36,000 simulated road miles, 31% of mechanical fasteners were loose. Without use of sealants, these mechanically-fastened seams leaked with water sprayed at less than 75 psi.

After 100,000 simulated road miles, 3M™ VHB™ Tape in an unconstrained panel design held securely without leaks at up to 3,200 psi. And even with extreme thermal cycling testing, the panels with 3M™ VHB™ Tape were water tight and aesthetically smooth.

With 3M™ VHB™, manufacturers also bond and seal panels in one step – helping build a better trailer faster.



For less fatigue and stress on horses, a trailer assembled with 3M™ VHB™ Tape is up to 41% quieter with up to 30% less vibration at highway speeds. Results based on independent testing.



Surfaces of truck panels assembled with 3M™ VHB™ Tape are aesthetically smooth. Graphics apply easily without the added effort of applying over rivets or screw heads.



3M™ VHB™ Tape permanently bonds and seals dissimilar metals while separating the surfaces to reduce potential for galvanic corrosion. Viscoelastic properties also resist vibration.

## 3M™ VHB™ Commercial Vehicle Tapes

| Product Number | Tape Thickness w/o liner (mm) | Description   | Adhesive Type | Temperature Resistance |              | Solvent Resistance | Application Ideas                         |
|----------------|-------------------------------|---|---------------|------------------------|--------------|--------------------|---|
|                |                               |   |               | Minutes Hour           | Days Weeks   |                    |   |
| CV45F          | 45 (1.1)                      | <ul style="list-style-type: none"> <li>Gray, closed-cell acrylic foam carrier</li> <li>Conformable</li> <li>Good adhesion to many painted metals</li> </ul> | Acrylic       | 300°F (149°C)          | 200°F (93°C) | High               | Bond overlap seams on vehicle side panels |
| CV62F          | 62 (1.6)                      |   |               |                        |              |                    | Bond vehicle side panels to posts         |

Note: The technical information and data on these pages should be considered representative or typical only and should not be used for specification purposes.

3M™ VHB™ Tapes for Commercial Vehicles and Trailers are only available through authorized distributors and a warranty may be available on pre-approved applications.

[www.3M.com/specialtyvehicle](http://www.3M.com/specialtyvehicle)

# 3M™ VHB™ Structural Glazing Tapes

## Application ease and immediate handling strength for increased productivity

3M™ VHB™ Structural Glazing Tapes have been proven in thousands of buildings worldwide since 1990 as an alternative to structural silicone and spacer tapes/gaskets.

Immediate handling strength results in faster throughput and delivery. No mixing or curing simplifies manufacturing.

A proven technology with over a 25-year history in construction, an application warranty is available for qualifying applications.



| Product Number | Tape Thickness w/o liner Mils (mm) | Liner Type                           | Description   | Adhesive Type            | Temperature Resistance |              | Solvent Resistance |
|----------------|------------------------------------|--------------------------------------|---|--------------------------|------------------------|--------------|--------------------|
|                |                                    |                                      |   |                          | Minutes Hours          | Days Weeks   |                    |
| G23F           | 90 (2.3)                           | 5 mil Red, Printed Polyethylene Film | <ul style="list-style-type: none"> <li>Gray conformable acrylic closed-cell foam carrier</li> <li>Black conformable acrylic closed-cell foam carrier</li> </ul> | High Performance Acrylic | 300°F (149°C)          | 200°F (93°C) | High               |
| B23F           |                                    |                                      |   |                          |                        |              |                    |

3M™ VHB™ Structural Glazing Tapes are only available for structural glazing applications approved by 3M Technical Service through select distributors.

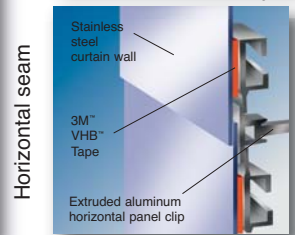
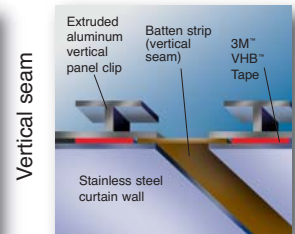
# 3M™ VHB™ Tapes for Architectural Panels

## Proven for more than 25 years in applications from Denver to Dubai

For quick permanent assembly of cladding and curtain wall panels, 3M™ VHB™ Tapes provide an ideal combination of performance, durability and application ease.

Bond to a wide range of architectural panel substrates including dissimilar materials. With design flexibility, create visibly stunning facades.

Application warranty available for qualifying applications.



| Product Number | Tape Thickness w/o liner Mils (mm) | Liner Type                   | Description  | Adhesive Type         | Temperature Resistance               |               | Solvent Resistance | Relative Adhesion |      |
|----------------|------------------------------------|------------------------------|--|-----------------------|--------------------------------------|---------------|--------------------|-------------------|------|
|                |                                    |                              |  |                       | Minutes Hours                        | Days Weeks    |                    | HSE               | LSE  |
| 4941           | 45 (1.1)                           | 3 mil 54# DK                 | <ul style="list-style-type: none"> <li>Gray conformable acrylic closed-cell foam carrier</li> </ul>  | Multi-purpose Acrylic | 300°F (149°C)                        | 200°F (93°C)  | High               | High              | Med. |
| 4956           | 62 (1.6)                           |                              |  |                       | 250°F (121°C)                        | 200°F (93°C)  |                    |                   |      |
| 4991           | 90 (2.3)                           |                              |  |                       | 5 mil Red, Printed Polyethylene Film |               |                    |                   |      |
| 5952           | 45 (1.1)                           | 5 mil Red, Polyethylene Film | <ul style="list-style-type: none"> <li>Black conformable acrylic closed-cell foam carrier</li> </ul> | Modified Acrylic      | 300°F (149°C)                        | 250°F (121°C) | High               | High              | Med. |
| 5962           | 62 (1.6)                           |                              |  |                       |                                      |               |                    |                   |      |

Note: This technical information and data on these pages should be considered representative or typical only and should not be used for specification purposes.



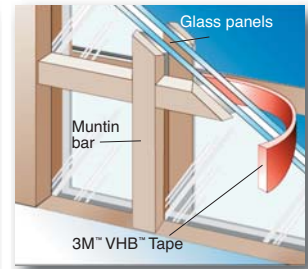
# 3M™ VHB™ Tapes for Windows and Doors

## Attach wood, vinyl, composite or painted metal muntin bars to windows

These high strength tapes conform to glass with good wet-out and resistance to UV light, thermal expansion and contraction, solvents and cleaners. Tapes below are available only for approved window and door customers. Pre-approved applications may be eligible for a 10-year warranty. See primers on page 57.



206



207

| Product Number | Tape Thickness w/o liner (Mils (mm)) | Liner Type        | Description  | Adhesive Type            | Temperature Resistance |              | Solvent Resistance | Relative Adhesion |     |
|----------------|--------------------------------------|-------------------|--|--------------------------|------------------------|--------------|--------------------|-------------------|-----|
|                |                                      |                   |  |                          | Minutes Hours          | Days Weeks   |                    | HSE               | LSE |
| G45P           | 45 (1.1)                             | 3 mil White Paper | • Gray conformable acrylic closed-cell foam carrier  | High Performance Acrylic | 300°F (149°C)          | 200°F (93°C) | High               | High              | Med |
| G45F           |                                      | 5 mil Red PE      |  |                          |                        |              |                    |                   |     |
| B45F           |                                      | 5 mil Red PE      | • Black conformable acrylic closed-cell foam carrier |                          |                        |              |                    |                   |     |

# 3M™ VHB™ Tapes for Signs

## Reliable and immediate bonding

For indoor and outdoor signage, 3M™ VHB™ Tapes hold immediately without the work of screws and the mess and curing time of liquid adhesives.

- Bond metals, plastics, glass, foam board, and more
- Invisible fastening for smooth, attractive surfaces



208



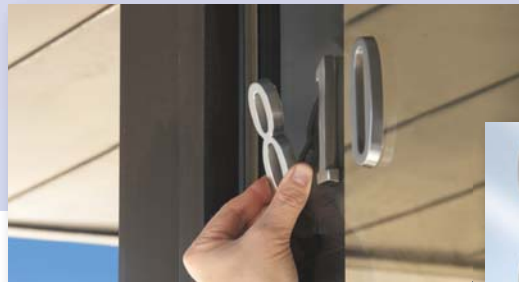
209

3M™ VHB™ Tape provides durable bonding in outdoor applications.



210

Clear 3M™ VHB™ Tape permanently bonds aluminum letters to glass and appears almost invisible from behind the pane.



211



212

|   | Unpainted Aluminum and Steel | Acrylic, Polycarbonate | Expanded Rigid PVC Board | Flexible Vinyl |
|---|------------------------------|------------------------|--------------------------|----------------|
| Unpainted Aluminum and Steel                      | 5952                         | 5952                   | 5952                     | 4941           |
| Painted Surfaces (drywall, metal, wood, concrete) | 5952                         | 5952                   | 5952                     | 4941           |
| Acrylic, Polycarbonate                            | 5952                         | 5952                   | 5952                     | 4941           |
| Glass   | 5952                         | 5952                   | 5952                     | 4941           |
| Transparent Applications                          | 4910                         | 4910                   | -                        | -              |

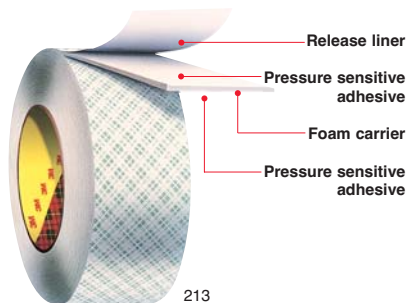
Note: This technical information and data should be considered representative or typical only and should not be used for specification purposes.

[www.3M.com/vhb](http://www.3M.com/vhb)

# 3M™ Double Coated Foam Tapes for Mounting

## Flexible foam carriers fill gaps and help bond irregular surfaces

In bonding rough or irregular surfaces, 3M™ Double Coated Foam Tapes fill gaps and distribute stress uniformly over the bonded area. Depending on the specific tape, the result is a bond line that seals, cushions and damps vibration, resists impact, withstands a wide temperature range, and provides good insulating qualities. To meet your requirements, select from rubber or acrylic adhesive, and a choice of different foam carriers: urethane, vinyl, elastomeric, polyethylene, or acrylic.



213



To replace screws and liquid adhesives, 3M™ Multipurpose Mounting Tape 4016 bonds immediately to many indoor surfaces, even permanently mounting a plastic soap dispenser to a mirror.

214



To install plastic soap dispensers on tile, or other surfaces, 3M™ Double Coated Urethane Foam Tapes eliminate the need to drill holes and attach screws.

215



3M™ Double Coated Foam Tapes can be precisely die-cut and pre-applied to the back of any shape hook. Ready to mount to a variety of surfaces.

216



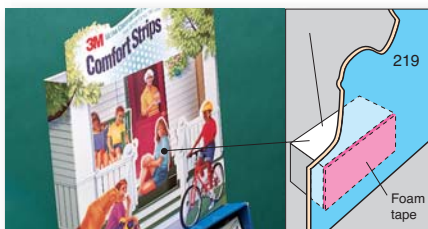
To permanently mount a coat rack to a textured wall, 3M™ Extra Thick Multipurpose Mounting Tape 4008 bonds on contact and fills gaps between the surfaces.

217



3M™ Double Coated Urethane Foam Tapes bond plastic signs to painted cinder block. The foam fills gaps between irregular surfaces. Various foam thicknesses are available for surface conformance based on the degree of roughness.

218



3M™ Double Coated Polyethylene Foam Tapes with high tack adhesive bond foam spacers between the planes of a 3-dimensional P.O.P. display.

219

Foam tape

220



3M™ Double Coated Polyethylene Foam Tapes effectively bond plastic extrusion price channels to grocery shelves.

221

### 3M™ Double Coated Foam Tapes for mounting

| Product Number | Tape Thickness<br>Mils (mm)  | Description   | Adhesive Type   | Temperature Resistance |                  | Solvent Resistance | Relative Adhesion |      | Application Ideas  | Liner Type |
|----------------|--|---|-----------------|------------------------|------------------|--------------------|-------------------|------|--|------------|
|                |  |   |                 | Minutes<br>Hours       | Days<br>Weeks    |                    | HSE               | LSE  |  |            |
| Urethane       | 4004   | <ul style="list-style-type: none"> <li>Off-white, open-cell urethane foam carrier</li> <li>High shear adhesive with high temperature resistance</li> </ul>            | 100             | 380°F<br>(193°C)       | 220°F<br>(104°C) | Medium             | High              | Low  | Bond acoustic panels to walls.<br>Mount air fresheners.<br>Mount soap dispensers.<br>Mount interior signs and nameplates.<br>Attach wire clips to various surfaces.<br>Mount electrical channel to wall. | A          |
|                | 4008   |   |                 |                        |                  |                    |                   |      |  |            |
|                | 4016   |   |                 |                        |                  |                    |                   |      |  |            |
|                | 4026   |   |                 |                        |                  |                    |                   |      |  |            |
|                | 4032   |   |                 |                        |                  |                    |                   |      |  |            |
|                | 4052   | <ul style="list-style-type: none"> <li>Black version of 4032 tape</li> </ul>  | 100             | 380°F<br>(193°C)       | 220°F<br>(104°C) | Medium             | High              | Low  |  |            |
|                | 4056   | <ul style="list-style-type: none"> <li>Black version of 4016 and 4026 tapes</li> </ul>  |                 |                        |                  |                    |                   |      |  |            |
| 4085           | <ul style="list-style-type: none"> <li>Off-white, open-cell urethane foam carrier</li> <li>High tack adhesive</li> </ul> | 740   | 200°F<br>(93°C) | 125°F<br>(52°C)        | Medium           | High               | High              | E    |  |            |
| Vinyl          | 4408   | <ul style="list-style-type: none"> <li>Black, closed-cell vinyl foam carrier</li> </ul>   | 430             | 200°F<br>(93°C)        | 150°F<br>(66°C)  | Medium             | High              | Low  | Mount indoor signs, nameplates and wall corner protectors to irregular surfaces.   | A          |
|                | 4416   | <ul style="list-style-type: none"> <li>White or black, closed-cell vinyl foam carrier</li> </ul>  |                 |                        |                  |                    |                   |      |  |            |
|                | 4432   |   |                 |                        |                  |                    |                   |      |  |            |
| Polyethylene   | 4462   | <ul style="list-style-type: none"> <li>White or black, closed-cell polyethylene foam carrier</li> <li>High tack adhesive</li> </ul>                                   | 745             | 158°F<br>(70°C)        | 120°F<br>(49°C)  | Medium             | High              | High | Attach hooks, wire clips and racks.<br>Mount retail shelf price channels.<br>Mount pen holders.  | B          |
|                | 4466   |   |                 |                        |                  |                    |                   |      |  |            |
|                | 4492   | <ul style="list-style-type: none"> <li>White or black, closed-cell polyethylene foam carrier</li> <li>High shear adhesive with high temperature resistance</li> </ul> | 430             | 180°F<br>(82°C)        | 158°F<br>(70°C)  | Medium             | High              | Low  | Mount nameplates on awards and novelties.<br>Point of purchase displays and signs.   | C          |
|                | 4496   |   |                 |                        |                  |                    |                   |      |  |            |
| Acrylic        | 4658F  | <ul style="list-style-type: none"> <li>Clear closed foam acrylic removable foam tape</li> <li>Clean removability from many substrates</li> </ul>                      | 100             | 212°F<br>(100°C)       | 175°F<br>(80°C)  | High               | High              | Low  | Removable P.O.P. displays.<br>Signs.<br>Exhibits and trade shows.<br>Nameplates.   | D          |

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.

#### Liner Types:

- A – 3 mil 62# Densified Kraft paper – Green plaid
- B – 3 mil Densified Kraft paper – White
- C – 4 mil 58# Polycoated Kraft paper – Tan
- D – 2 mil Polyester film – Clear
- E – 3 mil Densified Kraft paper – Tan

#### Relative Adhesion:

- HSE – High Surface Energy
- LSE – Low Surface Energy



With a wide choice of adhesives and carrier types you can permanently mount on contact dispensers and signs made of a variety of materials.



# 3M™ Double Coated Tapes

## A variety of carriers for easy handling and dispensing

3M™ Double Coated Tapes are engineered with adhesive on both sides of paper, film or tissue. This increases the dimensional stability of the adhesive for easy handling and application.

Depending on your production volume, you can apply tape by hand or with automatic high-volume dispensers. Select paper, polyester film or other synthetic carriers to help meet your special needs. Different adhesives – rubber, silicone or acrylic – can be on opposite sides of the carrier to join different materials. Your choice of properties include high temperature resistance, conformability to irregular surfaces, high initial adhesion, high shear strength, and more.



223

Simply roll on a strip or band of 3M™ Double Coated Tape 9832 for quick edge banding with no special equipment. Pressure sensitive adhesive tape grabs with immediate handling strength for improved productivity.



224

With differential adhesive, the silicone adhesive side of 3M™ Double Coated Tape adheres to a silicone rubber keypad. Acrylic adhesive side adheres to a plastic base.



225

3M™ Double Coated Tape 410M is the quick, convenient way to bond golf club grips to shafts. Adhesive sets up fast and bonds firmly for long-lasting performance.



226

For precise fit, 3M™ Double Coated Tape is pre-applied to foam gasketing materials and then die-cut to size. This helps increase dimensional stability of the part to facilitate assembly.

| Adhesive Family <sup>1</sup> | Product Number | Tape Thickness w/o liner Mills (mm) | Carrier Type <sup>2</sup> | Liner Type <sup>2</sup> | Description  | Temperature Resistance |               |      | Solvent Resistance | Relative Adhesion |  | Application Ideas |
|------------------------------|----------------|-------------------------------------|---------------------------|-------------------------|--|------------------------|---------------|------|--------------------|-------------------|--|-------------------|
|                              |                |                                     |                           |                         |  | Minutes                | Hours         | Days |                    | Weeks             | HSE  |                   |
| 200MP High Perf              | 9492MP         | 2.5 (0.06)                          | PET                       | 58# PCK                 | • 2.5 mil version of 9495MP  | 300°F (149°C)          | 250°F (121°C) | High | High               | Low               | Automotive decorative trim attachment.                 |                   |
|                              | 9495MP         | 5.7 (0.14)                          | PET                       | 58# PCK                 | • Excellent peel strength on high surface energy plastics and metals |                        |               |      |                    |                   | Graphic attachment.<br>High-pressure laminate bonding. |                   |
|                              | 9495MPF        | 5.7 (0.14)                          | PET                       | PET                     | • Film lined version of 9495MP                                       |                        |               |      |                    |                   | LED lens attachment for cell phones.                   |                   |
|                              | 9495FL         | 5 (0.11)                            | PET                       | HDPE/58# PCK            | • Double Lined version of 9495MP                                     | 300°F (149°C)          | 200°F (93°C)  |      |                    |                   | LED lens attachment for cell phones.                   |                   |
|                              | 9495B          | 5.7 (0.14)                          | PET                       | 58# PCK                 | • 9495MP with a 0.5 mil black polyester carrier                      | 300°F (149°C)          | 250°F (121°C) |      |                    |                   | LED lens attachment for cellular phones and pagers.    |                   |

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™ Double Coated Tapes

| Adhesive Family <sup>1</sup> | Product Number | Tape Thickness w/o liner<br>Mils (mm) | Carrier Type* | Liner Type <sup>2</sup> | Description   | Temperature Resistance                 |                  | Solvent Resistance | Relative Adhesion |      | Application Ideas  |
|------------------------------|----------------|---------------------------------------|---------------|-------------------------|---|--|------------------|--------------------|-------------------|------|--|
|                              |                |                                       |               |                         |   | Minutes<br>Hours                       | Days<br>Weeks    |                    | HSE               | LSE  |  |
| 300 High Strength            | 444            | 3.8 (0.10)                            | PET           | 55# DK                  | • High tack acrylic adhesive with densified kraft liner   | 250°F<br>121°C                         | 150°F<br>(65°C)  | Low                | High              | High | Gasket attachment.<br>Good adhesion to most plastics.  |
|                              | 444PC          | 3.8 (0.10)                            | PET           | 58# PCK                 | • High tack acrylic adhesive with polycoated kraft liner  |  |                  |                    |                   |      | Gasket attachment.   |
|                              | 9009           | 1.9 (0.05)                            | PET           | 55# DK                  | • Thin double coat for applications where thickness is critical   | 250°F<br>(121°C)                       | 180°F<br>(82°C)  | Low                | Med.              | Med. | Gasket attachment in hand-held devices and laptops.  |
|                              | 9019           | 1.1 (0.03)                            | PET           | 55# DK                  | • Ultra-thin double coat for applications where thickness is critical   |  |                  |                    |                   |      | Plastic film lamination/bonding.   |
|                              | 9039           | 3.5 (0.09)                            | PET           | 55# DK                  | • Thin double coat where application thickness is critical  |  |                  |                    |                   |      |  |
| 300LSE High Strength         | 9490LE         | 6.7 (0.17)                            | PET           | 58# PCK                 | • 300MP adhesive on face side, 300LSE adhesive on the other   | 300°F<br>(149°C)                       | 200°F<br>(93°C)  | Medium             | High              | High | Gasket attachment to low surface energy surfaces.  |
|                              | 9495LE         | 6.7 (0.17)                            | PET           | 58# PCK                 | • 300LSE adhesive on both sides for low surface energy surfaces   |  |                  |                    |                   |      | Plastic extrusion attachment.  |
| 300MP High Strength          | 9609           | 9 (0.23)                              | PET           | 83# PCK                 | • Thick double coat. Provided on 6" core only   | 300°F<br>(149°C)                       | 150°F<br>(65°C)  | Medium             | High              | Med. | Foam lamination.   |
|                              | 9687           | 12 (0.30)                             | PET           | PET                     | • Thick double coat for bonding to foam with clear polyester carrier  |  |                  |                    |                   |      | Gasket attachment.   |
|                              | 9690           | 5.6 (0.14)                            | PET           | 83# PCK                 | • Excellent adhesion to most plastics and foams   |  |                  |                    |                   |      | Foam lamination.<br>Gasket attachment.   |
|                              | 9690B          | 5.6 (0.14)                            | PET           | 83# PCK                 | • 9690 with a 0.5 mil black polyester carrier   |  |                  |                    |                   |      | LED lens attachment for cellular phones and pagers.  |
|                              | 9786           | 5.5 (0.14)                            | Non-woven     | 58# PCK printed         | • Thin non woven carrier for dimensional stability and improved handling  |  |                  |                    |                   |      | LED lens attachment for cell phones.   |
|                              | 9786NP         | 5.5 (0.14)                            | Non-woven     | 58# PCK unprinted       | • Same as 9786 except an unprinted liner  |  |                  |                    |                   |      | LED lens attachment for cell phones.   |
|                              | 9832           | 4.8 (0.10)                            | PET           | 58# PCK                 | • Excellent adhesion to most foams<br>• Immediate handling strength for edge banding, veneering, refacing, and laminating<br>• Excellent adhesion to most foams |  |                  |                    |                   |      | Permanent bonds for many materials fused in woodworking and furniture.   |
|                              | 9832HL         | 4.8 (0.10)                            | PET           | 83# PCK                 | • Same as 9832 except with a heavier liner  |  |                  |                    |                   |      |  |
| 340 High Strength            | 469            | 5.5 (0.14)                            | Tissue        | 72# DK                  | • High temp, high tack, light red   | 350°F<br>(177°C)                       | 200°F<br>(93°C)  | Medium             | High              | Med. | High speed flying splices.   |
|                              | 9456           | 5 (0.11)                              | Tissue        | 55# DK                  | • Tissue carrier with high tack adhesive  | 180°F<br>(82°C)                        | 150°F<br>(65°C)  |                    |                   |      | Bond fabric to window blind valances.<br>General purpose laminating.<br>Foam lamination.<br>Gasket attachment. |
|                              | 9824           | 3.1 (0.08)                            | PET           | 55# DK                  | • High tack, general purpose acrylic adhesive   | 150°F<br>(65°C)                        | 120°F<br>(49°C)  |                    |                   |      | Foam lamination.<br>Gasket attachment.   |
|                              | 9828           | 4 (0.10)                              | PET           | 55# DK                  | • High tack, acrylic adhesive with good adhesion to many foams  |  |                  |                    |                   |      |  |
|                              | 9828HL         | 4 (.10)                               | PET           | 132# Kraft              | • Same as 9828 with a heavier liner   |  |                  |                    |                   |      |  |
|                              | 9828PC         | 4 (.10)                               | PET           | 74# PCK                 | • Same as 9828 with PCK liner   | Foam lamination.<br>Gasket attachment. |                  |                    |                   |      |  |
| 350 High Holding             | 9500PC         | 5.6 (0.14)                            | PET           | 61.5# PCK               | • High performance on a wide array of surfaces  | 350°F<br>(177°C)                       | 250°F<br>(121°C) | High               | High              | High | LED lens attachment for cellular phones and pagers.  |
| 375 High Performance         | 9086           | 7.5 (0.17)                            | Tissue        | Glassine Paper          | • Good initial tack   | 248°F<br>(120°C)                       | 185°F<br>(85°C)  | Medium             | High              | High | POP displays.<br>Metal fabrication.<br>Sports equipment.<br>Indoor/outdoor signs.                              |
|                              | 9087           | 10.2 (0.22)                           | PVC           | Glassine Paper          |   | 185°F<br>(85°C)                        | 158°F<br>(70°C)  |                    |                   |      |  |
|                              | 9088           | 8.3 (0.22)                            | PET           | Glassine Paper          |   | 300°F<br>(150°C)                       | 200°F<br>(93°C)  |                    |                   |      |  |
|                              | 9088FL         | 8.3 (0.22)                            | PET           | PP                      |   |  |                  |                    |                   |      |  |

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.

**Relative Adhesion:** HSE – High Surface Energy , LSE – Low Surface Energy

\*PET is polyester, PP is polypropylene. <sup>1</sup> More information on pages 80-81. <sup>2</sup> More information on page 71.

3M™ Double Coated Tapes (continued)

| Adhesive Family <sup>1</sup> | Product Number | Tape Thickness w/o liner Mils (mm) | Carrier Type <sup>2</sup> | Liner Type <sup>2</sup> | Description  | Temperature Resistance                         |   | Solvent Resistance | Relative Adhesion |      | Application Ideas   |  |  |  |  |
|------------------------------|----------------|------------------------------------|---------------------------|-------------------------|--|--|---|--------------------|-------------------|------|---|--|--|--|--|
|                              |                |                                    |                           |                         |  | Minutes Hours                                  | Days Weeks                                    |                    | HSE               | LSE  |   |  |  |  |  |
| 400 Acrylic                  | 415            | 4 (0.1)                            | PET                       | 60# DK                  | • High tack adhesion to paper and many other surfaces  | 180°F (82°C)                                   | 150°F (65°C)                                  | Medium             | Med.              | Low  | Splice papers, films and foils.   |  |  |  |  |
|                              | 9420           | 4 (0.1)                            | PET                       | 60# DK                  | • 415 with a 0.5 mil red carrier   |  |   |                    |                   |      |   |  |  |  |  |
|                              | 9576           | 4 (0.1)                            | PP                        | 60# DK                  | • Transparent carrier  | 165°F (75°C)                                   | 125°F (52°C)                                  | Medium             | Med.              | Low  | Splicing, core starting, miscellaneous joint and bonding, hand tearable.              |  |  |  |  |
|                              | 9576B          | 4 (0.1)                            | PP                        | 60# DK                  | • Black carrier  |  |   |                    |                   |      |   |  |  |  |  |
|                              | 9576R          | 4 (0.1)                            | PP                        | 60# DK                  | • Red carrier  |  |   |                    |                   |      |   |  |  |  |  |
|                              | 9576Y          | 4 (0.1)                            | PP                        | 60# DK                  | • Yellow carrier   |  |   |                    |                   |      |   |  |  |  |  |
|                              | 9578           | 4 (0.1)                            | PP                        | 60# DK                  | • Transparent carrier  |  |   |                    |                   |      |   |  |  |  |  |
| 420 Acrylic                  | 9795           | 5.6 (0.14)                         | PET                       | 83# PCK                 | • Double coated version of 3M Tape 9695 for foam lamination and graphic attachment   | 300°F (149°C)                                  | 250°F (121°C)                                 | Medium             | Med.              | Low  | LED lens attachment for cell phones.  |  |  |  |  |
|                              | 9795B          | 5.6 (0.14)                         | PET                       | 83# PCK                 | • Thin black polyester carrier for improved handling, die-cutting  |  |   |                    |                   |      |   |  |  |  |  |
| 700 Synthetic Rubber         | 9377           | 11 (0.25)                          | PP                        | 58# PCK                 | • Flame retardant with specially formulated black acrylic based adhesive on one side and rubber based adhesive on the other. | 250°F (121°C)                                  | 180°F (82°C)                                  | Medium             | N/A               | N/A  | Carpet installation bonding carpet to interior floor boards.                          |  |  |  |  |
|                              | 760 9443NP     | 6 (0.15)                           | HDPE                      | 62# DK                  | • High tack with good adhesion to most plastics  | 180°F (82°C)                                   | 150°F (65°C)                                  | Medium             | High              | High | Assemble computer ink cartridges. Bonding polyethylene. Core starting on metal cores. |  |  |  |  |
|                              | 760 9579       | 9 (0.23)                           | HDPE                      | 62# DK                  | • General purpose, high tack, hand-tearable film tape  | 150°F (65°C)                                   | 120°F (49°C)                                  |                    |                   |      | Carpet attachment.  |  |  |  |  |
|                              | 760 9589       | 9 (0.23)                           | HDPE                      | 62# DK                  | • Aggressive high initial tack   |  |   |                    |                   |      |   |  |  |  |  |
| 800 Natural Rubber           | 860 401M       | 9 (0.23)                           | Paper                     | 54# DK                  | • Thick flatstock paper carrier  | 180°F (82°C)                                   | 150°F (65°C)                                  | Medium             | High              | Med. | Mount printing plates.  |  |  |  |  |
|                              | 850 410M       | 6 (0.06)                           | Paper                     | 54# DK                  | • Smooth adhesive on both sides  | 200°F (93°C)                                   | 150°F (65°C)                                  |                    |                   |      | Core starting/end tabbing of papers, films and foils.                                 |  |  |  |  |
|                              | 830 442F       | 4 (0.1)                            | PET                       | PET                     | • Same as 442KW with film liner  | 180°F (82°C)                                   | 150°F (65°C)                                  |                    |                   |      | Mount polishing pads.   |  |  |  |  |
|                              | 442KW          | 4 (0.1)                            | PET                       | 72# PCK                 | • Removes from metals  |  |   |                    |                   |      |   |  |  |  |  |
|                              | 456CR          | 4 (0.1)                            | PET                       | PET                     | • Easy release blue adhesive   |  |   |                    |                   |      |   |  |  |  |  |
| 900 Misc.                    | 9737           | 4 (0.1)                            | PET                       | 55# DK                  | • Aggressive and versatile for many surfaces   | 300°F (149°C)                                  | 260°F (127°C)                                 | High               | Med.              | Low  | Double coated splicing tape.  |  |  |  |  |
|                              | 9737R          | 4 (0.1)                            | PET                       | 55# DK                  | • Same as 9737 in Red  |  |   |                    |                   |      |   |  |  |  |  |
|                              | 9738           | 5.6 (0.14)                         | Non-Woven Tissue          | 55# DK                  | • Aggressive and versatile for many surfaces   |  |   |                    |                   |      |   |  |  |  |  |
|                              | 9738R          |                                    |                           |                         | • Same as 9738 in Red  |  |   |                    |                   |      |   |  |  |  |  |
|                              | 9740           | 4 (0.1)                            | PET                       | 55# DK                  | • High temperature performance with high peel, tack, and shear for splicing applications                                     | 425°F (218°C)                                  | N/A   | Medium             | Med.              | Low  | Double coated splicing tape.  |  |  |  |  |
|                              | 9741           | 7 (0.18)                           | PET                       | 55# Glassine            | • Thick, adheres to a wide variety of substrates   | 200°F (93°C)                                   |   |                    |                   |      |   |  |  |  |  |
|                              | 9816L          | 3.5 (0.09)                         |                           | 60#                     | • General purpose, high tack, rubber-based adhesive.   | 150°F (65°C)                                   | 120°F (49°C)                                  | Medium             | High              | Med  |   |  |  |  |  |
|                              | 9816M          |                                    |                           | 74# Kraft               |  |  |   |                    |                   |      |   |  |  |  |  |
|                              | 9816H          |                                    |                           | 14 pt board             |  |  |   |                    |                   |      |   |  |  |  |  |
|                              | 9817L          | 3.3 (0.08)                         |                           | 60#                     | • Exposed side is acrylic, liner side is rubber-based. Excellent quick stick and adhesion to high and low energy surfaces.   | Acrylic: 220°F (105°C)<br>Rubber: 175°F (80°C) | Acrylic: 175°F (80°C)<br>Rubber: 120°F (49°C) | Medium             | High              | Med  |   |  |  |  |  |
| 9817M                        | 74# Kraft      |                                    |                           |                         |  |  |   |                    |                   |      |   |  |  |  |  |
| 9817H                        | 14 pt board    |                                    |                           |                         |  |  |   |                    |                   |      |   |  |  |  |  |
| Silicone                     | 9731           | 5.5 (0.14)                         | PET                       | PET/PCK                 | • High performance acrylic adhesive/silicone adhesive, double lined  | 350°F (177°C)                                  | 250°F (121°C)                                 | Medium             | High              | High | Silicone keypad attachment. Printer toner cartridge refurbishing.                     |  |  |  |  |
| Misc.                        | 9599           | 5 (0.2)                            | PP                        | DK White                | • High adhesion to a variety of materials<br>• Low VOC   | 200°F (93°C)                                   | 180°F (82°C)                                  | Medium             | High              | High | Suitable for automotive interior applications.  |  |  |  |  |

Relative Adhesion: HSE – High Surface Energy, LSE – Low Surface Energy

<sup>1</sup>PET is polyester, PP is polypropylene.

<sup>2</sup> More information on pages 80-81. <sup>2</sup> More information on page 73.

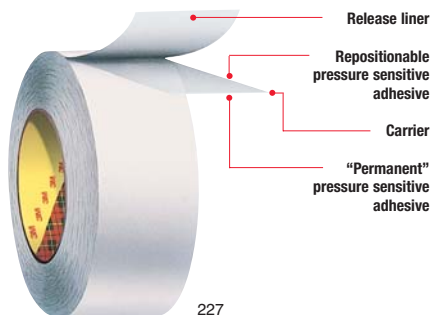
Note: The technical information and data provided here should be considered representative or typical only and should not be used for specification purposes. User should evaluate the 3M product to determine whether it is fit for a particular purpose and suitable for user's method of application.



# 3M™ Removable/Repositionable Tapes

## Versatility for many substrates on on-off and open-close applications

Some 3M™ Removable/Repositionable Tapes feature a “permanent” adhesive on one side of a film or tissue carrier and a removable/repositionable adhesive on the other side.



227

Other tapes in the line offer different levels of adhesion on each side. And others feature equal adhesive strength on each side for reliable attachment but with easy separation for repositioning or multiple openings and closings. You can join substrates that include glass, metals, wood, paper, painted surfaces, and many plastics.

With lined versions, you can initially join one side to a surface while the other side is covered with the liner, ready to be joined later to the second surface. Linerless versions are used for bonding both surfaces at the same time.



228

3M™ Removable/Repositionable Tape seals hosiery bags for shipment and display but also lets the customer open and reclose the bag as necessary.



229

High tack side of 3M™ Removable/Repositionable Tape 9415 “permanently” adheres to cores for winding up paper or film. Low tack side releases the paper or film when unwinding.

## 3M™ Removable/Repositionable Tapes

|                          | Product Number | Adhesive Type | Tape Thickness w/o liner<br>Mils (mm) | Liner Type <sup>2</sup> | Description  | Temperature Resistance |                 | Solvent Resistance | HSE         | LSE     | Application Ideas   |
|--------------------------|----------------|---------------|---------------------------------------|-------------------------|--|------------------------|-----------------|--------------------|-------------|---------|---|
|                          |                |               |                                       |                         |  | Minutes<br>Hours       | Days<br>Weeks   |                    |             |         |   |
| Removable/Repositionable | 665            | 1070          | 3.5 (0.09)                            | Linerless               | <ul style="list-style-type: none"> <li>• Clear UPVC film carrier</li> <li>• Slight differential tack</li> </ul>    | 125°F<br>(52°C)        | 100°F<br>(38°C) | Medium             | Med.        | Med.    | Close polybags. Attach bottle outserts. Attach microscope slides to holder.   |
|                          | 666            | 1070          | 3.5 (0.09)                            | LDPE                    | <ul style="list-style-type: none"> <li>• Clear UPVC film carrier</li> <li>• Slight differential tack</li> </ul>    | 125°F<br>(52°C)        | 100°F<br>(38°C) | Medium             | Med.        | Med.    | Attach chemically sensitive film to test sticks.  |
|                          | 4451           | 700           | 32 (0.8)                              | 60# PCK                 | • Polyethylene foam with synthetic rubber adhesive   | 150°F<br>(66°C)        | 120°F<br>(49°C) | Medium             | High        | Med.    | Option of foam if you want removability. Temporary sign.  |
|                          | 4658F          | 100           | 31 (0.8)                              | PET                     | • Clear, closed foam acrylic foam tape   | 212°F<br>(100°C)       | 175°F<br>(80°C) | High               | High        | Low     | Removable P.O.P. displays, signs, exhibitions, and nameplates.  |
|                          | 9415PC         | 400/1000*     | 2 (0.05)                              | 78# PCK                 | <ul style="list-style-type: none"> <li>• 1 mil polyester film carrier</li> <li>• High tack/low tack</li> </ul>     | 180°F<br>(82°C)        | 150°F<br>(65°C) | Low                | Med/<br>Low | Low     | Core starting/end tabbing. Hold credit cards in mailers. Close envelopes.   |
|                          | 9416           | 400/1000*     | 1.5 (0.04)                            | 78# PCK                 | <ul style="list-style-type: none"> <li>• Translucent white tissue carrier</li> <li>• High tack/low tack</li> </ul> | 180°F<br>(82°C)        | 150°F<br>(65°C) | Low                | Med/<br>Low | Low     | Removable labels and photos.  |
|                          | 9425           | 420/1050*     | 5.5 (0.14)                            | 58# PCK                 | <ul style="list-style-type: none"> <li>• Clear UPVC film carrier</li> <li>• High tack/medium tack</li> </ul>       | 125°F<br>(52°C)        | 100°F<br>(38°C) | Low                | Med/<br>Low | Low/Low | Close polybags and envelopes. Core starting/end tabbing. Backlit signs. Attach labels, novelties, posters, P.O.P. displays. |
|                          | 9425HT         | 420/1050*     | 5.0 (0.13)                            | 58# PCK                 | <ul style="list-style-type: none"> <li>• High tack/medium tack</li> <li>• PET film carrier</li> </ul>              | 250°F<br>(121°C)       | 200°F<br>(93°C) | High               | Med.        | Med.    | Same as 9425 but with higher temperature performance.   |
|                          | 9449S**        | 1000          | 0.4 (0.01)                            | 55# DK                  | • Laminates to various substrates to make them repositionable  | 150°F<br>(65°C)        | 120°F<br>(49°C) | Low                | Low         | Low     | Easy removal with little or no residue.   |

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.

\* Second number reflects removable/repositionable adhesive side.

\*\*3M™ Adhesive Transfer Tape

<sup>2</sup> More information on page 71.

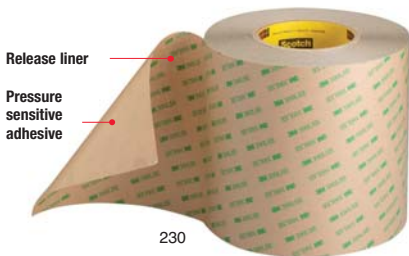
## 3M™ Adhesive Transfer Tapes

**Neat, precise application and high performance in a variety of applications**

3M™ Adhesive Transfer Tapes are rolls of pressure sensitive adhesive pre-applied to a special release liner.

For application, the tape is simply pressed, adhesive side down, to a surface and the liner is peeled off.

A variety of adhesive properties and liners are available to meet requirements for applications such as nameplate attachment to high and low surface energy plastics, appliance graphic overlays that perform in high temperatures, foam gasketing, web splicing, and more.



With high cohesive strength, 3M™ Adhesive 200MP bonds aggressively with excellent temperature resistance. Meets the non-fogging specifications of the automotive industry.

231



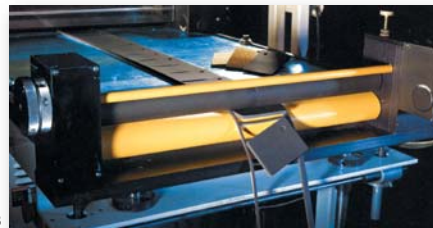
For bonding flexible vinyl in such applications as door gaskets, 3M™ Adhesive Transfer Tape F9465PC resists the effect of plasticizers that tend to migrate from the vinyl.

232



3M™ Laminating Adhesive 300LSE is the solution for low energy surfaces such as polyolefins and powder coat paint. Graphics hold securely and stand up to tough environmental conditions.

233



3M™ Adhesive Transfer Tapes provide conformability in a variety of foam laminating applications. The acrylic adhesive also provides high shear strength and good environmental aging properties.

234



3M™ Adhesive Transfer Tape 465 has the grab strength for many printing splices, including flying splices, zero speed and manual overlap. Can be used with a variety of paper grades.

235



3M™ Adhesive Transfer Tape 467MP is used to laminate metal foil to a circuit board to reduce interference on electronic circuitry.

236



For graphic beauty, 3M™ Acrylic Adhesive 100 attaches graphics in closed environments. With low odor, reduced outgassing and low fogging, it is used extensively in the automotive, aerospace, and appliance industries.

237

### 3M™ Adhesive Transfer Tapes

| Adhesive Family <sup>1</sup>  | Product Number | Tape Thickness w/o liner<br>Mils (mm) | Liner Type <sup>2</sup>   | Description   | Temperature Resistance |                  | Solvent Resistance | Relative Adhesion |      | Application Ideas   |
|-------------------------------|----------------|---------------------------------------|---|---|------------------------|------------------|--------------------|-------------------|------|---|
|                               |                |                                       |   |   | Minutes<br>Hours       | Days<br>Weeks    |                    | HSE               | LSE  |   |
| 100<br>High<br>Temp           | 941            | 2 (0.05)                              | 58# PCK   | <ul style="list-style-type: none"> <li>High temperature, low outgassing</li> </ul>  | 450°F<br>(232°C)       | 300°F<br>(149°C) | High               | High              | Low  | Graphic attachment for appliances.<br>Flex circuit attachment.<br>Aerospace fuel line labeling.<br>Meets NASA low volatility specs. |
|                               | 965            | 2 (0.05)                              | 55# DK  |   |                        |                  |                    |                   |      |   |
|                               | 966            | 2 (0.05)                              | 62# DK  |   |                        |                  |                    |                   |      |   |
|                               | 9461P          | 1 (0.025)                             | 55# DK  |   |                        |                  |                    |                   |      |   |
|                               | 9462P          | 2 (0.05)                              |   |   |                        |                  |                    |                   |      |   |
| 100MP                         | 9437           | 2 (0.05)                              | PET/58# PCK   | <ul style="list-style-type: none"> <li>Designed for harsh environments and outdoors</li> <li>High shear strength, high temperature resistance</li> <li>UL listing 746C</li> </ul> | 450°F<br>(232°C)       | 300°F<br>(149°C) | High               | High              | Low  | Automotive and aerospace applications.  |
|                               | F9460PC        | 2 (0.05)                              | 58# PCK   |   |                        |                  |                    |                   |      |   |
|                               | F9469PC        | 5 (0.13)                              |   |   | 500°F<br>(260°C)       | 300°F<br>(149°C) | High               | High              | Low  | Industrial joining and metal fabrication.   |
|                               | F9473PC        | 10 (0.25)                             |   |   |                        |                  |                    |                   |      |   |
| 100HT                         | 9082           | 2 (0.05)                              | White DK  | <ul style="list-style-type: none"> <li>Excellent heat resistance in high temperature environments</li> </ul>  | 530°F<br>(277°C)       | 350°F<br>(177°C) | High               | High              | Low  | For applications that require both higher processing and operating temperatures such as lead-free solder reflow processes.          |
|                               | 9085           | 5 (0.13)                              |   |   |                        |                  |                    |                   |      |   |
| 200MP<br>High<br>Perf         | 467MP          | 2 (0.05)                              | 58# PCK   | <ul style="list-style-type: none"> <li>High performance, high temperature formulation</li> <li>Rotary die-cuttable liner</li> </ul>   | 400°F<br>(204°C)       | 300°F<br>(149°C) | High               | High              | Low  | General industrial joining.<br>Industry standard for graphic attachment and die-cut parts.  |
|                               | 468MP          | 5 (0.13)                              |   |   |                        |                  |                    |                   |      |   |
|                               | 467MPF         | 2 (0.05)                              | PET   |   |                        |                  |                    |                   |      |   |
|                               | 468MPF         | 5 (0.13)                              |   |   |                        |                  |                    |                   |      |   |
|                               | 9172MP         | 2 (0.06)                              | HDPE/58# PCK  |   |                        |                  |                    |                   |      |   |
|                               | 9185MP         | 5 (0.13)                              | HDPE/58# PCK  |   |                        |                  |                    |                   |      |   |
|                               | 9667MP         | 2 (0.06)                              | 83# PCK   |   |                        |                  |                    |                   |      |   |
|                               | 9668MP         | 5 (0.13)                              | 83# PCK   |   |                        |                  |                    |                   |      |   |
| 220<br>Industrial<br>Acrylic  | 9502           | 2 (0.05)                              | 58# PCK   | <ul style="list-style-type: none"> <li>Economical acrylic formulation</li> </ul>  | 350°F<br>(177°C)       | 250°F<br>(121°C) | Medium             | High              | Low  | Attachment of graphics and industrial joining.  |
|                               | 9505           | 5 (0.12)                              |   |   |                        |                  |                    |                   |      |   |
| 290<br>Low<br>Out-<br>gassing | 501FL          | 1 (0.025)                             | PET   | <ul style="list-style-type: none"> <li>Very low outgassing</li> </ul>   | 450°F<br>(232°C)       | 300°F<br>(149°C) | High               | High              | Low  | Hard disc drive seals, low odor and outgassing applications.  |
|                               | 502FL          | 2 (0.05)                              |   |   |                        |                  |                    |                   |      |   |
| 300FR<br>Flame<br>Retardant   | 9372DKW        | 2 (0.05)                              | 55# DK  | <ul style="list-style-type: none"> <li>Flame retardant transfer tape with rotary die-cuttable liner</li> <li>Flame retardant transfer tape with moisture-stable liner</li> </ul>  | 180°F<br>(82°C)        | 150°F<br>(65°C)  | Medium             | High              | High | Automotive, aerospace, and building construction.   |
|                               | 9372W          | 5 (0.12)                              | 83# PCK   |   |                        |                  |                    |                   |      |   |
|                               | 9375W          |                                       |   |   |                        |                  |                    |                   |      |   |
| 300<br>High<br>Strength       | 927            | 2 (0.05)                              | 60# DK  | <ul style="list-style-type: none"> <li>High tack, excellent adhesion to LSE plastics and foams</li> </ul>   | 250°F<br>(121°C)       | 150°F<br>(65°C)  | Medium             | High              | High | High adhesion custom labels.<br>Attach gaskets and a variety of industrial foam materials.<br>Foam lamination to various surfaces.  |
|                               | 950            | 5 (0.13)                              | 60# DK  |   |                        |                  |                    |                   |      |   |
|                               | 950EK          | 5 (0.13)                              | 78# EK  |   |                        |                  |                    |                   |      |   |
|                               | 992U           | 2 (0.05)                              | 55# DK  |   |                        |                  |                    |                   |      |   |
|                               | 9458           | 1 (0.025)                             | 55# DK  |   |                        |                  |                    |                   |      |   |
|                               | 9459W          | 1.5 (0.04)                            | 55# DK  | <ul style="list-style-type: none"> <li>White adhesive</li> <li>High opacity</li> </ul>  | 250°F<br>(121°C)       | 150°F<br>(65°C)  | Low                | High              | High | Gasket attachment, foam fabric and/or coated papers.  |
|                               | 9471           | 2 (0.05)                              | 60# DK  | <ul style="list-style-type: none"> <li>For smooth LSE plastics</li> </ul>   |                        |                  |                    |                   |      |   |
|                               | 9471PC         | 2 (0.05)                              | 61# PCK   | <ul style="list-style-type: none"> <li>Same as 9471 on moisture-stable liner</li> </ul>   |                        |                  |                    |                   |      |   |
|                               | 9472           | 5 (0.13)                              | 60# DK  | <ul style="list-style-type: none"> <li>5.0 mil version of 9471 for textured surfaces</li> </ul>   |                        |                  |                    |                   |      |   |
|                               | 9671           | 2 (0.05)                              | 83# PCK   | <ul style="list-style-type: none"> <li>Heavy lined version of 9471</li> </ul>   |                        |                  |                    |                   |      |   |
| 9672                          | 5 (0.13)       | 83# PCK                               | <ul style="list-style-type: none"> <li>Heavy lined version of 9472</li> </ul> |   |                        |                  |                    |                   |      |   |

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.

**Relative Adhesion:**

HSE – High Surface Energy    LSE – Low Surface Energy

<sup>1</sup> More information on pages 80-81.    <sup>2</sup> More information on page 71.



3M™ Adhesive Transfer Tapes (continued)

| Adhesive Family <sup>1</sup> | Product Number | Tape Thickness w/o liner Mils (mm) | Liner Type <sup>2</sup>   | Description  | Temperature Resistance |               | Solvent Resistance | Relative Adhesion |      | Application Ideas  |      |      |      |   |
|------------------------------|----------------|------------------------------------|---|--|------------------------|---------------|--------------------|-------------------|------|--|------|------|------|---|
|                              |                |                                    |   |  | Minutes Hours          | Days Weeks    |                    | HSE               | LSE  |  |      |      |      |   |
| 300 High Strength (cont.)    | 9673           | 2 (0.05)                           | 83# PCK   | <ul style="list-style-type: none"> <li>Same as 9671 with unprinted liner</li> <li>Same as 9673 but for textured surfaces</li> </ul>            | 250°F (121°C)          | 150°F (65°C)  | Low                | High              | High | Gasket attachment, foam fabric and/or coated papers.   |      |      |      |   |
|                              | 9674           | 5 (0.13)                           |   |  |                        |               |                    |                   |      |  |      |      |      |   |
| 300LSE High Strength         | 8132LE         | 2 (0.05)                           | 83#/58# PCK   | <ul style="list-style-type: none"> <li>High bond to plastics with high temperature holding</li> </ul>  | 300°F (149°C)          | 200°F (93°C)  | High               | High              | High | Bond graphics to powder coatings, LSE plastics and oily metal. General industrial bonding of LSE materials.                    |      |      |      |   |
|                              | 8153LE         | 3.5 (0.09)                         |   |  |                        |               |                    |                   |      |  |      |      |      |   |
|                              | 9453LE         | 3.5 (0.09)                         | 58# PCK   |  |                        |               |                    |                   |      |  |      |      |      |   |
|                              | 9471LE         | 2 (0.05)                           |   |  |                        |               |                    |                   |      |  |      |      |      |   |
|                              | 9472LE         | 5 (0.13)                           |   |  |                        |               |                    |                   |      |  |      |      |      |   |
|                              | 9453FL         | 3.5 (0.09)                         | PET   | <ul style="list-style-type: none"> <li>Film lined version of 9453LE for rotary processing</li> </ul>   |                        |               |                    |                   |      |  |      |      |      |   |
|                              | 9471FL         | 2 (0.05)                           | PET   | <ul style="list-style-type: none"> <li>Film lined version of 9471LE for rotary processing</li> </ul>   |                        |               |                    |                   |      |  |      |      |      |   |
|                              | 9472FL         | 5 (0.13)                           | PET   | <ul style="list-style-type: none"> <li>5.0 mil version of 9471LE with liner for textured surfaces</li> </ul>                                   |                        |               |                    |                   |      |  |      |      |      |   |
|                              | 9653LE         | 3.5 (0.09)                         | 83# PCK   | <ul style="list-style-type: none"> <li>High bond to plastics with high temperature holding</li> </ul>  |                        |               |                    |                   |      |  |      |      |      |   |
|                              | 9671LE         | 2 (0.05)                           |   |  |                        |               |                    |                   |      |  |      |      |      |   |
| 9672LE                       | 5 (0.13)       |                                    |   |  |                        |               |                    |                   |      |  |      |      |      |   |
| 300MP High Strength          | 6035PC         | 5 (0.13)                           | 58# PCK   | <ul style="list-style-type: none"> <li>Low fogging for automotive interior applications</li> </ul>   | 250°F (121°C)          | 180°F (82°C)  | Medium             | High              | Med. | Bond anti-squeak fabric and foam. For automotive interior.   |      |      |      |   |
|                              | 6035PL         | 5 (0.13)                           | 83# PCK   | <ul style="list-style-type: none"> <li>Heavy lined version of 6035PC for easy handling, lay-flat properties</li> </ul>                         |                        |               |                    |                   |      |  | High | Med. | High | Automotive, low fogging adhesive for fabric carpet. |
|                              | 6038PC         | 8 (0.2)                            | 58# PCK   | <ul style="list-style-type: none"> <li>Low fogging for automotive interior applications</li> </ul>   |                        |               |                    |                   |      |  |      |      |      |   |
|                              | 6038PL         | 8 (0.20)                           | 83# PCK   | <ul style="list-style-type: none"> <li>Low fogging</li> <li>For rough embossed surfaces with heavy liner for steel rule die-cutting</li> </ul> |                        |               |                    |                   |      |  | High | Med. | High | Automotive, low fogging adhesive for fabric carpet. |
|                              | 9772WL         | 2 (0.05)                           | 96# PCK   | <ul style="list-style-type: none"> <li>Provides excellent bond to various fabricated foams, fabrics and substrates</li> </ul>                  |                        |               |                    |                   |      |  |      |      |      |   |
|                              | 9773WL         | 3 (0.075)                          |   |  |                        |               |                    |                   |      |  |      |      |      |   |
|                              | 9774WL         | 4 (0.10)                           |   |  |                        |               |                    |                   |      |  |      |      |      |   |
|                              | 9775WL         | 5 (0.13)                           |   |  |                        |               |                    |                   |      |  |      |      |      |   |
| 9784                         | 4 (0.1)        | HDPE/58# PCK                       |   |  |                        |               |                    |                   |      |  |      |      |      |   |
| 350 High Holding             | 9442           | 2 (0.05)                           | 55# DK  | <ul style="list-style-type: none"> <li>High tack, high shear and high temperature performance</li> </ul>                                       | 450°F (232°C)          | 300°F (149°C) | High               | High              | High | Laminate high performance plastics and difficult substrates. Splice metal coils.   |      |      |      |   |
|                              | 9445           | 5 (0.13)                           |   |  |                        |               |                    |                   |      |  |      |      |      |   |
|                              | 9482PC         | 2 (0.05)                           | 62# PCK   | <ul style="list-style-type: none"> <li>Excellent adhesion to LSE plastics and foams</li> </ul>   |                        |               |                    |                   |      |  |      |      |      |   |
|                              | 9485EK         | 5 (0.13)                           | 78# EK  |  |                        |               |                    |                   |      |  |      |      |      |   |
|                              | 9485PC         | 5 (0.13)                           | 62# PCK   |  |                        |               |                    |                   |      |  |      |      |      |   |
|                              | 9675           | 5 (0.13)                           | 83# PCK   | <ul style="list-style-type: none"> <li>Heavy lined version of 9485PC for easy handling, lay-flat properties</li> </ul>                         |                        |               |                    |                   |      |  | High | High | High | LED lens attachment for cellular phones and pagers. |
|                              |                |                                    |   |  |                        |               |                    |                   |      |  |      |      |      |   |
| 400 Acrylic                  | 463            | 2 (0.05)                           | 60# DK  | <ul style="list-style-type: none"> <li>High tack</li> <li>Excellent adhesion to most paper stocks</li> <li>Flexible to -60°F</li> </ul>        | 250°F (121°C)          | 180°F (82°C)  | Medium             | Med.              | Low  | Paper splicing and general office and commercial joining. Validation labels and parking permits on car windows. Splicing tape. |      |      |      |   |
|                              | 465            |                                    |   |  |                        |               |                    |                   |      |  |      |      |      |   |
|                              | 9457           | 1 (0.025)                          | 55# DK  |  |                        |               |                    |                   |      |  |      |      |      |   |
|                              | 9464           | 2 (0.05)                           | 60# DK  | <ul style="list-style-type: none"> <li>Pink tinted adhesive</li> <li>Industrial-grade adhesive transfer tape</li> </ul>                        |                        |               |                    |                   |      |  |      |      |      |   |
|                              | 9498           |                                    |   |  |                        |               |                    |                   |      |  |      |      |      |   |
| 9665                         | 2 (0.05)       | 58# PCK                            | <ul style="list-style-type: none"> <li>Thicker liner than 465 for moisture stability in kiss-cutting</li> </ul> |  |                        |               |                    |                   |      |  |      |      |      |   |

**Relative Adhesion:**

HSE – High Surface Energy

LSE – Low Surface Energy

<sup>1</sup> More information on pages 80-81.

<sup>2</sup> More information on page 71.

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™ Adhesive Transfer Tapes (continued)

| Adhesive Family <sup>1</sup> | Product Number | Tape Thickness w/o liner Mils (mm) | Liner Type <sup>2</sup> | Description  | Temperature Resistance |               | Solvent Resistance | Relative Adhesion |      | Application Ideas   |
|------------------------------|----------------|------------------------------------|-------------------------|--|------------------------|---------------|--------------------|-------------------|------|---|
|                              |                |                                    |                         |  | Minutes Hours          | Days Weeks    |                    | HSE               | LSE  |   |
| 420                          | F9752PC        | 2 (0.05)                           | 58# PCK                 | <ul style="list-style-type: none"> <li>High tack</li> <li>Can be applied as low as 32°F (0°C)</li> </ul> | 300°F (149°C)          | 250°F (121°C) | High               | Med.              | Low  | Bond gaskets and foams. Bond polycarbonate instrument panels. |
|                              | F9755PC        | 5 (0.13)                           | 58# PCK                 |  |                        |               |                    |                   |      |   |
| 430                          | 9497           | 2 (0.05)                           | 60# DK                  | • Pink • High temperature splicing   | 350°F (177°C)          | 250°F (121°C) | Medium             | Med.              | Low  | High temperature, zero speed splicing.                        |
|                              | 9499           |                                    |                         | • Clear version of 9497  |                        |               |                    |                   |      |   |
| Specialty                    | F9465PC        | 5 (0.13)                           | 58# PCK                 | <ul style="list-style-type: none"> <li>Medium tack</li> <li>Plasticizer resistant</li> </ul>             | 200°F (93°C)           | 160°F (71°C)  | Medium             | Med.              | Low  | Bonding plasticized vinyl gaskets, decals and moldings.       |
|                              | 8056           | 5 (0.13)                           | 58# PCK                 | • High tack, for hard to bond surfaces   | 150°F (65°C)           | 120°F (49°C)  | Low                | High              | Med. | Splicing photographic papers.                                 |
|                              | 909            | 1.5 (0.04)                         | 60# DK                  | • Assembly aid tape  | 180°F (82°C)           | 150°F (65°C)  | Medium             | Med.              | Med. | Assembly aid for pick and place.                              |

#### Relative Adhesion:

HSE – High Surface Energy

LSE – Low Surface Energy

<sup>1</sup> More information on pages 80-81.

<sup>2</sup> More information below.

### Liner Characteristics

| Description                                  | Caliper (mils) | Use  |
|--|----------------|--|
| 43# Densified Kraft paper (DK)               | 2.5            | Inexpensive secondary liner, protects from humidity extremes.  |
| 55# Densified Kraft paper (DK)               | 3.2            | Excellent liner for rotary die-cutting; reduces edge roll on metal parts, protects from humidity extremes. |
| 58# Polycoated Kraft paper (PCK)             | 4.2            | Excellent liner for steel rule die-cutting, resists moisture.  |
| 60# Densified Kraft paper (DK)               | 3.5            | Hard dense liner reduces edge burr in hard tool processing of metal plates.                                |
| 62# Densified Kraft paper (DK)               | 3.7            | General purpose liner, rotary or steel rule, protects from humidity extremes.                              |
| 78# Extensible Polycoated Kraft paper (EK)   | 6              | Extra tough liner for increased tear resistance.   |
| 83# Polycoated Kraft paper (PCK)             | 6.2            | Improved handling (lay-flat), steel rule die-cutting, kiss-cutting, resists moisture.                      |
| 94# PCK                                      | 7              | Excellent for lay-flat processing.   |
| Polyester film (PET)                         | 2, 3, 4        | Rotary die-cuttable, cleanroom, clear for inspection of parts, humidity stable.                            |
| Clear, High Density Polyethylene film (HDPE) | 3              | Clear for inspection of parts, thermo-formable, tear-resistant.  |
| White Polypropylene film (PP)                | 3.5            | Can be thermo-formed.  |

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™ Release Liners and Printable Films

| Product Group                         | Product  | Description/Application Ideas  | Construction |                                     | Master Size  |
|---------------------------------------|--|--|--------------|-------------------------------------|--------------|
|                                       |  |  | Caliper Mils | Liner                               |              |
| Release Liners<br><i>Non-silicone</i> | 4935   | 3M proprietary fluoropolymer release coat one side.  | 3.0          | Polyester, Clear                    | 40" x 360 yd |
|                                       | 5932   | 3M proprietary fluoropolymer release coat one side.  | 2.0          | Polyester, Clear                    | 54" x 360 yd |
| Release Liners<br><i>Silicone</i>     | 4986   | High-density polyethylene is transparent for graphic inspection. Release coat one side. For delamination/relamination only.                | 3.0          | HDPE Film, Clear                    | 48" x 360 yd |
|                                       | 4988   | Neutral-colored, polycoated lay-flat kraft liner. Release coat one side.   | 6.2          | 83# Polycoated Kraft, Neutral color | 48" x 360 yd |
|                                       | 4994   | Caliper controlled liner for rotary die-cutting. Release coated two sides. Very low release for double lining #300 high-strength adhesive. | 3.2          | 55# Densified Kraft, White          | 54" x 360 yd |
|                                       | 4996   | Clear film is ideal for graphics inspection of backlit panels. Release coat one side.  | 1.4          | Polyester Film, Clear               | 54" x 360 yd |
|                                       | 4997   | Heavy liner ideal for kiss-cutting and lay-flat applications. Release coat one side.   | 4.0          | 70# Densified Kraft, Clear          | 54" x 360 yd |
|                                       | 4998   | Release coat two sides (matte).  | 4.2          | 58# Polycoated Kraft, Tan           | 48" x 360 yd |
|                                       | 4999   | Caliper controlled liner for rotary die-cutting. Release coat one side.  | 3.2          | 55# Densified Kraft, White          | 54" x 360 yd |
|                                       | 5002   | Clear polyester film for rotary cutting. Release coat one side.  | 2.0          | Polyester Film, Clear               | 60" x 360 yd |
|                                       | 5002D  | Clear polyester film for rotary cutting. Release coat two sides.   | 2.0          | Polyester Film, Clear               | 60" x 360 yd |
|                                       | 5004   | Thick, clear polyester film for rotary cutting. Release coat one side.   | 4.0          | Polyester Film, Clear               | 50" x 360 yd |
|                                       | 5051   | Special PCK liner for double lining 300LSE tapes. Release coat one side.   | 4.2          | 58# Polycoated Kraft                | 48" x 180 yd |
|                                       | 7526L  | Tan polycoated kraft. Release coat two sides (matte).  | 4.2          | 58# Polycoated Kraft                | 48" x 360 yd |
| 7527L                                 | Cloudy high-density polyethylene. Release coat one side. | 3.0  | HDPE Film    | 48" x 360 yd                        |              |

| Product Group   | Product | Description/Application Ideas   | Construction |                              | Master Size  | Print Method     | Specs |
|---|---------|---|--------------|------------------------------|--------------|------------------|-------|
|   |         |   | Caliper Mils | Liner                        |              |                  |       |
| Printable Polyester Films -<br><i>Label Component Films</i> | 8038    | Top-coated film for use with standard printing inks. Top-coat is wound inside. Clear film allows for subsurface printing. Used for automotive, electronics, and other durable goods applications. | 2.0          | Polyester, Gloss Clear       | 48" x 720 yd | Press            |       |
|   | 8039    | Non top-coated. Clear film allows for subsurface printing for protection of inks. Typical use in over-the-counter and pharmaceutical applications.  | 2.0          | Polyester, Matte Clear (NTC) | 48" x 720 yd | Press            | UL    |
|   | 8049    | Matte top-coat for dot-matrix printing. Clear film allows for subsurface printing of inks.  | 2.5          | Polyester, Matte Clear       | 54" x 720 yd | Dot Matrix       | UL    |
|   | 8050    | Matte top-coat for dot-matrix printing. Excellent abrasion and chemical resistance.   | 2.5          | Polyester, Matte White       | 54" x 720 yd | Dot Matrix       | UL    |
|   | 8053    | Same as 8050, except matte silver.  | 2.5          | Polyester, Matte Silver      | 54" x 720 yd | Dot Matrix       | UL    |
|   | 8057    | Provides excellent durability. Used for automotive, electronic, and other durable goods applications.   | 2.0          | Polyester, Gloss White       | 54" x 720 yd | Thermal Transfer |       |
|   | 8058NT  | Same as 8057, except bright silver. Top-coat is wound inside.   | 2.0          | Polyester, Bright Silver     | 54" x 720 yd | Thermal Transfer |       |

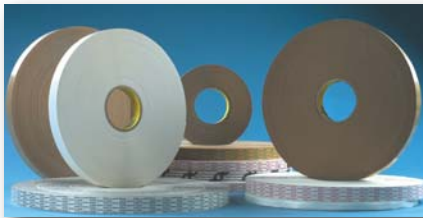
NOTE: This technical information and data should be considered representative or typical only and should not be used for specification purposes.



# 3M™ Extended Liner Tapes

## Versatile pressure sensitive adhesive on easy-to-remove liners

3M™ Extended Liner Tapes offer the adhesive versatility of 3M tapes but with liners wider than the adhesive. This leaves an easy-to-lift edge for convenient and easy liner removal. With the variety of adhesives, you have a selection of performance characteristics such as high tack for coated papers and plastics, low tack for temporary attachment, high temperature resistance, and more. Apply manually or with equipment matched to your production volume requirements.



238



239 3M™ Extended Liner Tapes are available with a release liner wider than the adhesive. This provides an easy-to-grab edge for convenient liner removal.



240 Depending on adhesive type, 3M™ Extended Liner Tapes are applied to envelopes, polybags, boxes, or tubes. User simply peels off liner to expose the adhesive for an immediate, secure closure.



241 A variety of automatic and semi-automatic equipment is available for higher volume applications. For example, apply tape to business forms, literature, bounce back and business reply cards.



242 3M™ Extended Liner Tapes 450XL, 450EK and 465XL immediately bond product information “outserts” to polyethylene bottles. Holds tightly but can be cleanly removed.

## 3M™ Extended Liner Tapes

| Adhesive Type <sup>1</sup> | Product Number      | Tape Thickness w/o liner Mils (mm) | Liner Type <sup>2</sup>                  | Description   | Temperature Resistance |              | Solvent Resistance | Relative Adhesion |      | Application Ideas   |
|----------------------------|---------------------|------------------------------------|--|---|------------------------|--------------|--------------------|-------------------|------|---|
|                            |                     |                                    |  |   | Minutes Hours          | Days Weeks   |                    | HSE               | LSE  |   |
| 340                        | 466XL               | 2 (0.05)                           | 62# DK white with black print            | <ul style="list-style-type: none"> <li>High tack</li> <li>Permanent</li> </ul>  | 180°F (82°C)           | 150°F (65°C) | Medium             | High              | High | Coated papers and low surface energy (LSE) plastics. Overnight envelopes. Features an end-of-roll indicator tab for automated dispensing.   |
| 400                        | 450EK               | 1 (0.025)                          | 78# Extensible Kraft white without print | <ul style="list-style-type: none"> <li>General purpose</li> </ul>   | 250°F (121°C)          | 180°F (82°C) | Medium             | Med.              | Low  | Pharmaceutical outsert attachment. For applications requiring a more tear resistant liner.  |
|                            | 450XL               | 1 (0.025)                          | 60# DK tan with green print              |   |                        |              |                    |                   |      | Pharmaceutical outsert attachment. General paper attachment.  |
|                            | 920XL               | 1 (0.025)                          | 40# DK white with red print              |   |                        |              |                    |                   |      | Seal flaps on poly-bags and envelopes. Pressure sensitive edging on business forms, literature, photos, posters, and labels.  |
|                            | 9926XL              | 1 (0.025)                          | 40# DK white with red print              |   |                        |              |                    |                   |      | Economical alternative for general paper-to-paper applications.   |
|                            | 465XL               | 2 (0.05)                           | 60# DK tan with green print              |   |                        |              |                    |                   |      | Seal flaps on overnight envelopes. Pressure sensitive edging on business forms. General commercial joining applications. For attaching materials that require more adhesive thickness. Larger outsert attachments.          |
| 600                        | 9934XL              | 4 (0.10)                           | 60# DK tan without print                 | <ul style="list-style-type: none"> <li>High tack to LSE materials</li> </ul>  | 150°F (65°C)           | 120°F (49°C) | Medium             | High              | High | P.O.P. displays. Difficult splicing applications, shelf talkers, price tags, polyethylene foam bonding. Indirect food-contact applications. <sup>3</sup> High tack to LSE materials.  |
| 760                        | 476XL               | 6 (0.16)                           | 62# DK white with red print              | <ul style="list-style-type: none"> <li>High tack, double coated film</li> </ul>   | 150°F (65°C)           | 120°F (49°C) | Medium             | High              | High | Heavy-duty sealing. Mounting of promotional items. Core starting. Closure of overnight boxes, tubes and envelopes. Indirect food-contact applications. <sup>3</sup>   |
| 770                        | 9925XL <sup>4</sup> | 2.5 (0.065)                        | 43# DK white with black print            | <ul style="list-style-type: none"> <li>Tissue reinforced</li> <li>High initial adhesion to a wide variety of materials</li> </ul> | 150°F (65°C)           | 100°F (41°C) | Low                | Med.              | Med. | General mounting, P.O.P. items. Attaching tags and labels. Core starting. Permanent bonding paper-to-paper, business forms, traffic tickets, novelty items and literature. Indirect food-contact applications. <sup>3</sup> |

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.

<sup>1</sup> More information on pages 80-81.

<sup>2</sup> More information on page 71.

<sup>3</sup> FDA acceptable dry ingredients listed as indirect food-contact additives when used in food packing with minimal opportunity for exposure.

<sup>4</sup> Non-liner side is adhesive coated full width.

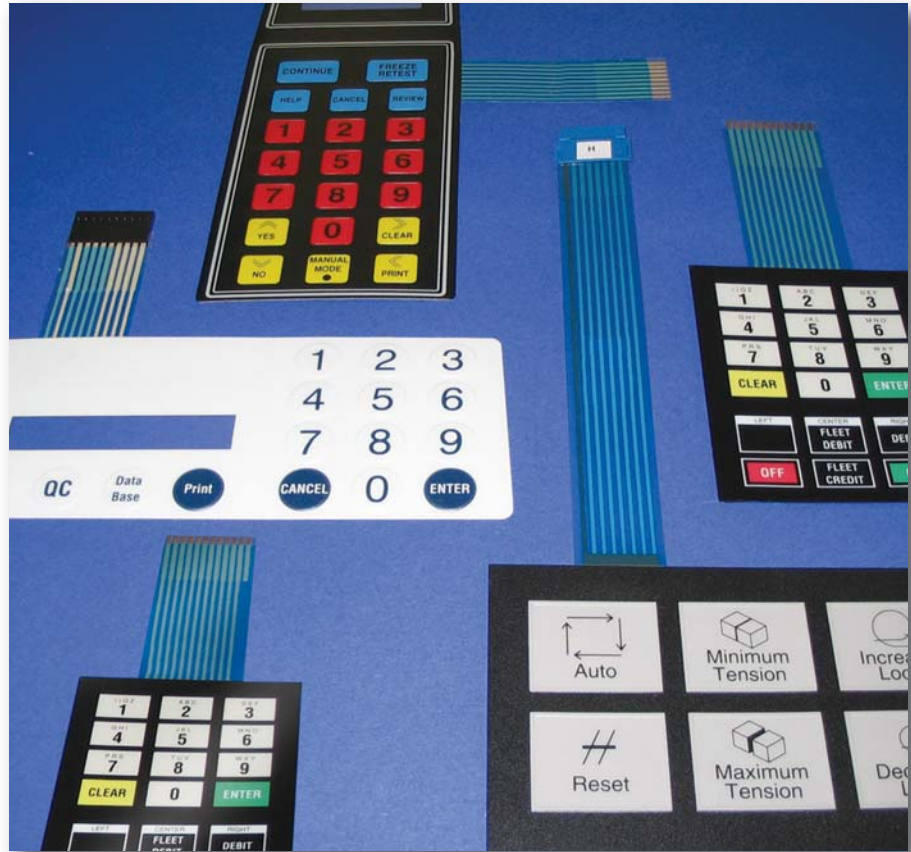
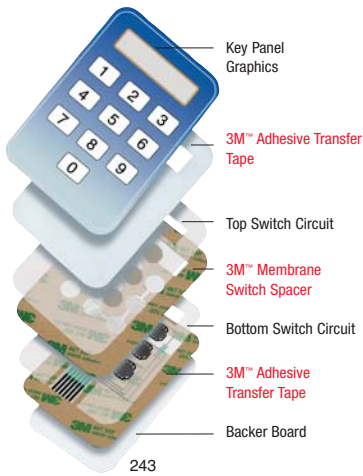
**Relative Adhesion:**  
HSE – High Surface Energy,  
LSE – Low Surface Energy

# 3M™ Membrane Switch Adhesives

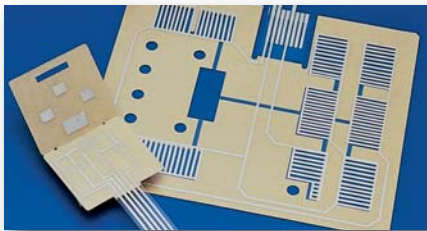
## Long life formulations for top to bottom reliability

3M offers a full range of adhesives with application-specific configurations for die-cut laminations, circuit layer assembly, switch spacers, metal dome placement, lead protection, and switch mounting.

With exceptionally high cohesive strength, 3M adhesives resist slippage, oozing, lifting, channeling, and buckling for long-term resistance to the stresses of switch activation. Adhesives also reliably resist high humidity, chemicals, and other challenging conditions.



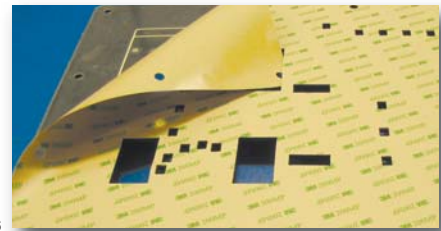
3M™ Membrane Switch Adhesives have been proven for over 20 years to resist high humidity and moisture, extreme temperature ranges, UV light, chemicals, household cleaners, and detergents.



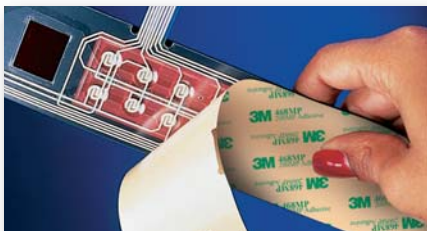
3M single coated spacer materials perform reliably for lead protection and dome retainer layers in applications ranging from medical test systems to fish finders.



3M™ Membrane Switch Products withstand heavy repetitive activations on keyboards.



With die-cut 3M™ Double-Liner Adhesive Transfer Tapes, adhesive transfers easily and precisely from the liner to the graphic or circuit.



3M™ Adhesive Transfer Tapes ensure strong attachment of switches to rough or textured surfaces, and low or high energy surfaces.



Durable 3M™ Membrane Switch Products perform reliably even with repeated heat cycle stresses in ovens and dishwashers.



With resistance to high temperatures and humidity, 3M single coated spacer materials effectively maintain registration of metal and polyester domes.

### 3M™ Membrane Switch Adhesives

|                                      | Product Number | Adhesive Family <sup>1</sup> | Tape or Spacer Thickness | Liner Type <sup>2</sup> | Layer thickness (mils) Adhesive/Carrier/Adhesive | Description   |
|--------------------------------------|----------------|------------------------------|--------------------------|-------------------------|--|---|
| Double-lined Adhesive Transfer Tapes | 7951           | 300MP                        | 2 mils                   | 58# PCK/58# PCK         | 2/0/0  | Double-lined 300MP. High bond to low surface energy plastics.   |
|                                      | 7952MP         | 200MP                        | 2 mils                   | 58# PCK/58# PCK         | 2/0/0  | Double-lined 467MP.   |
|                                      | 7955MP         |                              | 5 mils                   | 58# PCK/58# PCK         | 5/0/0  | Double-lined 468MP.   |
|                                      | 7962MP         |                              | 2 mils                   | 83# PCK/58# PCK         | 2/0/0  | Double-lined 467MP with heavy lay-flat liner for added stiffness and ease of handling.  |
|                                      | 7965MP         |                              | 5 mils                   | 83# PCK/58# PCK         | 5/0/0  | Double-lined 468MP with heavy lay-flat liner for added stiffness, controlled kiss-cutting and ease of handling.                               |
| Double Coated Spacers                | 7945MP         | 200MP                        | 5 mils                   | 58# PCK/58# PCK         | 2/1/2  | Meets requirements of most keyboards and flex circuit laminations.  |
|                                      | 7953MP         |                              | 3.5 mils                 | 58# PCK/58# PCK         | 1.5/0.5/1.5                                      | Same as 7945MP but with printed primary liner.  |
|                                      | 7953HL         |                              | 3.5 mils                 | 83# PCK                 | 1.5/0.5/1.5                                      | Same as 7953MS except with heavy liner.   |
|                                      | 7956MP         |                              | 6 mils                   | 58# PCK/58# PCK         | 2/2/2  | Meet requirements of most keyboards and flex circuit laminations.   |
|                                      | 7956MWS        |                              | 6 mils                   | 58# PCK                 | 2/2/2  | Metallized vapor coat and white color to eliminate floodcoats.  |
|                                      | 7956WDL        |                              | 6 mils                   | 58# PCK/58# PCK         | 2/2/2  | Sheet form of 7956MWS.  |
|                                      | 7957MP         |                              | 7 mils                   | 58# PCK/58# PCK         | 2/3/2  | Meet requirements of most keyboards and flex circuit laminations.   |
|                                      | 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  | Thicker version of 7956MWS.   |
|                                      | 7966WDL        |                              | 9 mils                   | 58# PCK/58# PCK         | 2/2/5  | Sheet form of 7966MWS.  |
|                                      | 9045MP         |                              | 5 mils                   | 94# PCK/94# PCK         | 2/1/2  | The 9000 series of products has a lay-flat liner on each side which improves die-cutting and handling of intricate die-cut parts.             |
|                                      | 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                        | 2 mils                   | 94# PCK                 | 1/1/0  | Adhesive on one side; white polyester carrier for light management.   |
|                                      | 7992MP         |                              | 4 mils                   | 94# PCK                 | 2/2/0  | Adhesive on one side of clear polyester carrier.  |
|                                      | 7992MPW        |                              | 4 mils                   | 94# PCK                 | 2/2/0  | Thick version of 7991MPW.   |
|                                      | 7993MP         |                              | 3 mils                   | 94# PCK                 | 2/1/0  | Single side spacers aid in the construction of membranes with circuitry, i.e. to protect leads, hold domes in place, or build custom spacers. |
|                                      | 7995MP         |                              | 5 mils                   | 94# PCK                 | 2/3/0  |   |
|                                      | 7997MP         |                              | 7 mils                   | 94# PCK                 | 2/5/0  | Single side spacers aid in the construction of membranes with circuitry, i.e. to protect leads, hold domes in place, or build custom spacers. |

<sup>1</sup> More information on pages 80-81.

<sup>2</sup> More information on page 71.

Note: Technical information and data should be considered representative or typical only and should not be used for specification purposes.



# Scotch® ATG Adhesive Systems

## Finger touch application of pressure sensitive adhesive

Versatility, convenience and speed. That's what you get with the Scotch® ATG Adhesive System for assembly operations in businesses ranging from appliance and printing to P.O.P. and electronics. Readily bond, join, mount, or laminate materials such as paper, plastics, metal, foam and more.

With Scotch® ATG Adhesive Applicators, a touch of the finger triggers a quick, controlled application of Scotch® ATG Tape at the same time as the liner rewinds into the applicator. There is no mess and no cleanup. 3M advanced acrylic adhesive bonds on contact and is formulated with a choice of properties such as high temperature resistance, differential tack, adhesion to low surface energy plastic, and more.



Save time and effort with the Scotch® ATG Adhesive System. You apply a precise strip of adhesive at the same time as the liner rewinds into the applicator.



Scotch® ATG 700 Applicator with Scotch® ATG Tape 924 makes fast work of folder assembly. Pressure sensitive adhesive bonds immediately and the folder pocket is ready to hold contents.



High performance Scotch® ATG Tape 926 bonds foam cushioning inside a portable power tool carrying case.



- 1 Scotch® ATG Applicator 700 for 3/4", 1/2", and 1/4" wide tape (1/4" adapter purchased separately).
- 2 Scotch® ATG Applicator 714 for 1/4" wide tape.
- 3 Scotch® ATG Applicator 752 for 3/4", 1/2", and 1/4" wide tape (1/4" adapter purchased separately).
- 4 Scotch® ATG Applicator 3662 for 2" wide tape.

## Scotch® ATG Adhesive Systems

| Adhesive Type <sup>1</sup> | Product Number | Tape Thickness w/o liner<br>Mils (mm) | Description  | Temperature Resistance  |               | Resistance | Solvent Adhesion |         | Application Ideas   | Adhesive Transfer Tape Equivalent |
|----------------------------|----------------|---------------------------------------|--|---|---------------|------------|------------------|---------|---|-----------------------------------|
|                            |                |                                       |  | Minutes<br>Hours  | Days<br>Weeks |            | HSE              | LSE     |   |                                   |
| 300 High Tack              | 976            | 2 (0.05)                              | <ul style="list-style-type: none"> <li>High tack</li> <li>Excellent adhesion to most plastics</li> </ul>                 | 250°F (121°C)   | 150°F (65°C)  | Med.       | High             | High    | Attach fabric swatches in sample books.   | 927                               |
|                            | 969            | 5 (0.13)                              |  | Assemble point-of-purchase displays.<br>Bond trim strips to furniture or luggage.<br>Bond labels to plastic toys.<br>Attach gaskets or foams. | 950           |            |                  |         |   |                                   |
| 350 High Performance       | 926            | 5 (0.13)                              | <ul style="list-style-type: none"> <li>High performance</li> <li>Excellent temperature and solvent resistance</li> </ul> | 450°F (232°C)   | 300°F (149°C) | High       | High             | High    | Bond fabric or trim to window blinds.<br>Splice aluminum coils.<br>Bond foam insulation.<br>Mount nameplates on award plaques.    | F9485PC                           |
| 400 General Purpose        | 970XL          | 1 (0.025)                             | <ul style="list-style-type: none"> <li>General purpose</li> <li>Excellent adhesion to most paper stocks</li> </ul>       | 250°F (121°C)   | 180°F (82°C)  | Med.       | Med.             | Low     | Attach photos to layouts.<br>Attach labels.   | 920XL                             |
|                            | 924            | 2 (0.05)                              |  |   |               |            |                  |         | Seal pocket in folders.<br>Bond mat board in picture frames.<br>Splice paper, films, foils.<br>General purpose bindery attaching. | 465                               |
|                            | 987*           | 1.7 (0.040)                           |  |   |               |            |                  |         | 9498  |                                   |
| 400/1000 Repositional      | 928            | 2 (0.05)                              | <ul style="list-style-type: none"> <li>Differential tack</li> <li>Repositionable</li> </ul>                              | 180°F (82°C)  | 150°F (65°C)  | Med.       | High/Low         | Low/Low | Attach credit card in mailer.<br>Core start/end tab paper, films and foils.<br>Attach temporary labels.                           | 9416                              |

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.

Relative Adhesion: HSE – High Surface Energy, LSE – Low Surface Energy <sup>1</sup> More information on pages 80-81.



# Tape Selection Guide

This matrix gives you a few of our most commonly used tapes for various surface combinations. Products shown represent only a small part of the total line.

|  |               | Surface A                                 |                                   |  |                                   |   |                                   |                   |       |                                |       |                                |       |          |        |
|--|---------------|---|-----------------------------------|--|-----------------------------------|---|-----------------------------------|-------------------|-------|--------------------------------|-------|--------------------------------|-------|----------|--------|
|  |               | Steel<br>Aluminum<br>Glass<br>Ceramics    |                                   | ABS, Acrylic,<br>Enamel & Epoxy<br>Paints, Kapton®<br>Industrial Film,<br>Noryl Resin,<br>Nylon, Lexan®<br>Polycarbonate,<br>Polyester,<br>Rigid Vinyl |                                   | Polystyrene<br>Polypropylene<br>Polyethylene<br>Powder Paints |                                   | Plasticized Vinyl |       | Paper                          |       | Cloth                          |       | Rubber   |        |
| Surface B  |               | Thin                                      | Thick                             | Thin   | Thick                             | Thin  | Thick                             | Thin              | Thick | Thin                           | Thick | Thin                           | Thick | Thin     | Thick  |
| Rubber   | Transfer      | 950/969*<br>9472LE                        |                                   | 950/969*<br>9472LE   |                                   | 950/969*<br>9472LE  |                                   | 950/969*          |       | 950/969*                       |       | 950/969*                       |       | 950/969* | 9472LE |
|  | Double coated | 444<br>9495LE                             |                                   | 444<br>9495LE  |                                   | 444<br>9495LE   |                                   |                   |       | 444                            |       | 444                            |       | 444      |        |
| Cloth  | Transfer      | 950/969<br>9485/926                       |                                   | 950/969<br>9485/926  |                                   | 950/969<br>9485/926   |                                   | 950/969           |       | 465/924<br>950/969<br>9485/926 |       | 465/924<br>950/969<br>9485/926 |       |          |        |
|  | Double coated | 444<br>9690                               |                                   | 444<br>9690  |                                   | 444<br>9690   |                                   | 9443NP            |       | 444<br>9690                    |       | 444<br>9690                    |       |          |        |
| Paper  | Transfer      | 465/924<br>950/969                        |                                   | 465/924<br>950/969   |                                   | 950/969   |                                   | 950/969<br>9465PC |       | 465/924<br>950/969             |       |                                |       |          |        |
|  | Double coated | 410M<br>415                               |                                   | 410M<br>415  |                                   | 444   |                                   |                   |       | 410M<br>415                    |       |                                |       |          |        |
| Plasticized Vinyl  | Transfer      | 950/969<br>9465PC                         |                                   | 950/969<br>9465PC  |                                   | 950/969   |                                   | 950/969<br>9465PC |       |                                |       |                                |       |          |        |
|  | Double coated |   | 4941                              |  | 4941                              |   |                                   |                   | 4941  |                                |       |                                |       |          |        |
| Polystyrene<br>Polypropylene<br>Polyethylene<br>Powder Paints  | Transfer      | 950/969<br>9485PC/<br>926<br>9472LE       | 4462                              | 950/969<br>9485PC/<br>926<br>9472LE  | 4462                              | 950/969<br>9472LE   | 4462                              |                   |       |                                |       |                                |       |          |        |
|  | Double coated | 444<br>9589<br>9495LE                     | 4952<br>5952<br>(powder<br>paint) | 444<br>9495LE  | 4952<br>5952<br>(powder<br>paint) | 444<br>9495LE   | 4952<br>5952<br>(powder<br>paint) |                   |       |                                |       |                                |       |          |        |
| ABS, Acrylic, Enamel<br>& Epoxy Paints,<br>Kapton® Industrial<br>Film, Noryl® Resin,<br>Nylon, Lexan®<br>Polycarbonate,<br>Polyester,<br>Rigid Vinyl | Transfer      | 950/969<br>F9469PC<br>9485PC/926<br>468MP | 4046/4016<br>4462<br>4492         | 950/969<br>F9469PC<br>9485PC/926<br>468MP  | 4046/4016<br>4462<br>4492         |   |                                   |                   |       |                                |       |                                |       |          |        |
|  | Double coated | 444<br>9500PC<br>9495MP                   | 4941<br>5952                      | 444<br>9500PC<br>9495MP  | 4941<br>5952                      |   |                                   |                   |       |                                |       |                                |       |          |        |
| Steel<br>Aluminum<br>Glass<br>Ceramics   | Transfer      | 468MP<br>9085 9469<br>9485PC/<br>926      | 4046/4016<br>4462<br>4492         |  |                                   |   |                                   |                   |       |                                |       |                                |       |          |        |
|  | Double coated | 9495MP<br>9500PC                          | 4941<br>4950                      |  |                                   |   |                                   |                   |       |                                |       |                                |       |          |        |

## Easy access to the knowledge

For direct access to product data, downloadable product data pages, or to request sample product for evaluation:

[www.3M.com/industrial](http://www.3M.com/industrial)

\*For temporary holding only.

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.

# Tape Selection Guide

## Finding the Optimum Tape

To help you make sure of finding the optimum tape for your particular application, you'll want to consider several factors: rubber or acrylic adhesive, surface energy (pg.7) and contact, stress conditions, end use environment, and substrate characteristics such as size, rigidity, thickness, and weight.

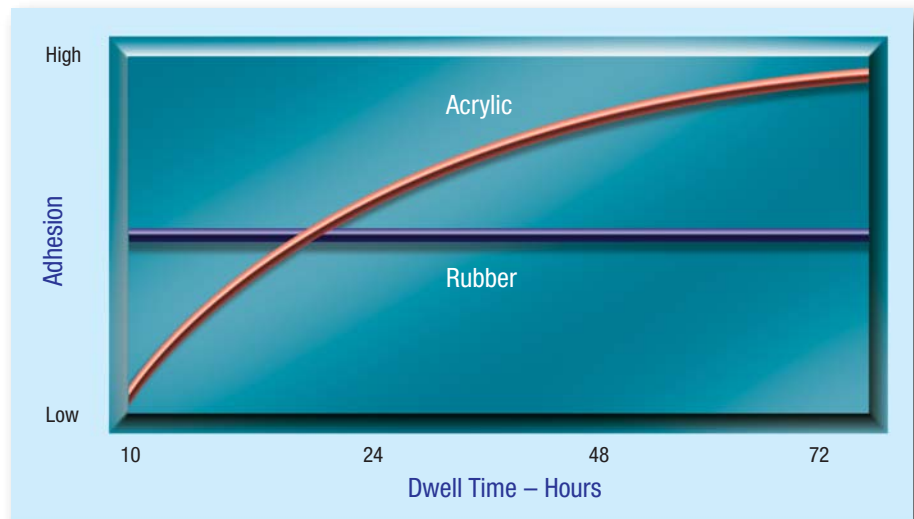
| Rubber or Acrylic Adhesive   |                              |
|--|------------------------------|
| 3M tapes and fasteners feature advanced 3M rubber or acrylic adhesive formulations. Each has characteristics that affect production and end use performance. |                              |
| Rubber Adhesives   | Acrylic Adhesives            |
| High initial adhesion  | Fair initial adhesion        |
| Some adhesion buildup  | Gradual adhesion buildup     |
| Good shear strength  | High shear strength          |
| Moderate temperature resistance  | High temperature resistance  |
| Good solvent resistance  | Excellent solvent resistance |
| Fair UV resistance   | Excellent UV resistance      |
| Moderate durability  | Excellent durability         |

## Rubber or Acrylic Adhesive

To make rubber adhesives, natural or synthetic rubbers are made tacky by mixing with various compounds. Individual elements do not change; components are simply mixed together to produce an adhesive.

To make acrylic adhesives, plastic compounds are synthesized to obtain specific chemical structures that are tacky. Acrylics can be formulated to produce specific performance characteristics.

## Rubber vs. Acrylic Adhesive Bond Buildup On Metal Surfaces



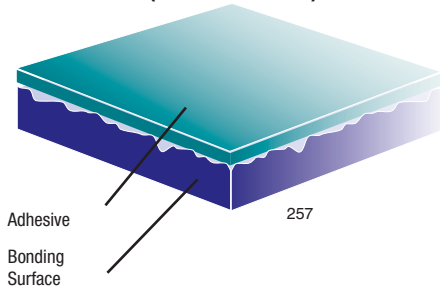
Metal - Basic Surface

256

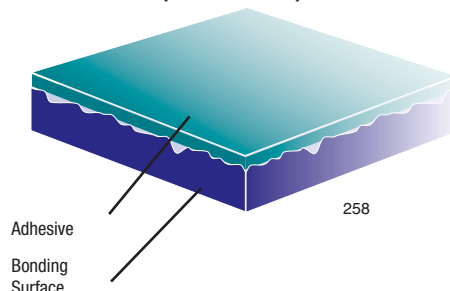
## Adhesive Surface Contact

Applying firm pressure to the bond increases adhesive flow and contact for more secure bonding. Time and temperature will typically further increase contact and adhesion values.

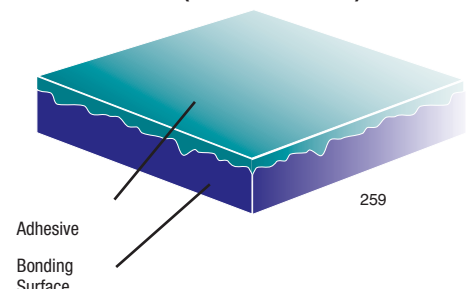
### Initial Contact (Minimal Contact)



### After Rubdown (More Contact)



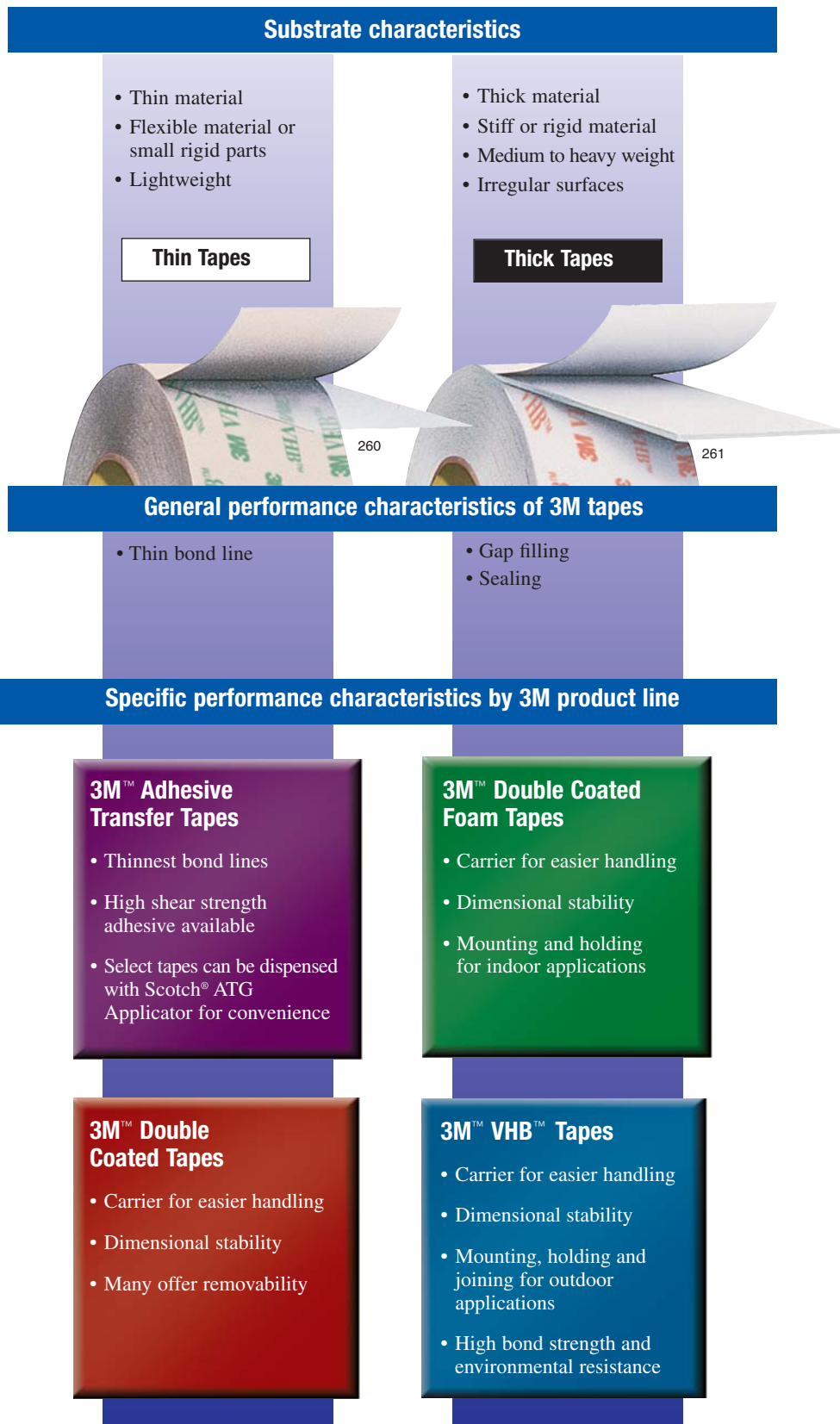
### After Dwell Time (Excellent Contact)



## Substrate characteristics that determine thin or thick tape

You will find information on these two pages to help you narrow tape choices to two or three possibilities for evaluation and testing.

First of all, define the substrates you want to bond. All substrates have characteristics that determine how well a substrate can be bonded with a particular adhesive for performance in a specific environment. Substrate characteristics such as thickness, rigidity, size, and weight will help determine your choice between two general groupings of 3M tapes: thin or thick. Each group has general performance characteristics. Thin and thick tapes are then further categorized into product lines each differentiated by specific performance characteristics.



Depending on the tape line, a choice of 3M adhesive types is available to meet different design, production, and end use requirements.



# Tape Selection Guide

## Adhesive Family Characteristics

### 100 High Temperature Acrylic

- Up to 450°F short-term heat resistance and excellent solvent resistance.
- High peel strength compared to other acrylic formulations.
- Exceptional shear strength even at elevated temperatures.
- Exhibits low outgassing characteristics.

### 100MP High Performance Acrylic

- Up to 500°F short-term heat resistance and outstanding solvent resistance.
- Higher peel strength than most other acrylic formulations.
- Exceptional shear strength even at elevated temperatures.

### 100HT Ultra High Temperature Acrylic

- Up to 550°F short-term heat resistance and outstanding solvent resistance.
- Higher peel strength than most other acrylic formulations.
- Exceptional shear strength even at elevated temperatures.

### 200MP High Performance Acrylic

- Up to 400°F short-term heat resistance and excellent solvent resistance.
- Outstanding adhesion to metal and high surface energy plastics.
- Excellent shear strength to resist slippage and edge lifting.
- Short-term repositionability for placement accuracy.

### 220 Industrial Acrylic

- Up to 350°F short-term heat resistance and good chemical resistance.
- Good shear strength and chemical resistance for general purpose industrial applications.
- Good adhesion to most metal and high surface energy plastics.

### 290 Low Outgassing Acrylic

- Up to 450°F short-term heat resistance.
- Exceeds most OEM specifications for outgassing and long-term performance.
- High peel strength compared to other acrylic formulations.
- Exceptional shear strength even at elevated temperatures.

### 300 High Tack Acrylic

- Up to 250°F short-term heat resistance.
- High initial adhesion especially to low surface energy plastics.
- Quick flowing to speed lamination of textured plastics, foams, fabrics, and coated papers.

### 300FR Flame Retardant

- Meets various flame retardancy standards such as UL94 V-O/2, F.A.R. 25.853, and FMVSS 302.
- Similar adhesive properties to adhesive 300 family.
- Good adhesion to a wide variety of surfaces including LSE plastics, foams, and fabrics.

### 300LSE Low Surface Energy Acrylic

- Up to 300°F short-term heat resistance.
- Outstanding adhesion to low surface energy plastics, powder coated paints, and lightly oiled metals.
- Good chemical and humidity resistance.

### 300MP High Tack Acrylic

- Up to 250°F short-term heat resistance for automotive interior applications.
- Designed especially to bond most plastics and foams.
- Economical attachment of graphics.

## Adhesive Family Characteristics

### 340 High Tack Acrylic

- Up to 180°F short-term heat resistance.
- Excellent bonding to foam and other substrates.
- High tack; medium shear.

### 350 High Performance Acrylic

- Up to 450°F short-term heat resistance.
- Excellent solvent resistance and adhesion to LSE materials.

### 375 High Performance

- Up to 300°F short-term heat resistance
- Bonds a wide variety of substrates
- Good initial tack

### 400 Acrylic Adhesive

- Up to 250°F short-term heat resistance.
- Good low temperature performance and peel strength on many surfaces.
- Excellent adhesion to uncoated papers.
- Clarity and UV resistance for window label applications.

### 420 Acrylic Adhesive

- Up to 300°F short-term heat resistance.
- High tack adhesive.

### 430 Acrylic Adhesive

- Up to 350°F short-term heat resistance.
- Lead for high temperature splicing.

### 700 Series Synthetic Rubber

- Up to 200°F short-term heat resistance.
- Good adhesion to low surface energy substrates.
- For indoor and room temperature applications.

### 800 Series Natural Rubber

- Up to 200°F short-term heat resistance.
- Offers good adhesion to a variety of surfaces.
- For indoor and room temperature applications.

### 900R Miscellaneous Rubber Adhesive Group

- Excellent initial adhesion and high bond to a variety of foams.
- Utility rubber-based adhesive ideal for the foam fabricating industry.

### 1000 Series Repositionable Acrylic

- Good holding to many surfaces.
- Clean removal.

### Screen Printable Adhesive

- For selective placement of pressure sensitive adhesive using screen print technology.
- Either UV curable or water-based are available.

# Tape Selection Guide

## Adhesive Family Selection Based on Surface Energy

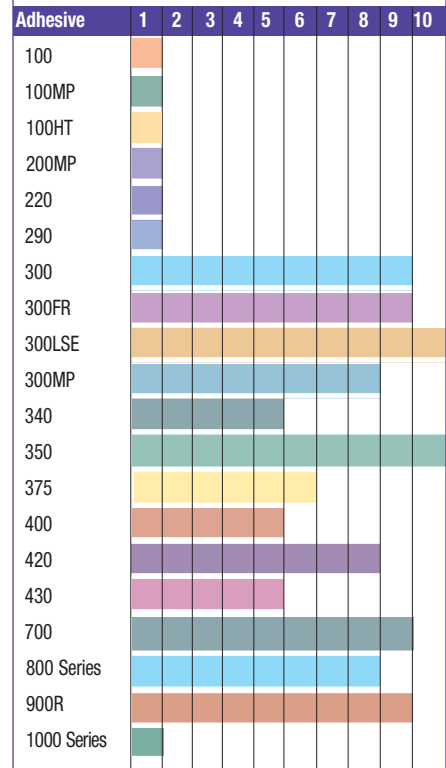
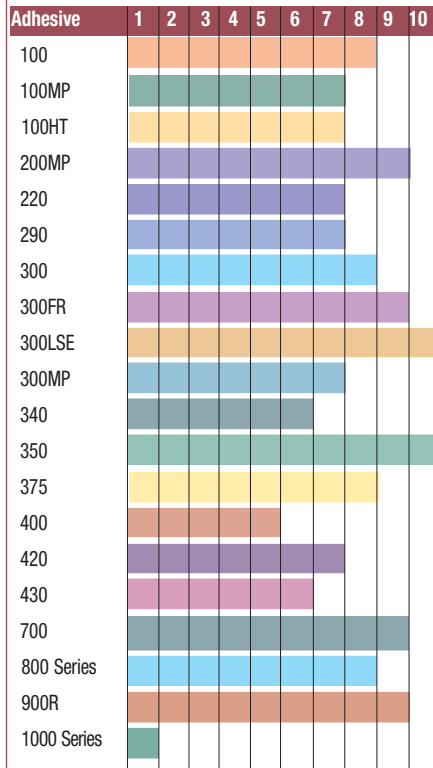
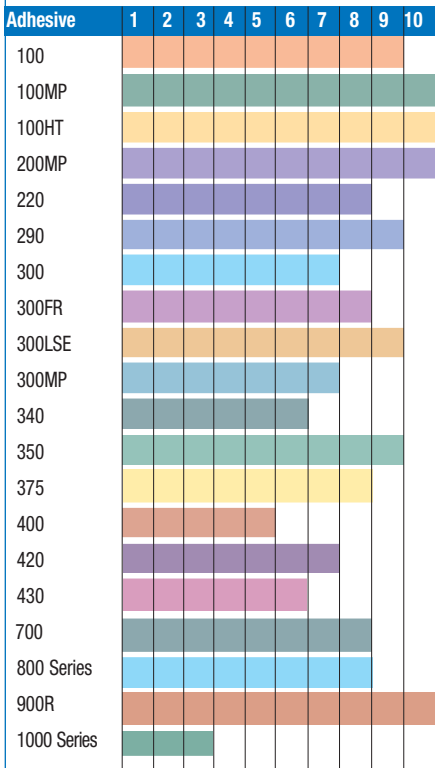
These charts are based on relative adhesion within each given surface energy category.

| Metals   | Surface Energy<br>Dynes/cm |
|----------|----------------------------|
| Copper   | 1103                       |
| Aluminum | 840                        |
| Zinc     | 753                        |
| Tin      | 526                        |
| Lead     | 543                        |

| HSE<br>Plastics | Surface Energy<br>Dynes/cm |
|-----------------|----------------------------|
| Kapton®         | 50                         |
| Phenolic        | 47                         |
| Nylon           | 46                         |
| Alkyd Enamel    | 45                         |
| Polyester       | 43                         |
| Epoxy Paint     | 43                         |
| Polyurethane    | 43                         |
| ABS             | 42                         |
| Polycarbonate   | 42                         |
| PVC             | 39                         |
| Noryl           | 38                         |
| Acrylic         | 38                         |
| Polane Paint    | 38                         |

| LSE<br>Plastics         | Surface Energy<br>Dynes/cm |
|-------------------------|----------------------------|
| PVA                     | 37                         |
| Polystyrene             | 36                         |
| Acetal                  | 36                         |
| EVA                     | 33                         |
| Polyethylene            | 31                         |
| Polypropylene           | 29                         |
| Polyvinyl Fluoride Film | 28                         |
| PTFE Fluoropolymer      | 18                         |
| Powder Coatings         | **                         |

\*\*Broad range of surface energy.



1=Lowest Performance 10=Highest Performance

Note: Technical information and data should be considered representative or typical only and should not be used for specification purposes.

## Adhesive Family Selection Based on Other Service Conditions

| Shear Strength at Room Temperature |   |   |   |   |   |   |   |   |   |    |
|------------------------------------|---|---|---|---|---|---|---|---|---|----|
| Adhesive                           | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| 100                                | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1  |
| 100MP                              | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1  |
| 100HT                              | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1  |
| 200MP                              | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1  |
| 220                                | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1  |
| 290                                | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1  |
| 300                                | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1  |
| 300FR                              | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1  |
| 300LSE                             | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1  |
| 300MP                              | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1  |
| 340                                | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1  |
| 350                                | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1  |
| 375                                | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1  |
| 400                                | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1  |
| 420                                | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1  |
| 430                                | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1  |
| 700                                | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1  |
| 800 Series                         | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1  |
| 900R                               | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1  |
| 1000 Series                        | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1  |

| Ultimate Peel Strength |   |   |   |   |   |   |   |   |   |    |
|------------------------|---|---|---|---|---|---|---|---|---|----|
| Adhesive               | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| 100                    | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1  |
| 100MP                  | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1  |
| 100HT                  | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1  |
| 200MP                  | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1  |
| 220                    | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1  |
| 290                    | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1  |
| 300                    | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1  |
| 300FR                  | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1  |
| 300LSE                 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1  |
| 300MP                  | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1  |
| 340                    | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1  |
| 350                    | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1  |
| 375                    | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1  |
| 400                    | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1  |
| 420                    | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1  |
| 430                    | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1  |
| 700                    | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1  |
| 800 Series             | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1  |
| 900R                   | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1  |
| 1000 Series            | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1  |

| Chemical Resistance |   |   |   |   |   |   |   |   |   |    |
|---------------------|---|---|---|---|---|---|---|---|---|----|
| Adhesive            | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| 100                 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1  |
| 100MP               | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1  |
| 100HT               | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1  |
| 200MP               | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1  |
| 220                 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1  |
| 290                 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1  |
| 300                 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1  |
| 300FR               | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1  |
| 300LSE              | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1  |
| 300MP               | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1  |
| 340                 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1  |
| 350                 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1  |
| 375                 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1  |
| 400                 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1  |
| 420                 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1  |
| 430                 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1  |
| 700                 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1  |
| 800 Series          | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1  |
| 900R                | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1  |
| 1000 Series         | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1  |

| UV Resistance |   |   |   |   |   |   |   |   |   |    |
|---------------|---|---|---|---|---|---|---|---|---|----|
| Adhesive      | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| 100           | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1  |
| 100MP         | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1  |
| 100HT         | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1  |
| 200MP         | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1  |
| 220           | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1  |
| 290           | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1  |
| 300           | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1  |
| 300FR         | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1  |
| 300LSE        | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1  |
| 300MP         | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1  |
| 340           | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1  |
| 350           | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1  |
| 375           | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1  |
| 400           | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1  |
| 420           | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1  |
| 430           | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1  |
| 700           | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1  |
| 800 Series    | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1  |
| 900R          | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1  |
| 1000 Series   | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1  |

| Humidity Resistance |   |   |   |   |   |   |   |   |   |    |
|---------------------|---|---|---|---|---|---|---|---|---|----|
| Adhesive            | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| 100                 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1  |
| 100MP               | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1  |
| 100HT               | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1  |
| 200MP               | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1  |
| 220                 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1  |
| 290                 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1  |
| 300                 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1  |
| 300FR               | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1  |
| 300LSE              | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1  |
| 300MP               | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1  |
| 340                 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1  |
| 350                 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1  |
| 375                 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1  |
| 400                 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1  |
| 420                 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1  |
| 430                 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1  |
| 700                 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1  |
| 800 Series          | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1  |
| 900R                | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1  |
| 1000 Series         | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1  |

| Short Term Temperature Resistance °F/°C* |        |        |         |         |         |         |         |         |         |   |
|--|--------|--------|---------|---------|---------|---------|---------|---------|---------|---|
| Adhesive                                 | 180/82 | 200/93 | 250/121 | 300/149 | 350/177 | 400/204 | 450/232 | 500/260 | 550/288 |   |
| 100                                      | 1      | 1      | 1       | 1       | 1       | 1       | 1       | 1       | 1       | 1 |
| 100MP                                    | 1      | 1      | 1       | 1       | 1       | 1       | 1       | 1       | 1       | 1 |
| 100HT                                    | 1      | 1      | 1       | 1       | 1       | 1       | 1       | 1       | 1       | 1 |
| 200MP                                    | 1      | 1      | 1       | 1       | 1       | 1       | 1       | 1       | 1       | 1 |
| 220                                      | 1      | 1      | 1       | 1       | 1       | 1       | 1       | 1       | 1       | 1 |
| 290                                      | 1      | 1      | 1       | 1       | 1       | 1       | 1       | 1       | 1       | 1 |
| 300                                      | 1      | 1      | 1       | 1       | 1       | 1       | 1       | 1       | 1       | 1 |
| 300FR                                    | 1      | 1      | 1       | 1       | 1       | 1       | 1       | 1       | 1       | 1 |
| 300LSE                                   | 1      | 1      | 1       | 1       | 1       | 1       | 1       | 1       | 1       | 1 |
| 300MP                                    | 1      | 1      | 1       | 1       | 1       | 1       | 1       | 1       | 1       | 1 |
| 340                                      | 1      | 1      | 1       | 1       | 1       | 1       | 1       | 1       | 1       | 1 |
| 350                                      | 1      | 1      | 1       | 1       | 1       | 1       | 1       | 1       | 1       | 1 |
| 375                                      | 1      | 1      | 1       | 1       | 1       | 1       | 1       | 1       | 1       | 1 |
| 400                                      | 1      | 1      | 1       | 1       | 1       | 1       | 1       | 1       | 1       | 1 |
| 420                                      | 1      | 1      | 1       | 1       | 1       | 1       | 1       | 1       | 1       | 1 |
| 430                                      | 1      | 1      | 1       | 1       | 1       | 1       | 1       | 1       | 1       | 1 |
| 700                                      | 1      | 1      | 1       | 1       | 1       | 1       | 1       | 1       | 1       | 1 |
| 800 Series                               | 1      | 1      | 1       | 1       | 1       | 1       | 1       | 1       | 1       | 1 |
| 900R                                     | 1      | 1      | 1       | 1       | 1       | 1       | 1       | 1       | 1       | 1 |
| 1000 Series                              | 1      | 1      | 1       | 1       | 1       | 1       | 1       | 1       | 1       | 1 |

Note: Technical information and data should be considered representative or typical only and should not be used for specification purposes.

\* Low temperature resistance is -40°F (-40°C) for all adhesives except 1000 Series at -20°F (-29°C).



# 3M™ Reclosable Fasteners and other technologies



266

When your products require repeated openings and closings, 3M™ Reclosable Fasteners give you choices for closure strength and frequency. Pressure sensitive adhesive on the backside bonds on contact to a variety of surfaces to save production time. Depending on the specific fastener, the mating front side opens and closes hundreds or thousands of times.

Reclosable fasteners are just one example of how 3M combines adhesives with various backings for innovative solutions in such applications as masking, protecting, enhancing, quieting, color-coding, labeling, conducting, reflecting, and more.

The product variety includes all of the following:

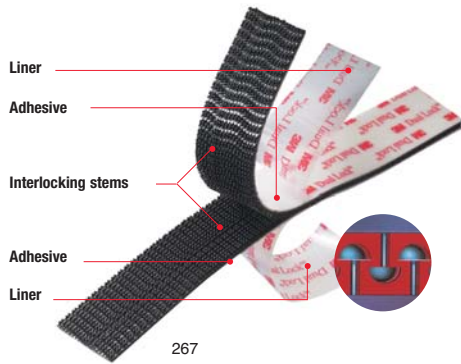
- 3M™ Dual Lock™ Reclosable Fasteners
- 3M™ Scotchmate™ Reclosable Fasteners
- 3M™ Single Coated Foam Tapes
- 3M Converter Markets Center
- Overview of other 3M Technologies

# 3M™ Dual Lock™ Reclosable Fasteners

## A reclosable system to replace unsightly mechanical fasteners

3M™ Dual Lock™ Reclosable Fasteners invisibly attach access doors and panels, signs, display components, and many other frequently removed parts. When the mushroom-shaped stems interlock, closure strength is high enough to replace mechanical fasteners in many applications.\* Yet, you can readily open and close hundreds of times.

Select non adhesive-backed or adhesive-backed versions. Adhesive-backed versions bond to bare or painted metal, sealed wood, glass, many plastics including plasticized vinyl, and more.



With one side of a 3M™ Dual Lock™ Low Profile Reclosable Fastener on a vinyl graphic, the stems mesh with the fabric panel of the booth for secure attachment.



For attaching carrying case cushioning, the versatile acrylic adhesive backing of 3M™ Dual Lock™ Low Profile Reclosable Fasteners holds permanently to the foam insert and the plastic case.



For convenient access to wiring in moveable office partitions, 3M™ Dual Lock™ Reclosable Fasteners attach metal cover plates over wiring channels for quick snap access.



To mute the sound of automated equipment, 3M™ Dual Lock™ Reclosable Fasteners attach acoustic control panels to the frame of an equipment enclosure. Panels remove for access or reconfiguration of the enclosure.



With 3M™ Dual Lock™ Reclosable Fasteners, the wall panels, cushions, and other components inside an emergency vehicle are easily removed without tools for cleaning and disinfecting.



Die-cut into precise circles, 3M™ Dual Lock™ Reclosable Fasteners attach removable speaker panels.

**\* Closure strength choices** – Types 170, 250, 400 are available types. Type refers to approximate stems per square inch on one side of the fastener. Type 400, for example, is 400 stems/square inch. You can mix different types as indicated below. Closure strength increases with the total number of stems that interlock or with increased area engaged.

Closure Strength:  
 250 to 400 > 250 to 250 ≥  
 170 to 400 > 170 to 250

3M™ Dual Lock™ Reclosable Fasteners

|   | Product Number   | Product Type <sup>1</sup> | Color | Backcoating <sup>2</sup> Adhesive | Liner | Engaged Thickness <sup>3</sup> Inches (mm) | Temperature Performance <sup>4</sup> Wt. in grams (Temp: °F/°C) | Comments  |
|---|------------------|---------------------------|-------|-----------------------------------|-------|--|---|---|
| Lead Acrylic PSA                              | SJ3552           | 170                       | Black | White acrylic                     | D     | 0.23 (5.7)                                 | 1,000g<br>200°F (93°C)  | Conformable, tacky adhesive adheres better to slightly textured or irregular surfaces. SJ3552V is packaged for clean room use. One roll (1" x 4.9 yd.) each of SJ3551 and SJ3552 can be ordered as MP3551/3552.<br>Product with high strength Scotchmate splice is SJ3550SM. SJ3550V is packaged for clean room use.<br>One roll (1" x 4.9 yd.) each of SJ3551 and SJ3552 can be ordered as MP3551/3552.                        |
|   | SJ3550           | 250                       |       |                                   |       |  |   |   |
|   | SJ3551           | 400                       |       |                                   |       |  |   |   |
|   | SJ3562           | 170                       | Clear | Clear acrylic                     | D     | 0.23 (5.7)                                 | 1,000g<br>200°F (93°C)  | Translucent fastener with aggressive, tacky adhesive for general bonding to most medium and high energy surfaces.<br>Two rolls (1" x 4.9 yd.) of SJ3560 can be ordered as MP3560.<br>Product with continuous liner and product splice is SJ3560FS.  |
|   | SJ3560           | 250                       |       |                                   |       |  |   |   |
|   | SJ3561           | 400                       |       |                                   |       |  |   |   |
| 3M™ Acrylic Pressure Sensitive Adhesive (PSA) | SJ3773<br>SJ3782 | 170<br>250                | Black | Clear acrylic                     | B     | 0.16 (4.1)                                 | 500g<br>120°F (70°C)  | Thin clear acrylic adhesive that bonds well to low surface energy substrates.   |
|   | SJ3787<br>SJ3785 | 250<br>400                | Black | Gray acrylic                      | C     | 0.18 (4.6)                                 | 1,000g<br>158°F (70°C)  | Bonds well to most substrates, except low surface substrates. Certified to the requirements of Daimler Chrysler PF-8858, Ford WSB MI 5P35 Type III. Certified to Ford WSB M15P35 Type III   |
|   | SJ3534<br>SJ3535 | 250<br>400                | Black | Clear acrylic                     | D     | 0.18 (4.6)                                 | 1,000g<br>200°F (93°C)  | Aggressive, tacky adhesive for general bonding to most medium and high energy surfaces, providing for an "all black" look.  |
|   | SJ3552CF         | 170                       | Black | Clear acrylic                     | D     | 0.23 (5.7)                                 | 1,000g<br>200°F (93°C)  | Aggressive, tacky adhesive for general bonding to most medium and high energy surfaces, providing an "all black" look.<br>Similar to SJ3534 but engaged thickness is 0.05" (1.1 mm) thicker.<br>Similar to SJ3535 but engaged thickness is 0.05" (1.1 mm) thicker.  |
|   | SJ3550CF         | 250                       |       |                                   |       |  |   |   |
|   | SJ3551CF         | 400                       |       |                                   |       |  |   |   |
|   | SJ3752           | 170                       | Black | White acrylic                     | C     | 0.23 (5.7)                                 | 1,000g<br>200°F (93°C)  | Conformable, tacky adhesive for general bonding. Adheres better to slightly textured or irregular surfaces. Certified to GM3618M, Daimler Chrysler PF-8858, Ford WSB M15P35 Type III.<br>Certified to GM3618M, Daimler Chrysler PF-8543, PF-8858, Ford WSB M15P35 Type III.<br>Product with continuous liner and product splice is SJ3781FS. Certified to GM3618M, Daimler Chrysler PF-8543, PF-8858, Ford WSB M15P35 Type III. |
|   | SJ3781           | 250                       |       |                                   |       |  |   |   |
|   | SJ3751           | 400                       |       |                                   |       |  |   |   |
|   | SJ3554           | 170                       | Black | Gray acrylic                      | D     | 0.24 (6.1)                                 | 1,000g<br>200°F (93°C)  | The adhesive looks black when attached to and viewed through transparent or translucent substrates.<br>Offers improved adhesion to high energy surfaces.  |
|   | SJ3553           | 400                       |       |                                   |       |  |   |   |
|   | SJ3244           | 170                       | Black | Gray acrylic                      | E     | 0.24 (6.1)                                 | 1,000g<br>120°F (49°C)  | Good adhesion to low surface energy substrates.   |
|   | SJ3245           | 250                       |       |                                   |       |  |   |   |
|   | SJ3246           | 400                       |       |                                   |       |  |   |   |
|   | SJ3777           | 400                       | Black | White acrylic                     | C     | 0.24 (6.1)                                 | 1,000g<br>158°F (70°C)  | Conformable, tacky adhesive for general bonding. Adheres better to slightly textured or irregular surfaces.   |
|   | SJ3788           | 400                       | Black | Gray acrylic                      | C     | 0.27 (6.9)                                 | 1,000g<br>158°F (70°C)  | Conformable, tacky adhesive for general bonding. Adheres better to slightly textured or irregular surfaces.   |
|   | SJ3756           | 170                       | Black | White acrylic                     | C     | 0.31 (7.9)                                 | 1,000g<br>158°F (70°C)  | Firm, thick adhesive for best adhesion to smooth high surface energy substrates. Good for large gaps between joined substrates. Certified to GM3618M, Ford WSB M15P35 Type III. Standard roll length is 45 yards.   |
|   | SJ3789           | 250                       |       |                                   |       |  |   |   |
|   | SJ3757           | 400                       |       |                                   |       |  |   |   |
|   | SJ3758           | 250                       | Black | White acrylic                     | C     | 0.40 (10.2)                                | 750g<br>140°F (60°C)  | Conformable, thick adhesive for filling large gaps between joints. Standard roll length is 36 yards.  |



|  | Product number | Product Type <sup>1</sup> | Color | Backcoating <sup>2</sup> Adhesive | Liner | Engaged Thickness <sup>3</sup> Inches (mm) | Temperature Performance <sup>4</sup> Wt. in grams (Temp: °F/°C) | Comments   |
|--|----------------|---------------------------|-------|-----------------------------------|-------|--|---|--|
| Lead Synthetic Rubber PSA                              | SJ3542         | 170                       | Black | Synthetic rubber                  | A     | 0.23 (5.7)                                 | 500g<br>120°F (49°C)  | For indoor use or attachment to low surface energy substrates. One roll (1" x 4.9 yd.) each of SJ3541 and SJ3542 can be ordered as MP3541/3542. SJ3542V is packaged for clean room use. SJ3540V is packaged for clean room use. One roll (1" x 4.9 yd.) each of SJ3541 and SJ3542 can be ordered as MP3541/3542. SJ3541V is packaged for clean room use. |
|  | SJ3540         | 250                       |       |                                   |       |  |   |  |
|  | SJ3541         | 400                       |       |                                   |       |  |   |  |
| Nonwoven   | SJ3754         | 170                       | Black | White non woven                   | None  | 0.35 (8.9)                                 | 1,000g<br>200°F (93°C)  | Certified to Ford WSB M15P35 Type V.   |
|  | SJ3223         | 250                       |       |                                   |       |  |   |  |
|  | SJ3753         | 400                       |       |                                   |       |  |   |  |
|  | SJ3543         | 250                       | Clear | Product appears white.            |       |  |   |  |
| No adhesive coating                                    | SJ3742         | 170                       | Black | None                              | None  | 0.15 (3.9)                                 | 1,000g<br>200°F (93°C)  | For attachment to fabrics via sewing, or to wood and similar substrates using staples. Certified to FMVSS 302, Ford WSB M15P35 Type IV.  |
|  | SJ3780         | 250                       |       |                                   |       |  |   |  |
|  | SJ3741         | 400                       |       |                                   |       |  |   |  |
|  | SJ3462         | 170                       | Clear | None                              | None  | 0.15 (3.9)                                 | 1,000g<br>200°F (93°C)  | For attachment to fabrics via sewing, or to wood and similar substrates using staples. Excellent UV resistance in a translucent product, allowing substrate color to be easily seen through the fastener.  |
|  | SJ3460         | 250                       |       |                                   |       |  |   |  |
|  | SJ3461         | 400                       |       |                                   |       |  |   |  |
|  | SJ3799         | 170                       | Black | Polypropylene                     | None  | 0.23 (5.7)                                 | 1,000g<br>200°F (93°C)  | For ultrasonic bonding to polypropylene. Certified to FMVSS 302, Ford WSB M15P35 Type IV.  |
|  | SJ3768         | 250                       |       |                                   |       |  |   |  |
|  | SJ3766         | 400                       |       |                                   |       |  |   |  |
|  | SJ3481         | 400                       | Black | Polypropylene                     | None  | 0.35 (8.9)                                 | 1,000g<br>200°F (93°C)  | Rigid backing for mechanical attachment (screws, rivets, etc.). Only available in 4-foot strips. Certified to FMVSS 302.   |
| <b>3M™ Dual Lock™ Low Profile Reclosable Fasteners</b> |                |                           |       |                                   |       |  |   |  |
| 3M™ Acrylic PSA  | SJ4570         | 705                       | Clear | Clear acrylic                     | F     | 0.10 (2.5)                                 | 500g<br>158°F (70°C)  | Thin adhesive bonds well to low surface energy substrates. One roll (5/8" x 10') of SJ4570 can be ordered as MP4570.   |
|  | SJ4575         | 705                       | Black | Clear acrylic                     | F     | 0.10 (2.5)                                 | 500g<br>158°F (70°C)  | Black, bonds well to LSE substrates.   |
|  | SJ4580         | 705                       | Clear | Clear acrylic                     | C     | 0.12 (3.0)                                 | 1,000g<br>200°F (93°C)  | Aggressive, tacky adhesive for general bonding to most medium and high energy surfaces. Excellent for outdoor and high humidity conditions. Certified to Ford WSB M15P35 Type III.   |

**Liners:**

- A - White 5.0 mil (0.13 mm) thick polyolefin with silicone release coating
- B - Brown 83# polykraft liner printed with "3M™" in green. Good for diecutting directly against liner.
- C - Red 4.5 mil (0.11 mm) thick polyolefin with no silicone release coating
- D - Clear 4.0 mil (0.10 mm) thick polyolefin with silicone release coating
- E - White 5.0 mil (0.13 mm) thick polyethylene with silicone release coating
- F - Brown 83# polykraft liner printed with "3M™ Dual Lock™" in green. Good for diecutting directly against liner.

**Footnotes:**

- 1) Type 400 is not recommended to be engaged to other type 400 fasteners. As well, type 170 should not be engaged with type 170.
- 2) Acrylic PSAs are best suited for outdoor or high humidity applications for medium to high energy surfaces.
- 3) Engaged thickness is for products with the same backcoating. You can mix products with different backcoatings to obtain an even greater variety of engaged thicknesses. Any of these 3M™ Dual Lock™ Reclosable Fasteners can be engaged with 3M™ Scotchmate™ Reclosable Fasteners providing a quick grab closure with high strength and limited cycle life.
- 4) Able to support indicated weight in a one square inch system static overlap shear for 10,000 minutes, at indicated temperature.


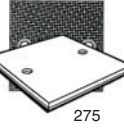


**Notes:**

Suggest 4 square inches of fastener per pound of load as a starting point for evaluation of long term performance. Suggest type 250 engaged to type 250 as a starting point for evaluations. Tensile strength increases in the following order: 170/250 < 250/250 < 170/400 < 250/400. Maximum widths are 6". All products available on 50 yard rolls except 3M™ Dual Lock™ Reclosable Fasteners SJ3756, SJ3789 and SJ3757 which are 45 yards and SJ3481 which comes in four foot strips.

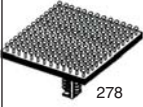


This information should be considered representative only, for help in narrowing the list of possible fasteners for further and more detailed evaluation, and should not be used for specification purposes. User is responsible for determining whether the 3M product is fit for the desired end use. Refer to specific product technical data sheets for more detailed product performance information.



3M™ Dual Lock™ – Piece Parts

| Product number  | Product Type <sup>1</sup> | Dimensions <sup>2</sup> (length x width) or diameter for circular parts inch (mm) | Functional Size/Area square inches (square cm) | Engaged Thickness <sup>3</sup> inches (mm) | Counter-bored hole diameter inches (mm) | Through hole diameter | Spacing (on centers) between holes inch (mm) | Comments Temperature Range from -20°F to 250°F (-29°C to 121°C) |  |             |              |
|---|---------------------------|---|--|--|---|-----------------------|--|---|--|-------------|--------------|
| <b>Circle with a counterbored center hole</b>   |                           |   |  |  |   |                       |  |   |  |             |              |
| <br>274    | SJ3251                    | 250   | 1 1/8" (28.5)                                  | 0.88 (5.68)                                | 0.323 (8.20)                            | 0.38 (9.5)            | 0.19 (4.9)                                   | -   | Attach using screws, rivets, etc. Circular profile reduces chance for edge lift.                                 |             |              |
|   | SJ3755                    | 250   |  | 0.91 (5.87)                                | 0.323 (8.20)                            | 0.31 (7.9)            | 0.16 (4.1)                                   | -   |  |             |              |
|   | SJ3762                    | 400   |  | 0.91 (5.87)                                | 0.288 (7.31)                            | 0.31 (7.9)            | 0.16 (4.1)                                   | -   |  |             |              |
|   | SJ3263                    | 250   | 13/16" (20.6)                                  | 0.44 (2.84)                                | 0.288 (7.31)                            | 0.31 (7.9)            | 0.16 (4.1)                                   | -   |  |             |              |
|   | SJ3763                    | 400   | -  | -  | -                                       | -                     | -  | -   |  |             |              |
|   | SJ3235                    | 400   | 13/16" (20.6)                                  | 0.42 (2.71)                                | 0.288 (7.31)                            | 0.35 (9.0)            | 0.16 (4.1)                                   | -   |  |             |              |
|   | SJ3465                    | 400   | 9/16" (14.3)                                   | 0.17 (1.10)                                | 0.288 (7.31)                            | 0.31 (7.9)            | 0.16 (4.1)                                   | -   |  |             |              |
| <b>Circle with no hole</b>  |                           |   |  |  |   |                       |  |   |  |             |              |
|   | SJ3238                    | 250   | 1 1/8" (28.6)                                  | .99 (6.39)                                 | 0.323 (8.20)                            | -                     | -  | -   |  |             |              |
| <b>Rectangle with two counterbored holes</b>  |                           |   |  |  |   |                       |  |   |  |             |              |
| <br>275    | SJ3252                    | 400   | 1.5" x 1.5" (38.1 x 38.1)                      | 2.08 (13.4)                                | 0.288 (7.31)                            | 0.33 (8.3)            | 0.16 (4.2)                                   | 1" (25.4)   |  |             |              |
|   | SJ3261                    |   |  | 2.11 (13.6)                                | 0.288 (7.31)                            | 0.29 (7.5)            | 0.14 (3.6)                                   | 1" (25.4)   | 15 mils (0.4 mm) thicker than SJ3767.  |             |              |
|   | SJ3767                    |   |  | 0.273 (6.93)                               | 0.29 (7.5)                              | 0.14 (3.6)            | 1" (25.4)                                    | 15 mils (0.4 mm) thinner than SJ3261.                           |  |             |              |
| <b>Rectangle with no holes</b>  |                           |   |  |  |   |                       |  |   |  |             |              |
| <br>276  | SJ3204                    | 250   | 1" x 1" (25.4 x 25.4)                          | 1.0 (6.45)                                 | 0.288 (7.31)                            | -                     | -  | -   |  |             |              |
|   | SJ3481                    | 400   | 4 ft x 1" or 2" (1.22 m x 25.4 or 50.8)        | Dependent on final length                  | 0.288 (7.31)                            | -                     | -  | -   | Excellent for custom cutting rectangular pieces. See SJ3766, SJ3768 or SJ3799 for ultrasonic attachment version. |             |              |
| <b>Rectangular slide-in (2 edges cut down forming a flange) for mounting into a bracket</b> |                           |   |  |  |   |                       |  |   |  |             |              |
| <br>277  | SJ3736                    | 170   | 1" x 1.22" (25.4 x 30.7)                       | 1.0 (6.45)                                 | 0.288 (7.31)                            | -                     | 0.079 (2.0)                                  | 0.049 (1.25)  | Allows quick and easy installation or replacement.   |             |              |
|   | SJ3717                    | 400   |  |  |   |                       | 0.079 (2.0)                                  | 0.049 (1.25)  |  |             |              |
|   | SJ3227                    | 250   | 5/8" x 1" (16 x 25.4)                          | 0.48 (3.10)                                |   |                       | 0.098 (2.5)                                  | 0.079 (2.0)   |  |             |              |
|   | SJ3700                    | 170   | 25/32" X 25/32" (20 x 20)                      | 0.43 (2.77)                                |   |                       | 0.098 (2.5)                                  | 0.079 (2.0)   |  |             |              |
|   | SJ3228                    | 400   | 25/32" x 25/32" (20 x 20)                      | 0.43 (2.77)                                |   |                       | 0.098 (2.5)                                  | 0.079 (2.0)   |  |             |              |
|   | SJ3229                    | 250   | 1" x 1" (25.4 x 25.4)                          | 0.76 (4.90)                                |   |                       | 0.098 (2.5)                                  | 0.079 (2.0)   |  |             |              |
|   | SJ3750                    | 400   | 32 mm x 50 mm                                  | 1.95 (12.58)                               |   |                       | 0.303 (7.70)                                 | -   |  | 0.079 (2.0) | 0.049 (1.25) |
|   | SJ3248                    | 250   | 1" x 1.1" (25.4 x 28)                          | 0.79 (5.10)                                |   |                       | 0.298 (7.57)                                 | -   |  | 0.137 (3.5) | 0.52 (1.32)  |
|   | SJ3249                    | 400   | 1" x 1.1" (25.4 x 28)                          | 0.79 (2.77)                                |   |                       | 0.298 (7.57)                                 | -   |  | 0.137 (3.5) | 0.52 (1.32)  |

### 3M™ Dual Lock™ – Piece Parts with Functional Bases

|  | Product number | Product Type <sup>1</sup> | Dimensions <sup>2</sup> (length x width) or diameter for circular parts | Functional Size/Area square inches (square cm) | Engaged Thickness <sup>3</sup> inches (mm) | Comments   |
|--|----------------|---------------------------|---|--|--|--|
| <b>Pine tree shaped push-in stem for insertion into wood and similar substrates over a range of thicknesses.</b> |                |                           |   |  |  |  |
|  278                            | SJ3209         | 250                       | 26 x 26 mm  | 1.04 (6.7)                                     | 0.293 (7.44)                               | 12 mm (0.49") long base stem, designed to fit a 7.9 to 8.4 mm diameter hole.   |
|  | SJ3749         | 400                       |   |  |  |  |
|  | SJ3222         | 250                       | 26 x 26 mm  | 1.04 (6.7)                                     | 0.293 (7.44)                               | 12 mm long base stem, designed to fit a 7 to 7.5 mm diameter hole.   |
|  | SJ3224         | 400                       |   |  |  |  |
|  | SJ3848         | 250                       | 26 x 26 mm  | 1.04 (6.7)                                     | 0.293 (7.44)                               | 16.5 mm long base stem, designed to fit a 7.9 to 8.4 mm diameter hole.   |
|  | SJ3748         | 400                       |   |  |  |  |
|  | SJ3266         | 170                       | 26 x 26 mm  | 1.04 (6.7)                                     | 0.293 (7.44)                               | 12.74 mm long base stem, designed to fit an 8.20 to 8.50 mm diameter hole.   |
|  | SJ3267         | 250                       |   |  |  |  |
|  | SJ3268         | 400                       |   |  |  |  |
|  | SJ3272         | 170                       |   |  |  |  |
| SJ3273   | 250            |                           |   |  |  |  |
| SJ3274   | 400            |                           |   |  |  |  |
| <b>Single round cone shaped base for sliding into a key hole slot</b>  |                |                           |   |  |  |  |
|  279                            | SJ3743         | 170                       | 20 mm x 20 mm   | 0.62 (4.0)                                     | 0.293 (7.44)                               | Fits key hole slot 3.1-3.25 mm thick panel that is 18 mm in diameter. The shaft (stem of the cone) is 3.25 mm tall and 4 mm wide.  |
|  | SJ3705         | 250                       |   |  |  |  |
|  | SJ3221         | 250                       | 20 mm x 20 mm   | 0.62 (4.0)                                     | 0.272 (6.91)                               | Fits key hole slot in a 2.65 mm thick panel that is 18 mm in diameter. The shaft (stem of the cone) is 2.65 mm tall and 4 mm wide. |
|  | SJ3731         | 400                       |   |  |  |  |
|  | SJ3277         | 170                       | 26 mm x 26 mm   | 1.04 (6.7)                                     | 0.293 (7.44)                               | Fits key hole slot in a 3 mm thick panel that is 14 mm in diameter. The shaft (stem of the cone) is 3 mm tall and 4 mm wide.       |
|  | SJ3278         | 250                       |   |  |  |  |
| SJ3279   | 400            |                           |   |  |  |  |
| <b>Snap-in base for 6.5 x 10 mm rectangular hole</b>   |                |                           |   |  |  |  |
|  280                          | SJ3704         | 250                       | 26 x 26 mm  | 1.04 (6.7)                                     | 0.293 (7.44)                               | Fits a 1.30 to 1.59 mm thick panel.  |
|  | SJ3713         | 400                       |   |  |  |  |
|  | SJ3825         | 170                       | 26 x 26 mm  | 1.04 (6.7)                                     | 0.283 (7.19)                               | Fits a 0.71 to 0.91 mm thick panel.  |
|  | SJ3826         | 250                       |   |  |  |  |
|  | SJ3827         | 400                       |   |  |  |  |
| <b>Snap-in base for slotted hole in 0.70 to 1.20 mm thick panel</b>  |                |                           |   |  |  |  |
|  | SJ3804         | 170                       | 26 x 26 mm  | 1.04 (6.7)                                     | 0.293 (7.44)                               | Fits a 0.70 to 1.00 mm thick sheet metal 5.35 ± .05 mm x 21.25 ± .00/- .15 mm slot.  |
|  | SJ3805         | 250                       |   |  |  | Fits a 1.00 to 1.20 mm thick sheet metal 6.00 ± .05 mm x 21.25 ± .00/- .15 mm slot.  |
|  | SJ3806         | 400                       |   |  |  |  |

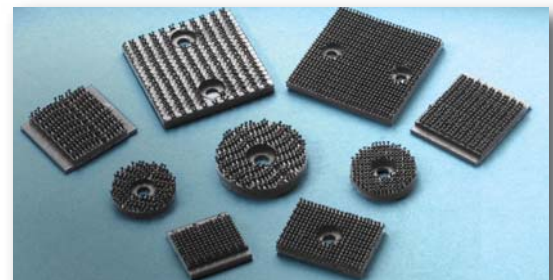
**Notes:**

- \* Suggest 4 square inches of fastener per pound of load as a starting point for evaluation of long term performance. Suggest type 250 engaged to type 250 as a starting point for evaluations. Tensile strength increases approximately in the following order: 170/250 < 250/250 ≤ 170/400 < 250/400.
- \* The information provided is considered representative only for use in narrowing the possibilities of 3M™ Dual Lock™ piece parts to be considered for further evaluation, and should not be used for specification purposes.
- \* User is responsible for determining whether the 3M product is fit for the desired end use. Refer to specific product technical datasheets for more detailed product performance information.
- \* All 3M™ Dual Lock™ Piece parts are comprised completely of black polypropylene

**Footnotes:**

- 1) Type 400 is not recommended to be engaged to other type 400 fasteners. As well, type 170 should not be engaged with type 170. Engagement strength is dependent upon the area engaged and number of stems engaged.
- 2) The actual 3M™ Dual Lock™ area available for (dis)engagement may be less than the part dimension. This should be taken into consideration when designing how much 3M™ Dual Lock™ will be required for a specific application.

- 3) Engaged thickness is for the shown product engaged to 3M™ Dual Lock™ Reclosable Fasteners SJ3781 (a type 250 Dual Lock™ with an acrylic adhesive backcoating). You can mix products with different backcoatings (standard pressure sensitive adhesives or via our 3M™ Dual Lock Mix and Match Program) to obtain a greater variety of engaged thicknesses. Any of these 3M™ Dual Lock™ Reclosable Fasteners can be engaged with 3M™ Scotchmate™ Reclosable Fasteners, providing a quick grab closure with high strength and limited life.

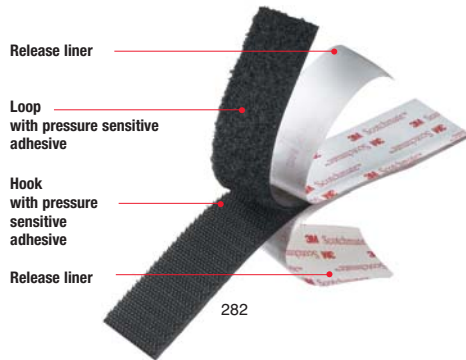


## 3M™ Scotchmate™ Reclosable Fasteners

### Industrial-strength fasteners for easy opening and closing

When your products require thousands of easy openings and secure closings, 3M™ Scotchmate™ Hook and Loop Reclosable Fasteners give you choices that improve your product and save production time. When closing, tiny stiff hooks of one side of the fasteners mesh with pliable loops on the other. For opening, simply peel one side away.

Choose adhesive-backed or plain-back fasteners. The pressure sensitive adhesives bond on contact to a variety of substrates. Adhesive formulations are designed with a wide range of performance characteristics including; flame resistance, high shear strength, low and high temperature resistance, and plasticizer resistance for use with most vinyls.



Remove and replace bicycle helmet straps and cushions easily. 3M™ Scotchmate™ Reclosable Fasteners allow simple positioning to fit the head, yet hold securely despite heat, moisture, and dirt. 283



Aircraft seat assembly is quick and easy with 3M™ Scotchmate™ Reclosable Fasteners. Some products meet FAA flammability standards. 284



3M™ Scotchmate™ Reclosable Fasteners with pressure sensitive adhesive attach easily to plastic curtains on refrigerated displays. It resists low temperatures and moisture. Plasticizer-resistance assures long-term performance. 285



Readjustable braces with 3M™ Scotchmate™ Reclosable fasteners fit securely and comfortably. The fasteners can be opened and closed thousands of times. 286



3M™ Scotchmate™ Reclosable Fasteners are available in rolls and can be easily fabricated to a wide variety of custom shapes to fit your product design and manufacturing needs. 287



When the hook side of 3M™ Scotchmate™ Reclosable Fastener SJ3000 meshes with its own loop side, you have a convenient and secure replacement for many bundling methods. 288



Die-cut 3M™ Scotchmate™ Reclosable Fasteners secure metal edge molding around an internally-illuminated sign. The molding holds the sign face in place and is readily removed for bulb replacement. 289



### 3M™ Scotchmate™ Relosable Fasteners

|  | Product Number       | Product Type                  | Material                   | Closure Life | Adhesive Type         | Liner | Engaged Thickness <sup>1</sup><br>Inches (mm) | Temperature Performance <sup>2</sup><br>Wt. in grams<br>Temp: °F (°C) | Comments  |
|--|----------------------|-------------------------------|----------------------------|--------------|-----------------------|-------|---|---|---|
| Acrylic Adhesive                                 | SJ3572<br>SJ3571     | Hook<br>Loop                  | Nylon                      | 5,000+       | High temperature      | D, F  | 0.15 (3.8)                                    | 1,000g<br>200°F (93°C)  | Certified to GM3618M and GM2743M Type II. Loop available with strong splice providing continuous product and liner when removed from roll. Order special splice as SJ3571FS or SJ3571FSR for splice marked with blue tape. Paper liner product ordered as SJ3571P or SJ3572P. |
|  | SJ3546<br>SJ3547     | Hook<br>Loop                  |                            | 5,000+       | Medium temperature    | G     | 0.15 (3.8)                                    | 500g<br>180°F (82°C)  |   |
|  | SJ3576<br>SJ3577     | Hook<br>Loop                  | Polyester                  | 1,000+       | High temperature      | D     | 0.15 (3.8)                                    | 1,000g<br>200°F (93°C)  | Excellent for outdoor or humid conditions. Certified to GM 3618M.   |
|  | SJ3522<br>SJ3523     | Hook<br>Loop                  | Nylon                      | 5,000+       | Plasticizer resistant | B     | 0.15 (3.8)                                    | 500g<br>158°F (70°C)  | Bonds well to many flexible plasticized vinyls, prevents adhesive oozing with aging.  |
| Flame-resistant Adhesive                         | SJ3518FR<br>SJ3519FR | Loop<br>Hook                  | Flame resistant nylon      | 5,000+       | Synthetic rubber      | A     | 0.15 (3.8)                                    | 500g<br>100°F (38°C)  | Flame resistant (meets FAR 25.853). Meets Boeing BMS 8-285G, Type III, Class 1.   |
|  | SJ3586FR<br>SJ3587FR | Hook<br>Loop                  | Flame resistant polyester  | 1,000+       | Synthetic rubber      | A     | 0.17 (4.3)                                    | 500g<br>100°F (38°C)  | Good for outdoor or high humidity conditions. Flame resistant (meets FAR 25.853). Meets Boeing BMS 8-285G, Type IV, Class 1.  |
| Synthetic Rubber Adhesive                        | SJ3532N<br>SJ3533N   | Hook<br>Loop                  | Nylon                      | 5,000+       | Synthetic rubber      | C     | 0.15 (3.8)                                    | 500g<br>120°F (49°C)  | Good adhesive performance at economic value.  |
|  | SJ3526N<br>SJ3527N   | Hook<br>Loop                  | Nylon                      | 5,000+       | Synthetic rubber      | A, F  | 0.15 (3.8)                                    | 500g<br>100°F (38°C)  | One roll (1" x 4.9 yd.) each of SJ3526N and SJ3527N, order MP3526N/27N. Paper liner product ordered as SJ3526NP or SJ3527NP.  |
|  | SJ3530               | Hook                          | Nylon                      | 5,000+       | Synthetic rubber      | C, F  | 0.15 (3.8)                                    | 500g<br>90°F (32°C)   | SJ3530FS has a strong splice providing continuous product and liner when removed from the roll. Paper liner product ordered as SJ3530P.   |
|  | SJ3531               | Loop                          |                            |              |                       | C     |   |   |   |
| Plainback (No adhesive)                          | SJ3401<br>SJ3402     | Loop<br>Hook                  | Nylon                      | 5,000+       | None                  | None  | 0.13 (3.3)                                    | 1,000g<br>220°F (104°C)   | Certified to GM2743M Type II. One roll (1" x 4.9 yd.) each of SJ3401 and SJ3402. Order MP3401/02. Sew-on.   |
|  | SJ3418FR<br>SJ3419FR | Loop<br>Hook                  | Flame resistant nylon      | 5,000+       | None                  | None  | 0.13 (3.3)                                    | 1,000g<br>220°F (104°C)   | Flame resistant (meets FAR 25.853). Certified to Boeing BMS 8-285G, Type II, Class 2, Sew-on.   |
|  | SJ3476<br>SJ3477     | Hook<br>Loop                  | Polyester                  | 1,000+       | None                  | None  | 0.13 (3.3)                                    | 1,000g<br>220°F (104°C)   | Excellent for outdoor or high humidity conditions. Sew-on.  |
|  | SJ3486FR<br>SJ3487FR | Hook<br>Loop                  | Flame resistant polyester  | 1,000+       | None                  | None  | 0.13 (3.3)                                    | 1,000g<br>220°F (104°C)   | Flame resistant (meets FAR 25.853). Meets Boeing BMS 8-285G, Type IV, Class 2. Good for outdoor or high humidity conditions. Sew-on.  |
| <b>3M™ Scotchmate™ Thin Reclosable Fasteners</b> |                      |                               |                            |              |                       |       |   |   |   |
| Acrylic PSA                                      | SJ3506<br>SJ3507     | Hook<br>Loop                  | Polypropylene<br>Polyester | <25          | Acrylic               | E     | 0.04 (1.0)                                    | 500g<br>120°F (49°C)  | Available in white. Thin profile with high shear strength.  |
|  | SJ3000               | Back to Back<br>Hook and Loop | Polypropylene<br>Polyester | <25          | None                  | None  | 0.06 (1.5)                                    | 500g<br>120°F (49°C)  | Available in red and black. Good for bundling and cable ties.   |

Standard colors: Nylon - black, white and beige; Polyester - black and olive. Maximum widths are 4", except for 3M™ Scotchmate™ Reclosable Fasteners SJ3506 and SJ3507 which are available in 6" widths. All products come in 50 yard rolls.

**Liners:**

- A - White 3 mil polyethylene film printed with "3M™ Scotchmate™" in red.
- B - Clear 3.5 mil polyolefin film with no printing.
- C - Yellow 3.0 mil polyethylene film with no printing.
- D - Clear 4.0 mil polypropylene film with white embossed 3M logo.
- E - Brown 83# PCK liner printed with "3M™" in green. Good for diecutting directly against liner.
- F - Brown 83# PCK liner with no printing. Good for die-cutting directly against liner.
- G - Silicone-treated polyolefin with 3M logo embossed.

**Footnotes:** 1) Engaged thickness is for hook and loop with the same backcoating engaged to each other. Any of these 3M™ Scotchmate™ Reclosable Fasteners also be engaged with 3M™ Dual Lock™ Reclosable Fasteners providing a quick grab closure with high strength and limited cycle life. 2) Able to support indicated weight in a one square inch system static overlap shear to aluminum for 10,000 minutes (approximately 1 week), at indicated temperature.

**Note:** This information should be considered representative only, for help in narrowing the list of possible fasteners for further and more detailed evaluation, and should not be used for specification purposes. User is responsible for determining whether the 3M product is fit for the desired end use. Refer to specific product technical data sheets for more detailed product performance information.

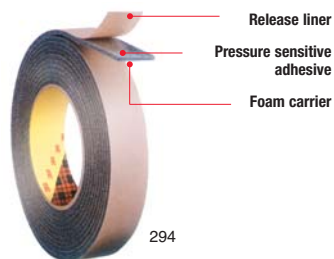


## 3M™ Single Coated Foam Tapes

### Roll-on protection against moisture, dust, noise, vibration, and impact

3M™ Single Coated Foam Tapes are strips of foam in a roll with high strength acrylic adhesive on one side of the foam. Cut to length, they seal, damp, insulate or cushion. For die-cut shapes, 3M™ Single Coated Foam Tape Series 4100, 4300, and 4700 is protected by a liner. With 3M™ Single Coated Foam Tape Series 4500, the liner is on the non-adhesive side to minimize foam stretching while placing the gasket.

Urethane foams seal, cushion, damp sound, and absorb vibration. Weather-resistant vinyl foams seal out light and dust when under compression and remain flexible even when exposed to variable temperatures and UV.



In a computer printer, 3M™ Urethane Foam Tape 4318 is a very soft, low density cushion that helps absorb impact and vibration.



When compressed 50%, the open cell construction of 3M™ Urethane Foam Tape 4314 provides an air barrier and cushion in electronic equipment.



To help prevent light leakage around a sign perimeter, 3M™ Vinyl Foam Tape 4726 attaches securely on contact.



In outdoor mailboxes, strips of 3M™ Vinyl Foam Tape 4504 helps seal the inside from rain and dirt. Vinyl provides excellent aging characteristics and remains flexible.

### 3M™ Single Coated Foam Tapes

| Product Number/Color | Description            | Adhesive    | Approximate Thickness | Density lb/cu ft (kg/cu m) | Tensile Strength (psi (kPa)) | Compression Deflection 25% psi (kPa) | Compression Set % Loss | Temperature Tolerance |              |   |
|----------------------|------------------------|-------------|-----------------------|----------------------------|------------------------------|--------------------------------------|------------------------|-----------------------|--------------|---|
|                      |                        |             |                       |                            |                              |                                      |                        | Short-Term            | Long-Term    |   |
| Urethane             | 4104*<br>Natural White | 350 Acrylic | 0.250" (6mm)          | 12 (192)                   | 115 (795)                    | 4 (27.6)                             | 8                      | 350°F (176°C)         | 200°F (93°C) |   |
|                      | 4108<br>Natural White  |             | 0.125" (3mm)          | 16 (256)                   | 130 (895)                    | 6 (82.8)                             |                        |                       |              |   |
|                      | 4116<br>Natural White  |             | 0.062" (1.5mm)        | 18 (288)                   | 115 (795)                    | 12 (82.8)                            |                        |                       |              |   |
|                      | 4314<br>Charcoal Gray  | 430 Acrylic | 0.250" (6mm)          | 2 (32)                     | 25 (170)                     | 0.3 (2.1)                            | 5                      | 250°F (121°C)         | 150°F (66°C) |   |
|                      | 4317*<br>Charcoal Gray |             | 0.375" (9.5mm)        | 2 (32)                     | 25 (170)                     | 0.3 (2.1)                            |                        |                       |              |   |
|                      | 4318<br>Charcoal Gray  |             | 0.125" (3mm)          | 2 (32)                     | 25 (170)                     | 0.3 (2.1)                            |                        |                       |              |   |
| Vinyl                | 4504*<br>Black         | 430 Acrylic | 0.250" (6mm)          | 20 (320)                   | 90 (620)                     | 4 (27.6)                             | 15                     | 250°F (121°C)         | 150°F (66°C) |   |
|                      | 4508*<br>Black         |             | 0.125" (3mm)          | 20 (320)                   | 100 (690)                    | 4 (27.6)                             |                        |                       |              |   |
|                      | 4516*<br>Black         |             | 0.062" (1.5mm)        | 25 (400)                   | 130 (895)                    | 4 (27.6)                             |                        |                       |              |   |
|                      | 4714*<br>Black         |             | 0.250" (6mm)          | 14 (225)                   | 75 (515)                     | 2 (13.8)                             |                        |                       |              | 5 |
|                      | 4718*<br>Black         |             | 0.125" (3mm)          | 20 (320)                   | 100 (690)                    | 4 (27.6)                             |                        |                       |              |   |
|                      | 4726*<br>Black         |             | 0.062" (1.5mm)        | 20 (320)                   | 130 (895)                    | 3 (20.7)                             |                        |                       |              |   |

\* Meets requirements of UL 94HBF.

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 Converter Markets Center

## Converting 3M technology into successful applications

3M Converters match 3M technologies to customer requirements with the exact form, fit, and functionality for application success in identifying, bonding, protecting, and electrical shielding or conducting.

Converter expertise includes part design, quick prototyping, laminating adhesives to various surfaces, printing labels and durable graphics, slitting, and die-cutting.

3M technologies include the following:

- 3M™ Performance Label Materials
- 3M™ Thin Attachment Tapes
- 3M™ Adhesive Transfer and Double Coated Bonding Tapes such as 3M™ VHB™ Tapes
- 3M™ Single Coated Tapes such as crepe masking tape
- 3M™ Reclosable Fasteners
- 3M™ Bumpon™ Protective Products
- And more



295 3M™ Performance Label Materials with Structured Adhesive – With unique microchannels throughout the structured adhesive, air flows freely from between the label adhesive and substrate. Hand-applied large labels go on smoothly and stay that way permanently without unsightly wrinkles and bubbles.



296 For permanent attachment of die-cut durable graphics, 3M™ LSE Low Surface Energy Acrylic Adhesive 300 bonds on contact and stays tight on low surface energy plastics, powder coated paints, and lightly oiled metals.



297 Dimensionally-stable 3M™ Double Coated Tapes are pre-applied to foam gasketing material and die-cut to precise shape and size for fast, easy application.



298 3M converters can slit 3M™ Masking Tapes to specified widths and roll lengths, as well as die-cut to unique shapes for specialized applications.



299 For hundreds to thousands of openings and closings, 3M converters customize 3M™ Reclosable Fasteners to meet exact customer requirements for form, fit, mating strength, and liner.



300 When you need a little touch of quiet and skid resistance for a PDA or other small product, custom 3M™ Bumpon™ Protective Products are scaled for the design. Adhesive is formulated to hold even a small bonding surface.



301 From the 150,000 possible combinations of 3M adhesives, facestocks, overlaminates, and liners, you have many choices for durable labels requiring UL and/or RoHS compliance.



## An overview of other 3M Adhesive Technologies



302

3M™ Bumpon™ Protective Products are convenient peel-and-apply resilient bumpers that quiet and cushion impact.



304

To help insure a scratch-free product, a short-term 3M™ Protective Tape is applied after final finishing to a sink, spa, or countertop prior to packaging. The co-extruded backing protects during shipping and installation, and the special acrylic adhesive releases for clean and easy removal by the end user.



303

3M™ UHMW-PE Tape 5425 provides a “slip plane” effect between incompatible surfaces to help reduce squeaks and rattles.



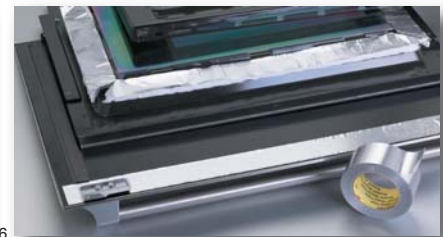
305

For box packing, sealing, and storage below 40°F, Scotch® Box Sealing Tape 3723 seals with a rubber adhesive modified for reliability in the cold.



306

With the wide variety of 3M™ Crepe Masking Tapes, industrial customers have a selection of holding power, line sharpness, and removal characteristics that are matched to the job, ranging from critical part paint masking to bundling.



307

3M™ Aluminum Foil Tape bonds on contact as heat shielding inside an oven door. Helps keep the exterior cool to the touch behind the handle and around the window perimeter.



308

For aisle marking and hazard identification, 3M™ Vinyl Tape 471 simply rolls onto a surface, adheres on contact, outlasts paint, and peels off when ready to remark the area.



309

Self-fixturing 3M™ Damping Foil Tape combines a unique viscoelastic polymer with an aluminum constraining layer to damp vibration and help quiet metal and plastic.



310

Strong grip and rugged cloth backing of 3M™ Performance Plus Duct Tape 8979 perform reliably indoors and out for holding, wrapping, sealing, moisture proofing, hanging poly, and more. Removes cleanly for up to 6 months.



311 Versatile 3M™ Performance Flatback Tape 2525 provides high visibility for holding many materials, edge banding, and splicing.



313 For a sharp paint line on curved fascia, 3M™ Fine Line Masking Tape 4737T adheres securely and removes cleanly even after exposure to 325°F (163°C) for one hour.



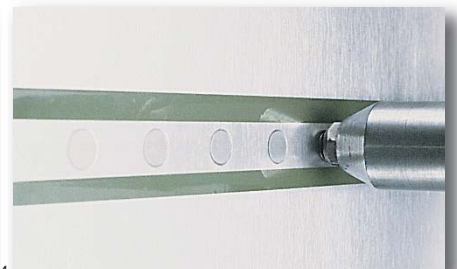
312 3M™ UV Protective Tapes protect automotive mirror finishes from abrasion and marring. UV-stable backing resists the effect of UV exposure for up to 3 months.



316 With permanent resiliency and high coefficient of friction, custom 3M™ Bumpon™ Protective Products provide a soft touch and sure grip for pliers.



314 With acrylic adhesive and nonwoven air-permeable backing, 3M™ Venting Tape 3394 keeps foam-in-place insulation inside appliance doors and cavities.



315 3M™ Riveting Tape 685 with tack-free window holds rivets during bucking without trapping. Low stretch polyester backing with dimensional stability maintains rivet position.



317 To seal fiberglass duct board and flexible duct systems, Scotch® Foil Tape 3326 meets the performance requirements for UL 181A-P and UL 181B-FX.



318 For finished mill overlap splicing, 3M™ Repulpable Permanent Tape provides high shear strength without adhesive oozing or bleed through.



| Product | Page                   | Product   | Page   | Product | Page   | Product | Page   | Product | Page |
|---------|------------------------|-----------|--------|---------|--------|---------|--------|---------|------|
| 5       | 31                     | 966       | 69     | 4213NF  | 29     | 5004    | 72     | 9088FL  | 65   |
| 10      | 31                     | 969       | 76     | 4224NF  | 29     | 5051    | 72     | 9172MP  | 69   |
| 30H     | 31                     | 970XL     | 76     | 4314    | 92     | 5200    | 46, 47 | 9185MP  | 69   |
| 30NF    | 30, 31, 32, 34, 35, 43 | 976       | 76     | 4317    | 92     | 5200FC  | 47     | 9372DKW | 69   |
| 49      | 27, 29                 | 987       | 76     | 4318    | 92     | 5354    | 47     | 9372W   | 69   |
| 60 CA   | 34, 43                 | 992U      | 69     | 4323    | 29     | 5425    | 94     | 9375W   | 69   |
| 70      | 32, 34                 | 1099      | 28     | 4408    | 63     | 5915    | 58     | 9377    | 66   |
| 72      | 42                     | 1099L     | 28     | 4416    | 63     | 5925    | 58     | 9415PC  | 67   |
| 74      | 32, 34, 42, 43         | 1252      | 46, 47 | 4432    | 63     | 5930    | 58     | 9416    | 67   |
| 74NF    | 34                     | 1300      | 27, 28 | 4451    | 67     | 5932    | 72     | 9420    | 66   |
| 75      | 42                     | 1300L     | 28     | 4462    | 63     | 5952    | 58, 60 | 9425    | 67   |
| 76      | 42                     | 1357      | 31     | 4466    | 63     | 5958FR  | 58     | 9425HT  | 67   |
| 77      | 29, 34, 42, 43         | 1357L     | 31     | 4475    | 27, 28 | 5962    | 58, 60 | 9437    | 69   |
| 78      | 29, 34, 42, 43         | 1386      | 13     | 4491    | 28     | 6035PC  | 70     | 9442    | 70   |
| 78 ET   | 34                     | 1469      | 13     | 4492    | 63     | 6035PL  | 70     | 9443NP  | 66   |
| 78 HT   | 34                     | 1751 B/A  | 13     | 4496    | 63     | 6038PC  | 70     | 9445    | 70   |
| 80      | 42                     | 1838 B/A  | 13     | 4504    | 92     | 6038PL  | 70     | 9449S   | 67   |
| 90      | 34, 42, 43             | 1838L B/A | 13     | 4508    | 92     | 6096    | 43     | 9453FL  | 70   |
| 92      | 34, 43                 | 1870      | 29     | 4516    | 92     | 6111    | 36, 40 | 9453LE  | 70   |
| 94      | 43                     | 2000NF    | 30, 31 | 4550    | 29     | 6111HT  | 36, 40 | 9456    | 65   |
| 94CA    | 32, 34, 43             | 2084      | 47     | 4611    | 58     | 6116    | 36, 40 | 9457    | 70   |
| 98NF    | 34                     | 2086      | 13     | 4646    | 58     | 6985-1  | 45     | 9458    | 69   |
| 100     | 30, 68                 | 2141      | 28     | 4655    | 58     | 6997-1  | 45     | 9459W   | 69   |
| 100NF   | 31                     | 2158 B/A  | 13     | 4658F   | 63, 67 | 7526L   | 72     | 9461P   | 69   |
| 101     | 47                     | 2214      | 11, 13 | 4693    | 28     | 7527L   | 72     | 9462P   | 69   |
| 401M    | 66                     | 2216 B/A  | 10, 13 | 4693H   | 27, 28 | 7945MP  | 75     | 9464    | 70   |
| 410M    | 64, 66                 | 2262      | 28     | 4714    | 92     | 7951    | 75     | 9471    | 69   |
| 415     | 66                     | 2290      | 13     | 4718    | 92     | 7952MP  | 75     | 9471FL  | 70   |
| 442F    | 66                     | 2525      | 95     | 4726    | 92     | 7953HL  | 75     | 9471LE  | 70   |
| 442KW   | 66                     | 3326      | 95     | 4737T   | 95     | 7953MP  | 75     | 9471PC  | 69   |
| 444     | 65                     | 3394      | 95     | 4799    | 28     | 7955MP  | 75     | 9472    | 69   |
| 444PC   | 65                     | 3501 B/A  | 13     | 4901    | 45     | 7956MP  | 75     | 9472FL  | 70   |
| 450EK   | 73                     | 3532 B/A  | 13     | 4902    | 45     | 7956MWS | 75     | 9472LE  | 70   |
| 450XL   | 73                     | 3535 B/A  | 13     | 4905    | 58     | 7956WDL | 75     | 9482PC  | 70   |
| 456CR   | 66                     | 3549 B/A  | 13     | 4910    | 58, 61 | 7957MP  | 75     | 9485EK  | 70   |
| 463     | 70                     | 3723      | 94     | 4914    | 58     | 7959MP  | 75     | 9485PC  | 70   |
| 465     | 68, 70                 | 3731      | 40     | 4919F   | 58     | 7961MP  | 75     | 9490LE  | 65   |
| 465XL   | 73                     | 3738      | 37, 40 | 4920    | 58     | 7962MP  | 75     | 9492MP  | 64   |
| 466XL   | 73                     | 3747      | 40     | 4926    | 58     | 7965MP  | 75     | 9495B   | 64   |
| 467MP   | 68, 69                 | 3748      | 40     | 4929    | 58     | 7966MWS | 75     | 9495FL  | 64   |
| 467MPF  | 69                     | 3748 VO   | 40     | 4930    | 58     | 7966WDL | 75     | 9495LE  | 65   |
| 468MP   | 69                     | 3750      | 40     | 4932    | 58     | 7991MPW | 75     | 9495MP  | 64   |
| 468MPF  | 69                     | 3750LM    | 40     | 4935    | 72     | 7992MP  | 75     | 9495MPF | 64   |
| 469     | 65                     | 3755LM    | 40     | 4936    | 58     | 7992MPW | 75     | 9497    | 71   |
| 471     | 94                     | 3762      | 37, 40 | 4936F   | 58     | 7993MP  | 75     | 9498    | 70   |
| 476XL   | 73                     | 3762LM    | 40     | 4941    | 58, 60 | 7995MP  | 75     | 9499    | 71   |
| 501FL   | 69                     | 3764      | 40     | 4941F   | 58     | 7997MP  | 75     | 9500PC  | 65   |
| 502FL   | 69                     | 3776LM    | 40     | 4943F   | 58     | 8038    | 72     | 9502    | 69   |
| 540     | 46, 47                 | 3779      | 40     | 4945    | 58     | 8039    | 72     | 9505    | 69   |
| 560     | 46, 47                 | 3789      | 40     | 4946    | 58     | 8049    | 72     | 9576    | 66   |
| 600     | 45                     | 3792      | 40     | 4947F   | 58     | 8050    | 72     | 9576B   | 66   |
| 606NF   | 47                     | 3792LM    | 40     | 4949    | 58     | 8053    | 72     | 9576R   | 66   |
| 665     | 67                     | 3794      | 40     | 4950    | 58     | 8056    | 71     | 9576Y   | 66   |
| 666     | 67                     | 3796      | 40     | 4951    | 58     | 8057    | 72     | 9578    | 66   |
| 685     | 95                     | 3797      | 40     | 4952    | 58     | 8058NT  | 72     | 9579    | 66   |
| 800     | 47                     | 3798LM    | 40     | 4955    | 58     | 8132LE  | 70     | 9589    | 66   |
| 826     | 28                     | 3901      | 13     | 4956    | 58, 60 | 8153LE  | 70     | 9599    | 66   |
| 847     | 27, 28                 | 3989      | 21     | 4956F   | 58     | 8979    | 94     | 9609    | 65   |
| 847H    | 28                     | 4000UV FC | 47     | 4957F   | 58     | 9009    | 65     | 9653LE  | 70   |
| 847L    | 28                     | 4004      | 63     | 4959    | 58     | 9019    | 65     | 9665    | 70   |
| 900     | 47                     | 4008      | 62, 63 | 4979F   | 58     | 9039    | 65     | 9667MP  | 69   |
| 909     | 71                     | 4016      | 62, 63 | 4986    | 72     | 9045MP  | 75     | 9668MP  | 69   |
| 920XL   | 73                     | 4026      | 63     | 4988    | 72     | 9056MP  | 75     | 9671    | 69   |
| 924     | 76                     | 4032      | 63     | 4991    | 58, 60 | 9057MP  | 75     | 9671LE  | 70   |
| 926     | 76                     | 4052      | 63     | 4994    | 72     | 9059MP  | 75     | 9672    | 69   |
| 927     | 69                     | 4056      | 63     | 4996    | 72     | 9061MP  | 75     | 9672LE  | 70   |
| 928     | 76                     | 4085      | 63     | 4997    | 72     | 9082    | 69     | 9673    | 70   |
| 941     | 69                     | 4104      | 92     | 4998    | 72     | 9085    | 69     | 9674    | 70   |
| 950     | 69                     | 4108      | 92     | 4999    | 72     | 9086    | 65     | 9675    | 70   |
| 950EK   | 69                     | 4116      | 92     | 5002    | 72     | 9087    | 65     | 9687    | 65   |
| 965     | 69                     | 4200 FC   | 47     | 5002D   | 72     | 9088    | 65     | 9690    | 65   |

| Product             | Page       | Product                | Page       | Product             | Page   | Product  | Page   | Product                     | Page |
|---------------------|------------|------------------------|------------|---------------------|--------|----------|--------|-----------------------------|------|
| 9690B               | 65         | Concrete repair        |            | HT40                | 17     | SJ3267   | 89     | SJ3752                      | 86   |
| 9731                | 66         | cartridge applicator   | 14         | HT700               | 16, 17 | SJ3268   | 89     | SJ3753                      | 87   |
| 9737                | 66         | CV45F                  | 59         | L05                 | 17     | SJ3272   | 89     | SJ3754                      | 87   |
| 9737R               | 66         | CV62F                  | 59         | L0100               | 16, 17 | SJ3273   | 89     | SJ3755                      | 88   |
| 9738                | 66         | DP100                  | 11         | LT                  | 39     | SJ3274   | 89     | SJ3756                      | 86   |
| 9738R               | 66         | DP100FR                | 11         | Medium Instant      |        | SJ3277   | 89     | SJ3757                      | 86   |
| 9740                | 66         | DP100NS                | 11         | Wood Adhesive       | 15     | SJ3278   | 89     | SJ3758                      | 86   |
| 9741                | 66         | DP105                  | 11         | Medium Set Wood     | 13     | SJ3279   | 89     | SJ3762                      | 88   |
| 9772WL              | 70         | DP110                  | 11         | Mixing Nozzle       | 45     | SJ3401   | 91     | SJ3763                      | 88   |
| 9773WL              | 70         | DP125                  | 11         | Multi-Surface Wipes | 44     | SJ3402   | 91     | SJ3766                      | 87   |
| 9774WL              | 70         | DP190                  | 11         | PF5422              | 47     | SJ3418FR | 91     | SJ3767                      | 88   |
| 9775WL              | 70         | DP270                  | 11         | PF5423              | 47     | SJ3419FR | 91     | SJ3768                      | 87   |
| 9784                | 70         | DP420                  | 10, 11     | PG II               | 39     | SJ3460   | 87     | SJ3773                      | 86   |
| 9786                | 65         | DP420NS                | 11         | PG II LT            | 39     | SJ3461   | 87     | SJ3777                      | 86   |
| 9786NP              | 65         | DP460                  | 11         | PR03                | 17     | SJ3462   | 87     | SJ3780                      | 87   |
| 9795                | 66         | DP460NS                | 11         | PR5                 | 17     | SJ3465   | 88     | SJ3781                      | 86   |
| 9795B               | 66         | DP600                  | 11, 12, 45 | PR10                | 17     | SJ3476   | 91     | SJ3782                      | 86   |
| 9816H               | 66         | DP600NS                | 12         | PR40                | 17     | SJ3477   | 91     | SJ3785                      | 86   |
| 9816L               | 66         | DP601                  | 12         | PR54                | 17     | SJ3481   | 87, 88 | SJ3787                      | 86   |
| 9816M               | 66         | DP601NS                | 12         | PR80                | 17     | SJ3486FR | 91     | SJ3788                      | 86   |
| 9817H               | 66         | DP604NS                | 12         | PR600               | 17     | SJ3487FR | 91     | SJ3789                      | 86   |
| 9817L               | 66         | DP605NS                | 12         | PR600B              | 17     | SJ3506   | 91     | SJ3799                      | 87   |
| 9817M               | 66         | DP608                  | 12         | PR851               | 17     | SJ3507   | 91     | SJ3804                      | 89   |
| 9824                | 65         | DP620NS                | 12         | Primer 94           | 57     | SJ3518FR | 91     | SJ3805                      | 89   |
| 9828                | 65         | DP640                  | 12         | PS65                | 20     | SJ3519FR | 91     | SJ3806                      | 89   |
| 9828HL              | 65         | DP805                  | 12         | PS67                | 20     | SJ3522   | 91     | SJ3825                      | 89   |
| 9828PC              | 65         | DP807                  | 12         | PS92                | 20     | SJ3523   | 91     | SJ3826                      | 89   |
| 9832                | 64, 65     | DP810                  | 10, 12     | RT09                | 20     | SJ3526N  | 91     | SJ3827                      | 89   |
| 9832HL              | 65         | DP810NS                | 12         | RT20                | 20     | SJ3527N  | 91     | SJ3848                      | 89   |
| 9925XL              | 73         | DP812                  | 12         | RT35                | 20     | SJ3530   | 91     | SJ4570                      | 87   |
| 9926XL              | 73         | DP820                  | 12         | RT40                | 20     | SJ3531   | 91     | SJ4575                      | 87   |
| 9934XL              | 73         | DP825                  | 12         | RT41                | 20     | SJ3532N  | 91     | SJ4580                      | 87   |
| 17005               | 23         | DP5001                 | 12, 47     | RT60                | 20     | SJ3533N  | 91     | Solvent No. 2               | 29   |
| 17010               | 23         | DP5003                 | 12         | RT80                | 20     | SJ3534   | 86     | Sticker & Marker Remover    | 44   |
| 17030               | 23         | DP5003NS               | 46, 47     | RT142               | 20     | SJ3535   | 86     | Surface Activator           | 15   |
| 17060               | 23         | DP5105                 | 12, 45     | SA24                | 12     | SJ3540   | 87     | TC                          | 39   |
| 250015              | 24         | DP5106                 | 12, 45     | SA30                | 12     | SJ3541   | 87     | TE015                       | 25   |
| 250030              | 24         | DP8005                 | 10, 12     | SB09                | 17     | SJ3542   | 87     | TE030                       | 25   |
| 250060              | 24         | DP8010                 | 12         | SB14                | 17     | SJ3543   | 87     | TE031                       | 25   |
| 250120              | 24         | DP8010NS               | 12         | SB16                | 17     | SJ3546   | 91     | TE040                       | 25   |
| 250150              | 24         | EC                     | 39         | SB20                | 18     | SJ3547   | 91     | TE100                       | 25   |
| AC12                | 18         | EC40                   | 18         | SB30                | 18     | SJ3550   | 86     | TE200                       | 25   |
| AC68                | 18         | EC100                  | 18         | SB93                | 18     | SJ3550CF | 86     | Thick Instant Wood Adhesive | 15   |
| AC77                | 18         | EC600                  | 18         | SB95                | 18     | SJ3551   | 86     | Thin Instant Wood Adhesive  | 15   |
| AC78                | 18         | EC2216                 | 11         | SF20                | 17     | SJ3551CF | 86     | TL22                        | 20   |
| AC79                | 18         | EC2500                 | 18         | SF100               | 17     | SJ3552   | 86     | TL42                        | 20   |
| AC113               | 18         | ECIGEL                 | 18         | SH100               | 18     | SJ3552CF | 86     | TL43                        | 20   |
| AC380D              | 12         | EXP 200ml Applicator   | 14         | SH1500              | 18     | SJ3553   | 86     | TL62                        | 20   |
| AC452               | 18         | EXP Metal Applicator   | 14         | SI2500              | 18     | SJ3554   | 86     | TL71                        | 20   |
| AC471               | 21         | EXP Nozzles            | 14         | Silicone Lubricant  | 44     | SJ3560   | 86     | TL72                        | 20   |
| AC649               | 21         | EXP Plus II Applicator | 14         | SJ3000              | 91     | SJ3561   | 86     | TL77                        | 20   |
| Accessories         | 39         | EXP Pneumatic          |            | SJ3204              | 88     | SJ3562   | 86     | TL90                        | 20   |
| Adhesive Remover    | 29, 43, 44 | Applicators            | 10, 14     | SJ3209              | 89     | SJ3571   | 91     | TS115 HGS                   | 25   |
| AE II               | 39         | 5-Way Penetrant        | 44         | SJ3221              | 89     | SJ3572   | 91     | TS230                       | 25   |
| AE II LT            | 39         | F9460PC                | 58, 69     | SJ3222              | 89     | SJ3576   | 91     |                             |      |
| AP-111              | 57         | F9465PC                | 68, 71     | SJ3223              | 87     | SJ3577   | 91     |                             |      |
| AP-115              | 57         | F9469PC                | 58, 69     | SJ3224              | 89     | SJ3586FR | 91     |                             |      |
| B23F                | 60         | F9473PC                | 58, 69     | SJ3227              | 88     | SJ3587FR | 91     |                             |      |
| B45F                | 61         | F9752PC                | 71         | SJ3228              | 88     | SJ3700   | 88     |                             |      |
| CA4                 | 15         | F9755PC                | 71         | SJ3229              | 88     | SJ3704   | 89     |                             |      |
| CA5                 | 15         | Fast Set Non-Sag Wood  | 13         | SJ3235              | 88     | SJ3705   | 89     |                             |      |
| CA7                 | 15         | Fast Set Wood          | 13         | SJ3238              | 88     | SJ3713   | 89     |                             |      |
| CA8                 | 15         | G23F                   | 60         | SJ3244              | 86     | SJ3717   | 89     |                             |      |
| CA9                 | 15         | G45F                   | 61         | SJ3245              | 86     | SJ3731   | 89     |                             |      |
| CA40                | 15         | G45P                   | 61         | SJ3246              | 86     | SJ3736   | 88     |                             |      |
| CA40H               | 15         | GM04                   | 21         | SJ3248              | 88     | SJ3741   | 87     |                             |      |
| CA50                | 15         | GM10                   | 21         | SJ3249              | 88     | SJ3742   | 87     |                             |      |
| CA100               | 15         | GM15                   | 21         | SJ3251              | 88     | SJ3743   | 89     |                             |      |
| Citrus Base Cleaner | 44         | GM18                   | 21         | SJ3252              | 88     | SJ3748   | 89     |                             |      |
|                     |            | HP45                   | 20         | SJ3261              | 88     | SJ3749   | 89     |                             |      |
|                     |            | HP54                   | 20         | SJ3263              | 88     | SJ3750   | 88     |                             |      |
|                     |            | HP69                   | 20         | SJ3266              | 89     | SJ3751   | 86     |                             |      |

| Product                                  | Page   | Product                             | Page           | Product                             | Page   | Product                         | Page   | Product                                       | Page               |
|--|--------|-------------------------------------|----------------|-------------------------------------|--------|---------------------------------|--------|---|--------------------|
| <b>3M™ Adhesive Technologies (other)</b> |        | 9672LE                              | 70             | 9443NP                              | 66     | SJ3755                          | 88     | <b>3M™ Fastbond™ Adhesives</b>                |                    |
| 471                                      | 94     | 9772WL                              | 70             | 9456                                | 65     | SJ3762                          | 88     | 49  | 27, 29             |
| 685                                      | 95     | 9773WL                              | 70             | 9490LE                              | 65     | SJ3763                          | 88     | 100   | 30, 68             |
| 2525                                     | 95     | 9774WL                              | 70             | 9492MP                              | 64     | SJ3767                          | 88     | 4213NF  | 29                 |
| 3326                                     | 95     | 9775WL                              | 70             | 9495B                               | 64     |                                 |        | 4224NF  | 29                 |
| 3394                                     | 95     | F9460PC                             | 58, 69         | 9495FL                              | 64     | <b>3M™ Dual Lock™</b>           |        |   |                    |
| 3723                                     | 94     | F9465PC                             | 68, 71         | 9495LE                              | 65     | <b>Reclosable Fasteners</b>     |        | <b>3M™ Fastbond™ Contact Adhesives</b>        |                    |
| 4737T                                    | 95     | F9469PC                             | 58, 69         | 9495MP                              | 64     | SJ3223                          | 87     | 30H   | 31                 |
| 5425                                     | 94     | F9473PC                             | 58, 69         | 9495MPF                             | 64     | SJ3244                          | 86     | 30NF  | 30, 31, 32, 34, 35 |
| 8979                                     | 94     | F9752PC                             | 71             | 9500PC                              | 65     | SJ3245                          | 86     | 100NF   | 31                 |
|  |        | F9755PC                             | 71             | 9576                                | 66     | SJ3246                          | 86     | 2000NF  | 30, 31             |
|  |        |                                     |                | 9576B                               | 66     | SJ3460                          | 87     |   |                    |
|  |        |                                     |                | 9576R                               | 66     | SJ3461                          | 87     | <b>3M™ Membrane Switch Adhesives</b>          |                    |
| <b>3M™ Adhesive Transfer Tapes</b>       |        | <b>3M™ Aerosol Adhesives</b>        |                | 9576Y                               | 66     | SJ3462                          | 87     | 7945MP  | 75                 |
| 463                                      | 70     | 30NF                                | 43             | 9578                                | 66     | SJ3481                          | 87, 88 | 7952MP  | 75                 |
| 465                                      | 68, 70 | 60 CA                               | 43             | 9579                                | 66     | SJ3534                          | 86     | 7953HL  | 75                 |
| 467MP                                    | 68, 69 | 72                                  | 42             | 9589                                | 66     | SJ3535                          | 86     | 7953MP  | 75                 |
| 467MPF                                   | 69     | 74                                  | 32, 34, 42     | 9599                                | 66     | SJ3540                          | 87     | 7955MP  | 75                 |
| 468MP                                    | 69     | 75                                  | 42             | 9609                                | 65     | SJ3541                          | 87     | 7956MP  | 75                 |
| 468MPF                                   | 69     | 76                                  | 42             | 9687                                | 65     | SJ3542                          | 87     | 7956MWS                                       | 75                 |
| 501FL                                    | 69     | 77                                  | 29, 34, 42, 43 | 9690                                | 65     | SJ3543                          | 87     | 7956WDL                                       | 75                 |
| 502FL                                    | 69     | 78                                  | 29, 34, 42, 43 | 9690B                               | 65     | SJ3550CF                        | 86     | 7957MP  | 75                 |
| 909                                      | 71     | 80                                  | 42             | 9731                                | 66     | SJ3551                          | 86     | 7959MP  | 75                 |
| 927                                      | 69     | 90                                  | 34, 43         | 9737                                | 66     | SJ3551CF                        | 86     | 7961MP  | 75                 |
| 941                                      | 69     | 94                                  | 43             | 9737R                               | 66     | SJ3552                          | 86     | 7962MP  | 75                 |
| 950                                      | 69     | 6096                                | 43             | 9738                                | 66     | SJ3552CF                        | 86     | 7965MP  | 75                 |
| 950EK                                    | 69     | Case Sealing Adhesive               | 43             | 9738R                               | 66     | SJ3553                          | 86     | 7966MWS                                       | 75                 |
| 965                                      | 69     | Palletizing Adhesive                | 43             | 9740                                | 66     | SJ3554                          | 86     | 7966WDL                                       | 75                 |
| 966                                      | 69     | Dry Lay-up Adhesive                 | 43             | 9741                                | 66     | SJ3560                          | 86     | 7991MPW                                       | 75                 |
| 992U                                     | 69     |                                     |                | 9786                                | 65     | SJ3561                          | 86     | 7992MPW                                       | 75                 |
| 6035PC                                   | 70     | <b>3M™ Aerosol Chemicals</b>        |                | 9786NP                              | 65     | SJ3562                          | 86     | 7993MP  | 75                 |
| 6035PL                                   | 70     | 5-Way Penetrant                     | 44             | 9795                                | 66     | SJ3741                          | 87     | 7995MP  | 75                 |
| 6038PC                                   | 70     | Adhesive Remover                    | 29, 43, 44     | 9795B                               | 66     | SJ3742                          | 87     | 7997MP  | 75                 |
| 6038PL                                   | 70     | Citrus Base Cleaner                 | 44             | 9816H                               | 66     | SJ3751                          | 86     | 9045MP  | 75                 |
| 7951                                     | 75     | Multi-Surface Wipes                 | 44             | 9816M                               | 66     | SJ3752                          | 86     | 9056MP  | 75                 |
| 7952MP                                   | 75     | Silicone Lubricant                  | 44             | 9817H                               | 66     | SJ3753                          | 87     | 9057MP  | 75                 |
| 7955MP                                   | 75     | Sticker & Marker Remover            | 44             | 9817L                               | 66     | SJ3754                          | 87     | 9059MP  | 75                 |
| 7962MP                                   | 75     |                                     |                | 9817M                               | 66     | SJ3755                          | 86     | 9061MP  | 75                 |
| 7965MP                                   | 75     | <b>3M™ Concrete Repair Products</b> |                | 9824                                | 65     | SJ3757                          | 86     |   |                    |
| 8056                                     | 71     | 600                                 | 45             | 9828                                | 65     | SJ3758                          | 86     | <b>3M™ Release Liners and Printable Films</b> |                    |
| 8132LE                                   | 70     | 4901                                | 45             | 9828HL                              | 65     | SJ3766                          | 87     | 4935  | 72                 |
| 8153LE                                   | 70     | 4902                                | 45             | 9828PC                              | 65     | SJ3768                          | 87     | 4986  | 72                 |
| 9082                                     | 69     | 6985-1                              | 45             | 9832                                | 64, 65 | SJ3773                          | 86     | 4988  | 72                 |
| 9085                                     | 69     | 6997-1                              | 45             | 9832HL                              | 65     | SJ3777                          | 86     | 4994  | 72                 |
| 9172MP                                   | 69     | DP600                               | 11, 12, 45     |                                     |        | SJ3780                          | 87     | 4996  | 72                 |
| 9185MP                                   | 69     | DP5105                              | 12, 45         | <b>3M™ Dual Lock™ - Piece Parts</b> |        | SJ3781                          | 86     | 4997  | 72                 |
| 9372DKW                                  | 69     | DP5106                              | 12, 45         | SJ3204                              | 88     | SJ3782                          | 86     | 4998  | 72                 |
| 9372W                                    | 69     | Mixing Nozzle                       | 45             | SJ3209                              | 89     | SJ3785                          | 86     | 4999  | 72                 |
| 9375W                                    | 69     |                                     |                | SJ3221                              | 89     | SJ3787                          | 86     | 5002  | 72                 |
| 9437                                     | 69     | <b>3M™ Double Coated Foam Tapes</b> |                | SJ3222                              | 89     | SJ3788                          | 86     | 5004  | 72                 |
| 9442                                     | 70     | 4004                                | 63             | SJ3224                              | 89     | SJ3789                          | 86     | 5051  | 72                 |
| 9445                                     | 70     | 4008                                | 62, 63         | SJ3227                              | 88     | SJ3799                          | 87     | 5932  | 72                 |
| 9453FL                                   | 70     | 4016                                | 62, 63         | SJ3228                              | 88     | SJ3804                          | 89     | 8038  | 72                 |
| 9453LE                                   | 70     | 4026                                | 63             | SJ3229                              | 88     | SJ3805                          | 89     | 8039  | 72                 |
| 9457                                     | 70     | 4032                                | 63             | SJ3235                              | 88     | SJ3806                          | 89     | 8049  | 72                 |
| 9458                                     | 69     | 4052                                | 63             | SJ3238                              | 88     | SJ3825                          | 89     | 8050  | 72                 |
| 9459W                                    | 69     | 4056                                | 63             | SJ3248                              | 88     | SJ3826                          | 89     | 8053  | 72                 |
| 9461P                                    | 69     | 4085                                | 63             | SJ3249                              | 88     | SJ3827                          | 89     | 8057  | 72                 |
| 9462P                                    | 69     | 4408                                | 63             | SJ3251                              | 88     | SJ3848                          | 89     | 5002D   | 72                 |
| 9464                                     | 70     | 4416                                | 63             | SJ3252                              | 88     | SJ4570                          | 87     | 7526L   | 72                 |
| 9471                                     | 69     | 4432                                | 63             | SJ3261                              | 88     | SJ4575                          | 87     | 7527L   | 72                 |
| 9472                                     | 69     | 4462                                | 63             | SJ3263                              | 88     | SJ4580                          | 87     | 8058NT  | 72                 |
| 9497                                     | 70     | 4466                                | 63             | SJ3266                              | 89     |                                 |        |   |                    |
| 9498                                     | 70     | 4492                                | 63             | SJ3267                              | 89     | <b>3M™ EPX Applicators</b>      |        |   |                    |
| 9499                                     | 70     | 4496                                | 63             | SJ3268                              | 89     | Concrete repair cartridge       |        |   |                    |
| 9502                                     | 69     | 4658F                               | 63, 67         | SJ3272                              | 89     | applicator                      | 14     |   |                    |
| 9505                                     | 69     |                                     |                | SJ3273                              | 89     | EXP 200ml Applicator            | 14     |   |                    |
| 9665                                     | 70     | <b>3M™ Double Coated Tapes</b>      |                | SJ3274                              | 89     | EXP Metal Applicator            | 14     |   |                    |
| 9671                                     | 69     | 401M                                | 66             | SJ3277                              | 89     | EXP Nozzles                     | 14     |   |                    |
| 9471FL                                   | 70     | 410M                                | 64, 66         | SJ3278                              | 89     | EXP Plus II Applicator          | 14     |   |                    |
| 9471LE                                   | 70     | 415                                 | 66             | SJ3279                              | 89     | EXP Pneumatic                   |        |   |                    |
| 9471PC                                   | 69     | 442F                                | 66             | SJ3465                              | 88     | Applicators                     | 10, 14 |   |                    |
| 9672                                     | 69     | 442KW                               | 66             | SJ3481                              | 87, 88 |                                 |        |   |                    |
| 9472FL                                   | 70     | 444                                 | 65             | SJ3700                              | 88     | <b>3M™ Extended Liner Tapes</b> |        |   |                    |
| 9673                                     | 70     | 444PC                               | 65             | SJ3704                              | 88     | 450EK                           | 73     |   |                    |
| 9472LE                                   | 70     | 456CR                               | 66             | SJ3705                              | 89     | 450XL                           | 73     |   |                    |
| 9674                                     | 70     | 469                                 | 65             | SJ3713                              | 89     | 465XL                           | 73     |   |                    |
| 9675                                     | 70     | 9009                                | 65             | SJ3717                              | 88     | 466XL                           | 73     |   |                    |
| 9482PC                                   | 70     | 9019                                | 65             | SJ3731                              | 89     | 476XL                           | 73     |   |                    |
| 9784                                     | 70     | 9039                                | 65             | SJ3736                              | 88     | 920XL                           | 73     |   |                    |
| 9485EK                                   | 70     | 9086                                | 65             | SJ3743                              | 89     | 9925XL                          | 73     |   |                    |
| 9485PC                                   | 70     | 9087                                | 65             | SJ3748                              | 89     | 9926XL                          | 73     |   |                    |
| 9653LE                                   | 70     | 9088                                | 65             | SJ3749                              | 89     | 9934XL                          | 73     |   |                    |
| 9667MP                                   | 69     | 9088FL                              | 65             |                                     |        |                                 |        |   |                    |
| 9668MP                                   | 69     | 9377                                | 66             |                                     |        |                                 |        |   |                    |
| 9671LE                                   | 70     | 9420                                | 66             |                                     |        |                                 |        |   |                    |





---

**Product Use:** Many factors beyond 3M's control and uniquely within user's knowledge and control can affect the use and performance of a 3M product in a particular application. Given the variety of factors that can affect the use and performance of a 3M product, user is solely responsible for evaluating the 3M product and determining whether it is fit for a particular purpose and suitable for user's method of application.

**Warranty, Limited Remedy, and Disclaimer:** Unless an additional warranty is specifically stated on the applicable 3M product packaging or product literature, 3M warrants that each 3M product meets the applicable 3M product specification at the time 3M ships the product. 3M MAKES NO OTHER WARRANTIES OR CONDITIONS, EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, ANY IMPLIED WARRANTY OR CONDITION OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR ANY IMPLIED WARRANTY OR CONDITION ARISING OUT OF A COURSE OF DEALING, CUSTOM OR USAGE OF TRADE. If the 3M product does not conform to this warranty, then the sole and exclusive remedy is, at 3M's option, replacement of the 3M product or refund of the purchase price.

**Limitation of Liability:** Except where prohibited by law, 3M will not be liable for any loss or damage arising from the 3M product, whether direct, indirect, special, incidental or consequential, regardless of the legal theory asserted, including warranty, contract, negligence or strict liability.



### Industrial Adhesives and Tapes Division

3M Center  
Building 225-5S  
St. Paul, MN 55144  
1-800-362-3550  
[www.3M.com/adhesives](http://www.3M.com/adhesives)

3M, Bumpon, VHB, Scotchmate, Dual Lock, Scotch-Weld, Fastbond, Scotch-Seal, Weatherban and Shipping-Mate are trademarks of 3M Company. Scotch is a registered trademark of 3M Company. Kapton and Nylon are registered trademarks of DuPont de Nemours. Lexan and Noryl are registered trademarks of General Electric. Santoprene is a registered trademark of ExxonMobil. Viton is a registered trademark of DuPont Performance Elastomers. Monel is a registered trademark of Special Metals Corporation.

Printed in U.S.A.  
© 2008 3M  
Bolger 8120309  
70-0709-3988-2