



Scotch-Weld™ Hot-Melt Adhesive Market Opportunities

Technical Bulletin

October, 2007

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

	Furniture/ Woodworking	Electrical/ Electronic	General Assembly	Packaging	POP/Display
S.I.C.'s	2500's	3600's	3900's, 2300, 3100	2600, 2500, 3600	2700's
Typical Industries	<ul style="list-style-type: none"> Office/Home Furniture Kitchen Cabinet Re-Upholstery Display Houses Stereo Cabinets 	<ul style="list-style-type: none"> TV Mfg. Lighting Fixtures Instruments Printed Circuits Power Supply Units 	<ul style="list-style-type: none"> Shoes Foundries Toys • Games Signs • Luggage Leather Goods Textile Products 	<ul style="list-style-type: none"> Food • Drug Chemical Consumer Products Warehouses Printing/Publishing 	<ul style="list-style-type: none"> Graphic Arts/Printing Industries Trade Show Companies Display Designers/Mfr's
Application Ideas	<ul style="list-style-type: none"> V-Groove Bonding Drawer Sealing Corner Blocks Welting Trim 	<ul style="list-style-type: none"> Potting Bonding Component Fixturing Encapsulating Wire Staking 	<ul style="list-style-type: none"> Sand Core Assembly Carpet/Fabric Samples Luggage Liners Foam Cushioning Aluminum 	<ul style="list-style-type: none"> F.O.L./Decorative Case Sealing Carton Repair Resealing "Flyers" Re-pack Areas 	<ul style="list-style-type: none"> Corrugated Display Mfg. Counter Top Display Exhibitor Booth Display Jewelry Case Display Polystyrene Foam Floral Display Coated Paper Stock
Key Substrates	<ul style="list-style-type: none"> Particle Board Soft Wood Masonite Fabric Hardwood 	<ul style="list-style-type: none"> Epoxy Board Ceramic/Glass Aluminum Phenolic 	<ul style="list-style-type: none"> Rigid/Flexible Foam Polyolefins Polycarbonate ABS Textiles 	<ul style="list-style-type: none"> Corrugated Board Polystyrene Foam Polyethylene Film Wax Coated Card Stock 	<ul style="list-style-type: none"> Corrugated Board Polystyrene Foam Polyethylene Film Wax Coated Card Stock
Competition	<ul style="list-style-type: none"> PVA's Staples Bulk HMA Urea-Formaldehyde 	<ul style="list-style-type: none"> 2-Part Epoxies RTV Silicones Cyanoacrylates 	<ul style="list-style-type: none"> Solvent Adhesives Bulk HMA Aerosol Adhesive 	<ul style="list-style-type: none"> Bulk HMA Aerosol Adhesives PVA's Staples Tape 	<ul style="list-style-type: none"> Tape Mechanical Fasteners Solvent Adhesives Staples
Key 3M™ Scotch-Weld™ Hot-Melt Adhesives	3738, 3789, 3792 LM, 3747	3748, 3779, 3748 VO, 3764, 3797	3731, 3738, 3792, 3764, 3796, 3776 LM, 3792 LM, 3750 Clear	3762, 3762 LM, 3764, 3738, 3798 LM*, 3750 Tan	3731, 3748, 3762 LM, 3764, 3792 LM, 6111 HT, 3750 Clear
Major Benefits of Scotch-Weld Hot-Melt Adhesives	<ul style="list-style-type: none"> Helps Increase Productivity Non-Fixturing Void Filling 	<ul style="list-style-type: none"> Possible Cost Savings Application Speed Rapid Setting 	<ul style="list-style-type: none"> Ease of Application Broad Adhesive Capabilities 100% Solids 	<ul style="list-style-type: none"> Appearance Performance Security 	<ul style="list-style-type: none"> Speed Appearance 100% Solids Strength

*Removable 3M™ Scotch-Weld™ Hot-Melt Adhesive in TC shape only.

Technical Bulletin

3M™ Scotch-Weld™ Hot-Melt Adhesive Market Opportunities

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

3M™ Scotch-Weld™ Hot-Melt Adhesive Selection Guide																		
SUBSTRATE	Multi-purpose applications and Low Melts (EVA adhesives)											Specialty applications						
	3738	3747	3750 Clear	3750 Tan	3762	3762 LM	3764	3776 LM	3792	3792 LM	3798 LM**	3731	3748 3748 VO	6111 HT	3797	3796	3789	3779
Wood	1	1		2	1	1		2	2	2						2	1	2
Glass & Ceramic		2					1	2								1		
Electronics							1					2	1		2		2	1
Metal		1						2								1		
Rubber																1		
Paper & Cardboard	1			1	1	1				2	1							
Rigid Foam			1*			2		2	1*									
Fabric			2				2		1	1				1				
Polypropylene							1			2	2	1	1	1	2	2		
Polyethylene							1				2	1	2	1		2		
Rigid Vinyl	2	1	2				1		2	2						1		
Flexible Vinyl																	1	2
ABS, Laminate, FRP, Polycarbonate, Acrylic	2	1	2	1			1		2	2		2	1					

1 = Products that are commonly used for bonding that material.

2 = Products that may work well, but are not commonly used for this material.

* = Consider 3M™ Scotch-Weld™ Hot-Melt Adhesive 3762 LM / 3792 LM on Polystyrene Foam.

** = Removable 3M™ Scotch-Weld™ Hot-Melt Adhesive TC shape only.

Approximate Coverages for 3M™ Scotch-Weld™ Hot-Melt Adhesives

Stick Size	Linear Feet per Stick	# of Sticks per Pound
1" x 3"	36	12
.45" x 12"	30	14
5/8" x 2"	8	55
5/8" x 8"	29	15

- All will yield approximately 400-425 lin. ft./pound.
- All data based on 1/8" semi-circular beads.

3M™ Scotch-Weld™ Hot-Melt Applicator Segmentation

Application Size	Application Speed		
	Slow	Medium	Fast
Small	AEII/AEIIIL/LT/TC 1.5 lbs. - 4.0 lbs. per hour	AEII/AEIIIL/LTQ/TCQ 1.0 lbs. - 4.0 lbs. per hour	AEII/AEIIIL/EC 1.5 lbs. - 5.5 lbs. per hour
Medium	AEII/AEIIIL/LTQ/TCQ 1.0 lbs. - 4.0 lbs. per hour	AEII/AEIIIL/EC 1.0 lbs. - 5.5 lbs. per hour	PGIIL/PGII 6.0 lbs. - 7.5 lbs. per hour
Large	AEII/AEIIIL/LTQ/TCQ 1.0 lbs. - 5.5 lbs. per hour	PGIIL/PGII 6.0 lbs. - 7.5 lbs. per hour	PGIIL/PGII 6.0 lbs. - 7.5 lbs. per hour

1 lb. yields approx. 400-425 lin. ft. (1/8" semi-circular bead).

Technical Bulletin

3M™ Scotch-Weld™ Hot-Melt Adhesive Market Opportunities

Application Ideas for 3M™ Scotch-Weld™ Hot-Melt Adhesives

- 1. PACKING & SHIPPING ROOM**
 - Sealing box flaps.
 - Carton sealing.
 - Sealing corrugated cartons at rate of about 200/24 hours.
 - Gluing folding cartons - small runs-machine tests - sample runs, etc.
 - Corrugated carton sealing - books.
 - Hot-melt sealing large cabinet boxes.
 - Used to glue cardboard boxes together in warehouse - window glass department.
 - General use - primarily gluing paper labels on rare wine bottles.
 - Sealing kraft wrappers.
 - Crate padding.
 - Paper sheets over full pallets of case goods.
- 2. CORRUGATED ASSEMBLY**
 - Glue corrugated pads together.
 - Gluing sample corrugated boxes.
 - Used to glue ends of boxes together - apply spots to cardboard and seal.
 - Assembly of corrugated boxes.
 - Cartons and wood parts.
 - Assembly or corrugated design samples.
 - Cardboard boxes - gluing sides together.
- 3. RESEALING DAMAGED CONTAINERS**
 - Reglue cases.
 - Repairing partially glued cartons, off carton-making machine.
 - Regluing damaged boxes off machine.
 - Replacing canned goods-gluing cartons.
 - Beer case assembly.
 - Reworking plastic boxes.
- 4. FURNITURE & WOODWORKING**
 - Furniture cushions.
 - Furniture repairs.
 - Sound deadening drawer bottoms.
 - Sticking corner reinforcing blocks.
 - Gluing drawer bottoms to drawer boxes.
 - Grille boards to loudspeaker cabinets.
 - Gluing wood pieces together.
 - To bond miter folded particle board.
 - Replacing defective wood parts.
 - Upholstery welt and fringe fixing.
 - Gluing paper tubing to wood boards 8 hrs./day.
- 5. DESIGN • TESTING • PROTOTYPE**
 - Wood-to-wood model and prototype production.
 - R&D Models.
- 6. ELECTRICAL & ELECTRONIC MANUFACTURE**
 - Seal transducer assembly.
 - Hot-melt a printed circuit board to a plastic case.
 - Sealing electronic components subject to potting process.
 - Used to "caulk" exposed voltage terminal inside plastic housing.
 - Glue electronic components together.
- 7. PRODUCT ASSEMBLY**
 - Building planter boxes.
 - Cloth and brass wire to Celastic™ puppet heads.
 - Applying thin film to paper.
 - Making wooden toys.
 - Used in construction of solar heating panels.
 - Gluing tile to pressed board - and other uses.
 - Wood frames.
 - Picture frames.
 - Gluing wood to tile planter boxes.
 - Apply plastic and paper to wood.
- 8. IN-PROCESS OPERATIONS**
 - Gluing FRP together prior to glassing.
 - Seal ends of "Calrod" heating elements for in-plant processing.
- 9. BAKERY SUPPLIES**
 - Assembly of cake ornaments - close boxes for cake ornaments.
 - Styrene-to-styrene, etc. wedding ornaments.
- 10. LAMP SHADE MANUFACTURE**
 - Foil lamp shapes.
 - Shade fabric bonding - styrene fabric.
 - Seaming shades.
- 11. WINDOW SHADE MANUFACTURE**
 - Glue wood window shades.
 - To apply fabric fringe to window shades.
 - Repair of woven wood window shades.
- 12. CRAFTS & NOVELTIES**
 - Fur fabric to paper mache.
 - Stone to wood.
 - Theatrical props and costumes.
 - Glue walnuts to wood.
 - Sea shells and driftwood novelties.
 - Glue yarns to wood.
 - Shellcraft.
 - For flowers and crafts of all kinds.
- 13. DISPLAYS**
 - For attachment of ceramic samples to display booths.
 - Gluing display panels to frames.
 - Fastening displays, drapes and sign components.
 - Glue composition shingles to display board.
 - Light assembly of plywood product displays.
 - Use glue guns to apply hot-melt glue to plastic display pieces.
- 14. FILTERS - Mats, Felts, Papers, Cloth**
 - Air filters.
 - Adhering felt to wood.
 - Patching of pressure filter cloth.
- 15. MILLINERY**
 - Put paste on hats for application of trim.
- 16. CARPET LAYING, CLEANING & REPAIR**
 - Mending carpet.
- 17. RECREATIONAL VEHICLES**
 - Carpet to metal.
- 18. FOUNDRY**
 - Adhering core component assemblies.
- 19. BOOKBINDING**
 - Binding of books.
 - Regluing headband to spine.
- 20. CASKET MANUFACTURE**
 - Cushion gluing.

Technical Bulletin

3M™ Scotch-Weld™ Hot-Melt Adhesive Market Opportunities

Packaging Application Techniques

Regular Slotted Cartons (RSC)
 Excellent strengths can be achieved on this style carton by using 1/8" adhesive beads deposited about 1/2" from the flap edge (A). Extra high strengths are obtained by using twin beads (B).

(ILLUS. A) (ILLUS. B)

Easy Open Techniques on RSC
 There are several methods for obtaining an adequate seal which allows relatively easy opening. This is particularly important where the carton is to be re-used.

These adhesive application techniques employ a 1/8" diameter bead. Easier opening can be achieved with 1/16" diameter beads. Carton seal strength, however, will be reduced.

Full Overlap Cartons (FOL)
 This style of carton is ideal for sealing with the Scotch-Weld Hot-Melt adhesive. Best results can be achieved with 1/8" beads of adhesive located in any of the following ways.

NOTE: Where a single bead is satisfactory in strength, it can be deposited with the convenient "L" tip. The double bead can be applied with a "T" tip.

Easy opening: 1/16" beads or intermittent 1/8" stripes can be used to obtain "easy open" characteristics.

Product Use All statements, technical information and recommendations contained in this document are based upon tests or experience that 3M believes are reliable. However, many factors beyond 3M's control can affect the use and performance of a 3M product in a particular application, including the conditions under which the product is used and the time and environmental conditions in which the product is expected to perform. Since these factors are uniquely within the user's knowledge and control, it is essential that the user evaluate the 3M product to determine whether it is fit for a particular purpose and suitable for the user's method of application.

Warranty and Limited Remedy Unless stated otherwise in 3M's product literature, packaging inserts or product packaging for individual products, 3M warrants that each 3M product meets the applicable specifications at the time 3M ships the product. Individual products may have additional or different warranties as stated on product literature, package inserts or product packages. 3M MAKES NO OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR ANY IMPLIED WARRANTY ARISING OUT OF A COURSE OF DEALING, CUSTOM OR USAGE OF TRADE. User is responsible for determining whether the 3M product is fit for a particular purpose and suitable for user's application. If the 3M product is defective within the warranty period, your exclusive remedy and 3M's and seller's sole obligation will be, at 3M's option, to replace the product or refund the purchase price.

Limitation of Liability Except where prohibited by law, 3M and seller 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.

ISO 9001:2000



This Industrial Adhesives and Tapes Division product was manufactured under a 3M quality system registered to ISO 9001:2000 standards.

Industrial Adhesives and Tapes Division
 3M Center, Building 21-1W-10, 900 Bush Avenue
 St. Paul, MN 55144-1000
 800-362-3550 • 877-369-2923 (fax)
 www.3M.com/industrial

Recycled Paper
 40% pre-consumer
 10% post-consumer

3M and Scotch-Weld are trademarks of 3M.
 Celastic is a trademark of DeGussa AG Corporation.
 Styrofoam is a registered trademark of the Dow Chemical Company.
 Printed in U.S.A.
 ©3M 2007 78-6900-9512-6 (10/07)