



Solutions for your assembly challenges.

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5,000+

adhesive and tape SKUs

Do it your way.

- 3M systems are built around *your* manufacturing processes, not the other way around.
- Whether it's structural or non-structural adhesives, bonding tapes or reclosable fasteners, 3M solutions ensure speed, convenience and ease of use.



88,667

employees

Do it together.

- No matter what you need to bond, you can count on 3M's expertise, technologies and 88,667 dedicated employees to help you find solutions.
- From wood, metal, foil, insulation, foam, fabric and panel lamination to specialty high performance and multipurpose materials of every kind, solutions are one call away.



100,000

patents

Do it boldly.

- 3M has been a world leader in bonding technology for decades and we have the patents to prove it.
- Quality, consistency and reliability—the attributes you look for in a bonding solution—help drive our quest for new innovations.



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chance to do it right

Do it responsibly.

- Sustainability is a natural extension of 3M's corporate values.
- We developed the first water-based contact adhesive ever — more than 40 years ago.
- We have a wide selection of Low VOC products that help contribute to LEED® credits and are GREENGUARD™ Certified.



What can 3M™ Adhesives and Tapes do for your product and process?

Build strong, durable products:

- From repositionable to permanent, 3M has an adhesive or tape that can be readily matched to the substrate and stress characteristics needed in the joint.

Improve appearance and aesthetics:

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

Lower production and material costs:

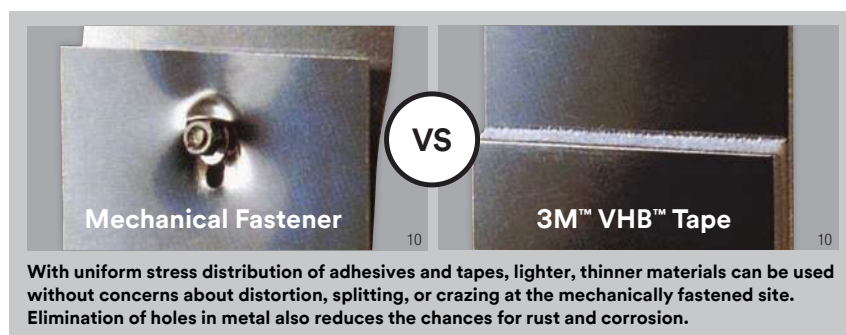
- Reduce process steps such as weld grinding and sealing individual penetrations from screws, nuts and bolts.
- Use thinner, lighter or less expensive materials that cannot be welded or fastened traditionally.
- Potentially lower capital investment. Many adhesives and tapes do not require major capital to use.
- Manage labor costs. Many tape and adhesive technologies require little operator training.

Build products with a continuous bond line:

- Adhesives and tapes uniformly distribute stress along the entire joint. Nuts, bolts and other fasteners concentrate stress at a point which can decrease physical properties of the substrates being assembled.
- Bond and seal simultaneously. Many 3M adhesives and tapes will provide a strong bond, but are also an effective seal against dirt, dust, water and other environmental conditions.
- Good fatigue resistance. If your parts are subject to vibration or other movement, the viscoelastic nature of 3M adhesives and tapes will impart flexibility to a joint or bonded area.

Wider material selection for assemblies:

- Lighter and thinner materials can be used. Welding and fastening weaken substrates and require a minimum thickness to retain integrity.
- Bond dissimilar materials. 3M adhesives and tapes bond to a wide range of substrates from metals, wood, glass, plastics and ceramics. This includes "hard to bond," low surface energy materials.
- Prevent galvanic corrosion. 3M adhesives and tapes can provide a film barrier to reduce or prevent bimetallic corrosion that can occur when joining to different types of metals.



3M™ Adhesives and Tapes Product Family



Considerations when selecting 3M™ Adhesives and Tapes for your product and process.



Assembly

What type of assembly is required? (Refer to 6 common assembly types in the right hand column.)

What are the overall performance needs of the assembly (flexibility, high peel strength, etc.)?



Substrate

What are the materials that are being bonded together? (Refer to the substrate selectors for each assembly type on pages 4–15.)

Consider the surface condition texture of each material.



Process

What is the current assembly and manufacturing process?

Does the solution need to fit into the current process/equipment or can the process/equipment change?

What are the various process steps and how quickly will the assembly be moved to each step?

At any time, might the assembly bond need to be repositioned? If so, why and when?

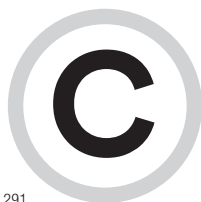
Are there any environmental, regulatory or workplace safety restrictions?



End-Use

How and where is the final product used?

Will the assembly be exposed to harsh environmental conditions (UV, chemicals, high humidity, very high or low temperatures, etc.)?



Cost

Where can improvements be made in the assembly process (labor, reduction of process steps, materials, workflow, etc.)?

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Assembly Solutions are made up of these common applications:



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**Panel to Frame/
Stiffener to Panel**
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**Small Joint
Assembly**
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**Large Surface
Lamination**
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**Mounting and
Trim Attachment**
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Gasket Attachment
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Sealing
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**Potting and
Encapsulating**
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What are Panel to Frame Assemblies?

What are Stiffener to Panel Assemblies?



Panels are used in multiple markets, such as transportation, metalworking and construction.

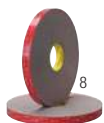
Panel to Frame: Decorative or load bearing panel that is applied to rigid frame or support. **Examples include trailer panels, elevator walls and sign boxes.**

Stiffener to Panel: Stiffeners are applied to panels to give extra support and rigidity. **Examples include trailer wall panels, traffic signs and large metal enclosures.**

Possible Adhesive or Tape Requirements:

- Dead load holding strength
- Flexibility for dynamic loads and thermal expansion mismatch
- Fill a gap or variation in fit from end to end
- Provide a water seal

Best 3M Solutions for Panel to Frame/Stiffener to Panel Assemblies



■ 3M™ VHB™ Tapes (pg 62–69)

High-strength bonding tapes are a proven alternative to screws, rivets, welds and other mechanical fasteners. 3M™ VHB™ Tape offers instant strength, a high ultimate bond and seals simultaneously. 3M™ VHB™ Tape's viscoelasticity allows relative movement of parts for thermal expansion/contraction. Best for flat to flat applications with a consistent bondline thickness.



■ 3M™ Scotch-Weld™ Structural Adhesives (pg 18–35)

Acrylic, epoxy and urethane structural adhesives hold over 1,000 psi in overlap shear strength. Best suited for thinner bondlines, irregular shapes and textured surfaces where load-bearing strength is needed. Provides the highest load-bearing strength and environmental resistance.



■ 3M™ Adhesive Sealants (pg 58–59)

Acrylic, polyurethane, nitrile and hybrid are one component adhesive technologies with outstanding sealing properties. These products are capable of filling larger and irregular gaps including rough substrates. Highly flexible formulations allow for relative movement for thermal expansion/contraction.



■ 3M™ Reclosable Fasteners (pg 86–89)

3M™ Dual Lock™ and 3M™ Hook and Loop Reclosable Fasteners for strong yet easily removable fastening solutions. These products are ideal to allow access for servicing or replacement of a panel. Generally backed with 3M™ VHB™ Tape or other 3M adhesive technologies.

Performance Factors for Panel to Frame/Stiffener to Panel Assemblies

All 3M technologies in the table below are commonly used in panel applications. Use the table below as a relative comparison of product performance.

Good = ++ Better = +++ Best = ++++

Attribute	3M™ VHB™ Tapes	3M™ Scotch-Weld™ Structural Adhesives	3M™ Adhesive Sealants	3M™ Reclosable Fasteners
Number of Steps to Apply and Ease of Application	+++	+++	++	++
Rate of Strength Build	+++	++	+	+++
Flexibility and Joint Expansion	+++	+	+++	+++
Holding Power	+	+++	++	+
Repair/Removal After Cure	+++	+	++	+++

Panel to Frame/Stiffener to Panel Assembly Solutions

+	Metals (Aluminum, Steel, Stainless, Galvanized)	Paints (Powder Coat, Painted Metal, Composite Panel)	Glass	Plastics: HSE, MSE (ABS, Acrylic, Polycarbonate, Nylon)	Plastics: LSE (Polypropylene, Polyethylene)
	Metals	Paints	Glass	Plastics: HSE, MSE	Plastics: LSE
	■ 4941, RP45, 5952 ■ LSB60NS ■ *550FC + AC61 ■ SJ3550/51/52, SJ3571/72	■ *4941, *RP45, 5952 ■ LSB60NS ■ *550FC + AC61 ■ SJ3540/41/42, SJ3526N/27N	■ *4941, *RP45, *5952 ■ LSB60NS ■ *590, *560, *760 ■ SJ3560/61/62, SJ3571/72	■ *4941, *RP45, 5952 ■ LSB60NS ■ *560, *760 ■ SJ3550/51/52, SJ3571/72	■ *4941, *RP45, *5952 ■ DP8010 Blue ■ *560, *760 ■ SJ3540/41/42, SJ3526N/27N
		■ *4941, *RP45, 5952 ■ DP8810NS ■ *550, *560, *760	■ *4941, *RP45, *5952 ■ LSB60NS ■ *590, *560, *760	■ *4941, *RP45, 5952 ■ DP8810NS ■ *560, *760	■ *4941, *RP45, *5952 ■ DP8010 Blue ■ *560, *760
			■ *4941, *RP45, *5952 ■ DP460 ■ *590	■ *4941, *RP45, 5952 ■ DP100 Plus Clear ■ *560, *760	■ *4941, *RP45, *5952 ■ DP8010 Blue ■ *560, *760
				■ *4941, *RP45, 5952 ■ DP8405NS ■ *560, *760	■ *4941, *RP45, *5952 ■ DP8010 Blue ■ *560, *760
					■ *4941, *RP45, *5952 ■ DP8010 Blue ■ *560, *760

Key

- 3M™ VHB™ Tapes
- 3M™ Scotch-Weld™ Structural Adhesives
- 3M™ Adhesive Sealants
- 3M™ Reclosable Fasteners

*Primers may also be required in some cases. See specific product pages for primer details.

For 3M™ VHB™ Tape applications in the Commercial Vehicle market, refer to pages 66 for a selection of products.



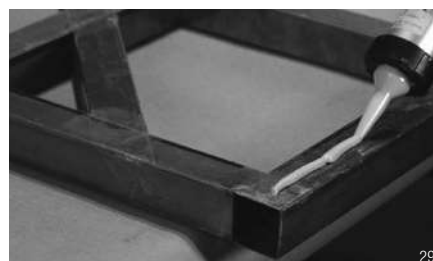
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This guide lists products that are commonly used for this specific application. It is important that the customer evaluates these suggested products in their specific application.

What are Small Joint Assemblies?

Small joint assemblies exist in multiple markets, such as sporting goods, electronics, furniture, motors and electrical.



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Small Joint: Small joints are typically irregularly shaped but only a few inches of overlap area. They may be insertion joints or overlap joints, or some combination. **Examples include sporting goods (e.g., golf club heads to shaft), plastic casings, lens mounting for instrumentation, mortise and tenon furniture joints, thread locking or shaft retailing, magnet bonding and jewelry making.**

Possible Adhesive or Tape Requirements:

- Low viscosity for tight fitting parts
- Vibration resistance
- Very high strength
- Bond dissimilar materials

Best 3M Solutions for Small Joint Assemblies



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3M™ Scotch-Weld™ Structural Adhesives (pg 18–35)

Acrylic, epoxy and urethane structural adhesives hold over 1000 psi in overlap shear strength. Best choice for highest strength, fatigue and environmental resistance especially for metal to metal bonds.



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3M™ Scotch-Weld™ Instant Adhesives (pg 29)

One part solvent-free adhesive that reaches handling strength in 5–10 seconds. Best for small bondlines (<10cm²). Commonly used on rubbers and plastics. Very tight bondlines are achievable with near instant strength.



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3M™ Hot Melt Adhesives (pg 44–45)

100% solid, thermoplastic resins that reach bond strength in seconds. Best for wood and plastic.



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3M™ Scotch-Weld™ PUR Adhesives (pg 38–39)

One component, hot applied thermosetting adhesive with immediate strength and holding power. Final cured strength over 1,000 psi. Best for wood and plastic.



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3M™ Scotch-Weld™ Retaining Compounds (pg 33)

One-part anaerobic adhesives cure between metal surfaces. Permanent and removable grades are available.



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3M™ Scotch-Weld™ Threadlockers (pg 32)

One-part anaerobic adhesives cure between metal surfaces. Permanent and removable grades are available.

Performance Factors for Small Joint Assemblies

All 3M technologies in the table below are commonly used in small joint applications.

Use the table below as a relative comparison of product performance.

Good = + Better = ++ Best = +++

Attribute	3M™ Scotch-Weld™ Structural Adhesives	3M™ Scotch-Weld™ Instant Adhesives	3M™ Hot Melt Adhesives	3M™ Scotch-Weld™ PUR Adhesives	3M™ Scotch-Weld™ Threadlockers
Shear and Peel Strength	+++	++	+	+++	++
Temperature and Solvent Resistance	+++	+	++	+++	++
Aesthetics	+	+++	++	++	++
Rate of Strength Build	+	+++	+++	++	++
Rework	+	++	++	+	+++

Small Joint Assembly Solutions

+	Metal (Unpainted)		Metal (Painted)		Glass, Ceramic, Stones		Rubber, Elastomers		Plastics: HSE, MSE (ABS, Acrylic, Polycarbonate, Nylon)		Plastics: LSE (Polypropylene, Polyethylene)		Wood	
	Metal (Unpainted)		Metal (Painted)		Glass, Ceramic, Stones		Rubber, Elastomers		Plastics: HSE, MSE (ABS, Acrylic, Polycarbonate, Nylon)		Plastics: LSE (Polypropylene, Polyethylene)		Wood	
Metal (Unpainted)	■ DP420NS ■ 3747, 3789 ■ RT09 ■ TL62		■ DP8805NS ■ 3747, 3764		■ DP420NS ■ 3747, 3789		■ 2216		■ DP8805NS ■ 3764, 3747 ■ TE040, EZ250150		■ DP8010 Blue ■ 3748, 3764 ■ TE040, EZ250150		■ DP100 Plus ■ 3792 ■ EZ25150	
			■ DP8805NS ■ PR100 ■ 3747, 3764		■ DP100 Plus ■ PR100 ■ 3764, 3792		■ DP620NS ■ *PR100		■ DP8805NS ■ PR100 ■ 3748, 3764 ■ TE040, EZ250150		■ DP8010 Blue ■ *PR100 ■ 3748, 3764 ■ TE040, EZ250150		■ DP620NS ■ SI100 ■ 3764, 3792 ■ EZ25150	
					■ DP100 Plus ■ PR100 ■ 3792		■ DP100 Plus ■ *PR100		■ DP100 Plus ■ PR100 ■ 3748, 3764		■ DP8010 Blue ■ *PR100 ■ 3748, 3764		■ DP420NS ■ SI100 ■ 3792 ■ EZ250120, EZ250150	
							■ *PR100		■ DP620NS ■ *PR100		■ *PR100		■ DP604NS ■ *SI100	
Plastics: HSE, MSE									■ DP8405NS, DP8805NS ■ PR100 ■ 3748, 3764 ■ EZ250150		■ DP8010 Blue ■ *PR100 ■ 3748, 3764		■ DP620NS ■ SI100 ■ 3764, 3792 ■ EZ250150	
											■ DP8010 Blue ■ *PR100 ■ 3748, 3764		■ DP8010NS ■ *SI100 ■ 3764, 3792 ■ EZ250150	
													■ DP100 ■ SI100 ■ 3792 ■ EZ250120, EZ250060	

Key

- 3M™ Scotch-Weld™ Structural Adhesives
- 3M™ Scotch-Weld™ Instant Adhesives
- 3M™ Hot Melt Adhesives
- 3M™ Scotch-Weld™ PUR Adhesives
- 3M™ Scotch-Weld™ Retaining Compounds
- 3M™ Scotch-Weld™ Threadlockers

*Primers may also be required in some cases.
See specific product pages for primer details.



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This guide lists products that are commonly used for this specific application. It is important that the customer evaluates these suggested products in their specific application.

What are Large Surface Lamination Assemblies?



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Large surface bonds and laminations exist in multiple markets, such as transportation, appliance, furniture and construction.

Large Surface Lamination: Two surfaces (substrates) of similar size, either rigid or flexible, are bonded or laminated together where a majority of the surface is covered by the adhesive or tape in order to create the bond. **Examples include high pressure laminate to tabletops, fabric to foam for furniture, veneers on wood and flexible transportation flooring.**

Possible Adhesive or Tape Requirements:

- Cover full surface
- Flexible when dry; not stiff
- Allow for positioning parts
- Bonds quickly/little or no fixturing

Best 3M Solutions for Large Surface Lamination Assemblies



3M™ Scotch-Weld™ Structural Adhesives (pg 18–35)

Acrylic, epoxy and urethane structural adhesives hold over 1,000 psi in overlap shear strength. Best suited for applications where high load-bearing strength is required.



3M™ Contact and Spray Adhesives (pg 54–57)

Solvent and water based adhesives can be sprayed, brushed or roll applied. Very fast and easy coverage of large areas including irregular and mildly textured shapes. Bonds the widest range of substrates.



3M™ Hot Melt Adhesives (pg 44–45)

100% solid, low VOC thermoplastic resins that reach bond strength in seconds. Long open-time formulations can be spray applied. Bonds irregular shapes and textured surfaces.



3M™ Scotch-Weld™ PUR Adhesives (pg 38–39)

One component, hot applied thermosetting adhesive with immediate strength and holding power. Final cured strength over 1,000 psi. Long open-time formulations can be spray applied.



3M™ Adhesive Transfer Tapes (pg 78–81)

A pressure sensitive adhesive on a liner. Can be laminated onto a surface by hand or by automation. Instant adhesion with no mess or waste and very thin bondlines.

Performance Factors for Large Surface Lamination Assemblies

All 3M technologies in the table below are commonly used in large surface bonding applications. Use the table below as a relative comparison of product performance.

Good = + Better = ++ Best = +++

Attribute	3M™ Scotch-Weld™ Structural Adhesives	3M™ Contact and Spray Adhesives	3M™ Hot Melt Adhesives	3M™ Scotch-Weld™ PUR Adhesives	3M™ Adhesive Transfer Tapes
Shear and Peel Strength	+++	+	++	+++	++
Temperature and Solvent Resistance	+++	+	++	+++	+
Aesthetics and Read Through	+	+++	++	++	+++
Speed and Convenience of Application	+	+++	++	++	++
Rate of Strength Build	+	+++	+++	++	+++

Large Surface Lamination Assembly Solutions

+	Metals, Paints, Glass	Rubber (EPDM, Santoprene®)	Foam and Cloth (Urethane, Fabrics)	Plasticized Vinyl	Plastics (ABS, Acrylic, Polycarbonate, Nylon)	Wood
	<ul style="list-style-type: none"> LSB60 94 CA, 1357 6111/6111HT TS230, TS115HGS F9473PC, 9485PC 	<ul style="list-style-type: none"> 2216 1300, 847 *468MP, 950 	<ul style="list-style-type: none"> 74, 100NF 6111/6111HT 6035PC, 950 	<ul style="list-style-type: none"> 2216 4491, 1000NF F9467U, F9465PC 	<ul style="list-style-type: none"> 2216 94 CA, 4475 6111/6111HT, 6116 TS230, TS115 468MP, 9472LE 	<ul style="list-style-type: none"> 2216 94 CA, 1357 6111/6111HT TS230, TS115HGS 6035PC, 468MP
		<ul style="list-style-type: none"> 2216 4799 TS230 *468MP, 950 	<ul style="list-style-type: none"> 4799 TS230, TS115 6035PC, 950 	<ul style="list-style-type: none"> 2216 4799 TS230, TS115 *F9467U, F9465PC 	<ul style="list-style-type: none"> 2216 4799 TS230, TS115 *468MP, 9472LE 	<ul style="list-style-type: none"> 2216 4799 TS230, TS115HGS *468MP, 950
			<ul style="list-style-type: none"> 74, 100NF 6111/6111HT, 6116 TS230, TS115 6035PC, 950 	<ul style="list-style-type: none"> 4491, 1000NF TS230, TS115 950, F9465PC 	<ul style="list-style-type: none"> 77, 74 6111/6111HT, 6116 TS230, TS115 950, 6035PC 	<ul style="list-style-type: none"> 77, 1000NF 6111/6111HT, 6116 TS230, TS115HGS 950, 6035PC
				<ul style="list-style-type: none"> 2216 4491, 1300 TS230, TS115 F9467U, F9465PC 	<ul style="list-style-type: none"> 2216 4491, 1300 TS230, TS115 F9467U, F9465PC 	<ul style="list-style-type: none"> 2216 4491, 1000NF TS230, TS115HGS F9467U, F9465PC
					<ul style="list-style-type: none"> 2216 94 CA, 4475 6111/6111HT, 6116 TS230, TS115 9472LE, 468MP 	<ul style="list-style-type: none"> 2216 94 CA, 4475 6111/6111HT, 6116 TS230, TS115HGS 9472LE, 468MP
						<ul style="list-style-type: none"> 2216 94 CA, 30NF 6111/6111HT, 6116 TS230, TS115HGS 6035PC, 468MP

Key

- 3M™ Scotch-Weld™ Structural Adhesives
- 3M™ Contact and Spray Adhesives
- 3M™ Hot Melt Adhesives
- 3M™ Scotch-Weld™ PUR Adhesives
- 3M™ Adhesive Transfer Tapes

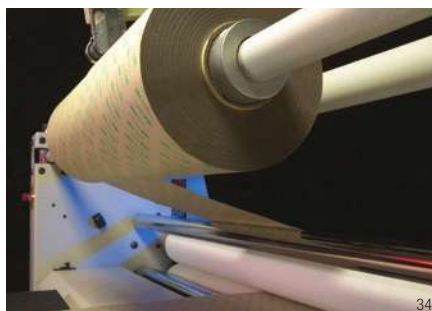
*Primers may also be required in some cases. See specific product pages for primer details.



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This guide lists products that are commonly used for this specific application. It is important that the customer evaluates these suggested products in their specific application.

What are Mounting and Trim Attachment Assemblies?



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Mounting and trim attachment exists in multiple markets, such as transportation, appliance, furniture, construction and architecture.

Mounting: Applying an object to a surface. Generally, static loads are prevalent and the mounted item is smaller than the surface to which it is bonded. **Examples include small signs, mirrors and white boards, and panel-over-panel with partial adhesive coverage.**

Trim: Decoration or identification added to a surface. **Examples include nameplates, edge banding, bezels, rosettes and muntin bars.**

Possible Adhesive or Tape Requirements:

- Dead load holding strength
- Aesthetics
- Removability
- Fast bonding/little or no fixturing

Best 3M Solutions for Mounting and Trim Attachment Assemblies



3M™ VHB™ Tapes (pg 62–69)

High-strength bonding tapes are a proven alternative to screws, rivets, welds and other mechanical fasteners. Can pre-apply to trim for production flexibility. Ideal for dissimilar substrates.



3M™ Scotch-Weld™ Structural Adhesives (pg 18–35)

Acrylic, epoxy and urethane structural adhesives hold over 1,000 psi in overlap shear strength. Use for heavy dead-loads with smaller joint areas (Example: brackets on heavy panels, poorly matched parts with high spring-back forces).



3M™ Scotch-Weld™ Instant Adhesives (pg 29)

One part solvent-free cyanoacrylate (CA) adhesive that reaches handling strength in 5–30 seconds. Best for small very tight bondlines (<10cm²). Commonly used on rubbers and plastics.



3M™ Hot Melt Adhesives (pg 44–45)

100% solid, thermoplastic resins that reach bond strength in seconds. Best for wood and plastic.



3M™ Scotch-Weld™ PUR Adhesives (pg 38–39)

One component, hot applied thermosetting adhesive with immediate strength and holding power. Final cured strength over 1,000 psi. Best for wood and plastic.

3M™ Reclosable Fasteners (pg 86–89)

3M™ Dual Lock™ and 3M™ Hook and Loop Reclosable Fasteners for strong yet easily removable fastening solutions. These products are ideal for quick mounting, trim or sign installation and change out.



3M™ Adhesive Transfer Tapes (pg 78–81)

A pressure sensitive adhesive on a liner. Can be laminated onto a surface by hand or by automation. Can be pre-applied to trim. Provides very thin, aesthetic bondlines. Special formulations for LSE plastics.



3M™ Double Coated Tapes (pg 71–76)

A paper, film or tissue carrier with pressure sensitive adhesive on both sides. Can be laminated onto a surface by hand or by automation. Can be pre-applied to trim. Provides very thin, aesthetic bondlines. Special formulations for LSE plastics.



Performance Factors for Mounting and Trim Attachment Assemblies

All 3M technologies in the table below are commonly used in mounting and trim attachment applications. Use the table below as a relative comparison of product performance.

Good = ++ Better = +++ Best = ++++

Attribute	3M™ VHB™ Tapes	3M™ Scotch-Weld™ Structural Adhesive	3M™ Scotch-Weld™ Instant Adhesive	3M™ Hot Melt Adhesives	3M™ Scotch-Weld™ PUR Adhesives	3M™ Reclosable Fasteners	3M™ Adhesive Transfer Tapes	3M™ Double Coated Tapes
Shear and Peel Strength	++	+++	++	++	+++	+	+	+
Temperature and Solvent Resistance	++	+++	+	+	+++	++	++	++
Aesthetics	+++	+	++	++	++	++	+++	+++
Repositionability During Application	+	+++	+	+	++	++	+	++
Rate of Strength Build	+++	+	+++	+++	++	+++	+++	+++
Removable After Cure	++	N/A	+	+	N/A	+++	++	++

Mounting and Trim Attachment Assembly Solutions

	Metals (Aluminum, Steel, Stainless, Galvanized)	Paints (Powder Coat, Painted Metal, Composite Panel, Sealed or Painted Wood)	Glass	Plastics: HSE, MSE (ABS, Acrylic, Polycarbonate, Nylon)	Plastics: LSE (Polypropylene, Polyethylene)	Wood
Metals	4941, 5952, RP45 DP8805NS 3789, 3747 TE040, EZ250150 SJ3550/51/52, SJ3571/72 468MP, F9473PC 9500PC, XP6114	*4941, 5952, *RP45 DP8810NS 3764, 3747 TE040, EZ250150 SJ3540/41/42, SJ3526N/27N 9472LE, 9485PC 9500PC, XP6114	*4941, *5952, *RP45 DP420NS 3789, 3747 SJ3560/61/62, SJ3571/72 468MP, F9473PC 9500PC, XP6114	*4941, 5952, *RP45 DP8805NS 3764, 3747 TE040, EZ250150 SJ3550/51/52, SJ3571/72 468MP, 9472LE 9500PC, XP6114	*4941, *5952, *RP45 DP8010 Blue 3764, 3747 SJ3540/41/42, SJ3526N/27N 9472LE, 9485PC 9500PC, XP6114	3792 EZ250150
Paints		*4941, 5952, *RP45 DP8810NS PR100 3764, 3792 EZ250150 SJ3540/41/42, SJ3526N/27N 9472LE, 468MP 9832, 9500PC	*4941, *5952, *RP45 DP420NS 3764, 3792 EZ250150 SJ3560/61/62, SJ3571/72 9472LE, 468MP 9832, 9500PC	*4941, 5952, *RP45 DP8410NS PR100 3747, 3792 EZ250150 SJ3550/51/52, SJ3571/72 468MP, 9472LE 9832, 9500PC	*4941, *5952, *RP45 DP8010 Blue *PR100 3748, 3764 SJ3540/41/42, SJ3526N/27N 9472LE, 9485PC 9832, 9500PC	3764, 3792 EZ25150
Glass			*4941, *5952, *RP45 DP100 Plus 3792 SJ3560/61/62, SJ3571/72 468MP, F9473PC 9500PC, XP6114	*4941, 5952, *RP45 DP100 Plus 3748, 3792 EZ250150 SJ3550/51/52, SJ3571/72 468MP, 9485PC 9500PC, XP6114	*4941, *5952, *RP45 DP8010 Blue *PR100 3748, 3764 SJ3540/41/42, SJ3526N/27N 9472LE, 9485PC 9500PC, XP6114	3792 EZ250120, EZ250150
Plastics: HSE, MSE				*4941, 5952, *RP45 DP8405NS PR100 3748, 3792 EZ250150, EZ250030 SJ3550/51/52, SJ3571/72 468MP, 9472LE 9500PC, 9832	*4941, *5952, *RP45 DP8010 Blue *PR100 3748, 3764 SJ3540/41/42, SJ3526N/27N 9472LE, 9485PC 9500PC, XP6114	3764, 3792 EZ250150
Plastics: LSE					*4941, *5952, *RP45 DP8010 Blue *PR100 3748, 3764 SJ3540/41/42, SJ3526N/27N 9472LE, 9485PC 9500PC, XP6114	3764, 3792 EZ250150
Wood						3792 EZ250120, EZ250060

Key

- 3M™ VHB™ Tapes
- 3M™ Scotch-Weld™ Structural Adhesives
- 3M™ Scotch-Weld™ Instant Adhesives
- 3M™ Hot Melt Adhesives
- 3M™ Scotch-Weld™ PUR Adhesives
- 3M™ Reclosable Fasteners
- 3M™ Adhesive Transfer Tapes
- 3M™ Double Coated Tapes

*Primers may also be required in some cases. See specific product pages for primer details.



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For 3M™ VHB™ Tape applications in the Window and Door market, refer to page 68 for a selection of products.

This guide lists products that are commonly used for this specific application. It is important that the customer evaluates these suggested products in their specific application.

What are Gasket Attachment Assemblies?

Gaskets are used in multiple markets, such as electronics, transportation, fluid handling equipment and appliance.



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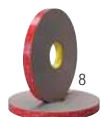
Gasketing: Attachment of a substrate typically, foam, rubber or paper that acts as an interface or seal between two surfaces. 3M offers solutions for attaching preformed gaskets, and also solutions which can replace gaskets or bond and seal simultaneously.

Examples include air and liquid filters, fluid handling equipment, heat exchangers and ball joints.

Possible Adhesive or Tape Requirements:

- Easy and fast to apply gaskets
- Resist fluids
- High adhesion to foams and rubber

Best 3M Solutions for Gasket Assemblies



3M™ VHB™ Tapes (pg 62–69)

High-strength bonding tapes that can be die-cut into a variety of shapes to replace rubber or foam gaskets, providing an instant, simple solution. Their closed-cell construction provides a watertight barrier between flat parts.



3M™ Scotch-Weld™ Instant Adhesives (pg 29)

One part solvent-free cyanoacrylate (CA) adhesive that reaches handling strength in 5–30 seconds. Best for small very tight bondlines (<10cm²). Commonly used on rubbers and plastics.



3M™ Scotch-Weld™ Gasket Makers (pg 33)

One-part anaerobic adhesives can be applied as a curing liquid gasket between complex metal shapes, replacing pre-formed gaskets.



3M™ Contact and Spray Adhesives (pg 54–57)

Solvent and water based adhesives can be sprayed, brushed or roll applied. Very fast, easy and economical coverage of multiple substrates, irregular shapes and mild textures.



3M™ Adhesive Transfer Tapes (pg 78–81)

Can be pre-applied to gasketing material which is then die-cut to provide parts. These products provide instant adhesion to flat, untextured substrates.



3M™ Double Coated Tapes (pg 71–76)

Can be pre-applied to gasketing material which is then die-cut to provide parts. These products provide instant adhesion.

Performance Factors for Gasket Assemblies

All 3M technologies in the table below are commonly used in gasket attachment applications. Use the table below as a relative comparison of product performance.

Good = + Better = ++ Best = +++

Attribute	3M™ VHB™ Tapes	3M™ Scotch-Weld™ Instant Adhesives	3M™ Scotch-Weld™ Gasket Makers	3M™ Contact and Spray Adhesives	3M™ Adhesive Transfer Tapes	3M™ Double Coated Tapes
High Strength and Rubber Bonding	N/A	+++	N/A	++	+	+
Temperature and Solvent Resistance	+++	+	+++	+++	+++	+++
Ease of Application	+++	++	++	+	+++	+++
Rate of Strength Build	+++	+++	+	+++	+++	+++

Gasket Attachment Assembly Solutions

+	Metal	Glass	Paint	Plastics: HSE	Plastics: LSE
Rubber (EPDM, Santoprene®)	*PR100 4799 *468MP, 950 9832, XT6110	4799 *468MP, 950 9832, XT6110	*PR100 4799 *468MP, 950 9832, XT6110	*PR100 4799 *468MP, 950 9832, XT6110	*PR100 4799 *9472LE, 950 9832, XT6110
Silicone Gaskets	*PR100 GM18 replace gasket 91022 9731, 96042	91022 9731, 96042	*PR100 91022 9731, 96042	*PR100 91022 9731, 96042	*PR100 91022 9731, 96042
Neoprene	*PR100 6035PC, 950 9832, XT6110	1300 6035PC, 950 9832, XT6110	*PR100 1300 6035PC, 950 9832, XT6110	*PR100 1300 6035PC, 950 9832, XT6110	*PR100 90 6035PC, 950 9832, XT6110
Nylon	PR100 9472LE, XP2112	1099 9472LE, XP2112	PR100 1099 9472LE, XP2112	PR100 1099 9472LE, XP2112	*PR100 90 9472LE, XP2112
PTFE	*PR100 GM18 replace gasket 950	9472LE, XP2112	*PR100 9472LE, XP2112	*PR100 9472LE, XP2112	*PR100 9472LE, XP2112

3M™ VHB™ Tape can replace gaskets on many substrates listed in the chart.

3M™ Scotch-Weld™ Gasket Makers are suitable to replace gaskets in metal to metal applications.

Key

- 3M™ Scotch-Weld™ Instant Adhesives
- 3M™ Scotch-Weld™ Gasket Makers
- 3M™ Contact and Spray Adhesives
- 3M™ Adhesive Transfer Tapes
- 3M™ Double Coated Tapes

*Primers may also be required in some cases. See specific product pages for primer details.



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This guide lists products that are commonly used for this specific application. It is important that the customer evaluates these suggested products in their specific application.

What is Sealing of Assemblies?

What is Potting and Encapsulating of Assemblies?



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Sealing and potting exists in multiple markets, such as transportation, metalworking, electronics, electrical, construction and MRO.

Sealing: Tape or sealant is applied over a seam to prevent fluid ingress or fluid egress. Examples include roof seams on vehicles, seams on metal enclosures and pipe sealing.

Potting and Encapsulating: Adhesive flows over and around a component or fills in a chamber to protect components therein. Examples include heavy duty electrical cords and connectors, electronics in plastic cases, circuit boards and concrete repair.

Possible Adhesive or Tape Requirements:

- Highly elongating/flexible
- Fast cure for painting
- Durability

Best 3M Solutions for Sealing, Potting and Encapsulating



3M™ Scotch-Weld™ Structural Adhesives (pg 18–35)

Acrylic, epoxy and urethane structural adhesives are available in a variety of cure times and flow profiles for potting and encapsulation. Available in both rigid and flexible formulations.

3M™ Hot Melt Adhesives (pg 44–45)

Extrudable, 100% solid, thermoplastic resins designed for potting and encapsulating electrical components.

3M™ Adhesive Sealants (pg 58–59)

Acrylic, polyurethane and nitrile and hybrid are one component sealing technologies. Can be extruded in any shape on a substrate and are non-sag to fill gaps. Some formulations can be painted wet.

3M™ Extreme Sealing Tapes (pg 70)

Provides instant sealing and paint-ability when applied over seams or gaps. Conformable over rivets.

Performance Factors for Sealing, Potting and Encapsulating

All 3M technologies in the table below are commonly used in sealing, potting and encapsulation applications. Use the table below as a relative comparison of product performance.

Good = + Better = ++ Best = +++

Attribute		3M™ Scotch-Weld™ Structural Adhesives	3M™ Hot Melt Adhesives	3M™ Adhesive Sealants	3M™ Extreme Sealing Tapes
Sealing	Flexibility	N/A	N/A	+++	+++
	Ease of Application	N/A	N/A	+++	++
	Time to Paint (or handle part)	N/A	N/A	+	+++
	Immediate Rework	N/A	N/A	+++	+
Potting and Encapsulating	Temperature and Solvent Resistance	+++	++	+	N/A
	Time to Paint (or handle part)	++	+++	+	N/A
	Flowability*	+++	++	+	N/A
	Adhesion to Substrates	+++	++	+	N/A

* 3M™ Scotch-Weld™ Structural Adhesives and 3M™ Hot Melt Adhesives are used for potting and encapsulating where their flow and conformability allow them to fill into, or dome over, complex shapes. 3M™ Adhesive Sealants are thick and can be dispensed into wide vertical or horizontal gaps, as well as over seams. 3M™ Extreme Sealing Tape seals over seams and narrow gaps but does not flow into gaps. It can conform over low profile objects such as rivet heads.

Sealing, Potting and Encapsulating Assembly Solutions

+	Metals (Aluminum, Steel, Stainless, Galvanized)	Paints (Powder Coat, Painted Metal, Composite Panel)	Glass	Plastics: HSE, MSE (ABS, Acrylic, Polycarbonate, Nylon)	Plastics: LSE (Polypropylene, Polyethylene)
	Metals	Paints	Glass	Plastics: HSE, MSE	Plastics: LSE
	<ul style="list-style-type: none"> 2216, DP270 3797, 3748 VO *540, *740 4411B, 4411N, 4411G 	<ul style="list-style-type: none"> 2216, DP604NS 3797, 3748 VO *540, *740 4411B, 4411N, 4411G 	<ul style="list-style-type: none"> DP125 Gray, DP100 Plus Clear *540, *740 4411B, 4411N, 4411G 	<ul style="list-style-type: none"> 2216, DP604NS 3797, 3748 VO *540, *740 4411B, 4411N, 4411G 	<ul style="list-style-type: none"> DP8010 Blue 3797, 3748 VO *540, *740 *4411B, *4411N, *4411G
		<ul style="list-style-type: none"> 2216, DP604NS *540, *740 4411B, 4411N, 4411G 	<ul style="list-style-type: none"> DP125 Gray, DP100 Plus Clear *540, *740 4411B, 4411N, 4411G 	<ul style="list-style-type: none"> 2216, DP604NS *540, *740 4411B, 4411N, 4411G 	<ul style="list-style-type: none"> DP8010 Blue *540, *740 *4411B, *4411N, *4411G
			<ul style="list-style-type: none"> DP125 Gray, DP100 Plus Clear *540, *740 4411B, 4411N, 4411G 	<ul style="list-style-type: none"> DP125 Gray, DP100 Plus Clear *540, *740 4411B, 4411N, 4411G 	<ul style="list-style-type: none"> DP8010 Blue *540, *740 *4411B, *4411N, *4411G
				<ul style="list-style-type: none"> 2216, DP604NS 3797, 3748 VO *540, *740 4411B, 4411N, 4411G 	<ul style="list-style-type: none"> DP8010 Blue 3797, 3748 VO *540, *740 *4411B, *4411N, *4411G
					<ul style="list-style-type: none"> DP8010 Blue 3797, 3748 VO *540, *740 *4411B, *4411N, *4411G

Key

- 3M™ Scotch-Weld™ Structural Adhesives
- 3M™ Hot Melt Adhesives
- 3M™ Adhesive Sealants
- 3M™ Extreme Sealing Tapes

*Primers may also be required in some cases. See specific product pages for primer details.



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This guide lists products that are commonly used for this specific application. It is important that the customer evaluates these suggested products in their specific application.

Notes:

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