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.

<table>
<thead>
<tr>
<th>S.I.C.'s</th>
<th>Furniture/Woodworking</th>
<th>Electrical/Electronic</th>
<th>General Assembly</th>
<th>Packaging</th>
<th>POP/Display</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2500's</td>
<td>3600's</td>
<td>3900's, 2300, 3100</td>
<td>2600, 2500, 3600</td>
<td>2700's</td>
</tr>
</tbody>
</table>

Typical Industries
- Office/Home
- Furniture
- Kitchen Cabinet
- Re-Upholstery
- Display Houses
- Stereo Cabinets
- TV Mtg.
- Lighting Fixtures
- Instruments
- Printed Circuits
- Power Supply Units
- Shoes
- Foundries
- Toys
- Games
- Signs
- Luggage
- Leather Goods
- Textile Products
- Food
- Drug
- Chemical
- Consumer Products
- Warehouses
- Printing/Publishing
- Graphic Arts/Printing Industries
- Trade Show Companies
- Display Designers/Mgr's
- Office/Home
- TV Mfg.
- Shoes
- Leather Goods
- Luggage
- Consumer Products
- Display Designers/Mgr's
- Wire Staking
- Aluminum
- Re-pack Areas
- Corrugated Display Mfg.
- Counter Top Display
- Exhibitor Booth Display
- Jewelry Case Display
- Polystyrene Foam
- Florid Display
- Coated Paper Stock

Application Ideas
- V-Groove Bonding
- Drawer Sealing
- Corner Blocks
- Welting
- Trim
- Potting
- Bonding
- Component Fixturing
- Encapsulating
- Wire Staking
- Sand Core Assembly
- Carpet/Fabric Samples
- Luggage Liners
- Foam Cushioning
- Aluminum
- F.O.L./Decorative Case Sealing
- Carton Repair
- Resealing "Flyers"
- Re-pack Areas
- Corrugated Board
- Polystyrene Foam
- Polyethylene Film
- Wax Coated Card Stock

Key Substrates
- Particle Board
- Soft Wood
- Masonite
- Fabric
- Hardwood
- Epoxy Board
- Ceramic/Glass
- Aluminum
- Phenolic
- Rigid/Flexible Foam
- Polyolefins
- Polycarbonate
- ABS
- Textiles
- Corrugated Board
- Polystyrene Foam
- Polyethylene Film
- Wax Coated Card Stock

Competition
- PVA's
- Staples
- Bulk HMA
- Urea-Formaldehyde
- 2-Part Epoxies
- RTV
- Silicones
- Cyanoacrylates
- Solvent Adhesives
- Bulk HMA
- Aerosol Adhesive
- Bulk HMA
- Aerosol Adhesives
- PVA's
- Staples
- Tape
- 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, 3782 LM, 3764, 3792 LM, 6111 HT, 3750 Clear

Major Benefits of Scotch-Weld™ Hot-Melt Adhesives
- Helps Increase Productivity
- Non-Fixturing
- Void Filling
- Possible Cost Savings
- Application Speed
- Rapid Setting
- Ease of Application
- Broad Adhesive Capabilities
- 100% Solids
- Appearance
- Performance
- Security
- Speed
- Appearance
- 100% Solids
- Strength

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

<table>
<thead>
<tr>
<th>SUBSTRATE</th>
<th>Multi-purpose applications and Low Melts (EVA adhesives)</th>
<th>Specialty applications</th>
</tr>
</thead>
<tbody>
<tr>
<td>Substrate</td>
<td>3738 3747 3750 Clear 3762 LM 3764 3776 LM 3792 3792 LM 3798 LM</td>
<td>Specialty applications</td>
</tr>
<tr>
<td>Wood</td>
<td>1 1 2 1 1 2 2 2</td>
<td>Specialty applications</td>
</tr>
<tr>
<td>Glass &amp; Ceramic</td>
<td>2 1 2</td>
<td>Specialty applications</td>
</tr>
<tr>
<td>Electronics</td>
<td>1 1 2 1 2 2 2 1</td>
<td>Specialty applications</td>
</tr>
<tr>
<td>Metal</td>
<td>1 2</td>
<td>Specialty applications</td>
</tr>
<tr>
<td>Rubber</td>
<td>1</td>
<td>Specialty applications</td>
</tr>
<tr>
<td>Paper &amp; Cardboard</td>
<td>1 1 1 1 2 1</td>
<td>Specialty applications</td>
</tr>
<tr>
<td>Rigid Foam</td>
<td>1 2 2 1*</td>
<td>Specialty applications</td>
</tr>
<tr>
<td>Fabric</td>
<td>2 2 1 1 1</td>
<td>Specialty applications</td>
</tr>
<tr>
<td>Polypropylene</td>
<td>1 2 2 1 1 2 2</td>
<td>Specialty applications</td>
</tr>
<tr>
<td>Polyethylene</td>
<td>1 2 1 2 1 2</td>
<td>Specialty applications</td>
</tr>
<tr>
<td>Rigid Vinyl</td>
<td>2 1 2 1 2 2</td>
<td>Specialty applications</td>
</tr>
<tr>
<td>Flexible Vinyl</td>
<td>2 1 2 1</td>
<td>Specialty applications</td>
</tr>
<tr>
<td>ABS, Lamine, FRP, Polycarbonate, Acrylic</td>
<td>2 1 2 1 1 2 2 2 2</td>
<td>Specialty applications</td>
</tr>
</tbody>
</table>

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

1 = Products that are commonly used for bonding that material.
2 = Products that may work well, but are not commonly used for this material.
** = Removable 3M™ Scotch-Weld™ Hot-Melt Adhesive TC shape only.

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

<table>
<thead>
<tr>
<th>Stick Size</th>
<th>Linear Feet per Stick</th>
<th># of Sticks per Pound</th>
</tr>
</thead>
<tbody>
<tr>
<td>1&quot; x 3&quot;</td>
<td>36</td>
<td>12</td>
</tr>
<tr>
<td>.45&quot; x 12&quot;</td>
<td>30</td>
<td>14</td>
</tr>
<tr>
<td>5/8&quot; x 2&quot;</td>
<td>8</td>
<td>55</td>
</tr>
<tr>
<td>5/8&quot; x 8&quot;</td>
<td>29</td>
<td>15</td>
</tr>
</tbody>
</table>

- 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

<table>
<thead>
<tr>
<th>Application Size</th>
<th>Slow</th>
<th>Medium</th>
<th>Fast</th>
</tr>
</thead>
<tbody>
<tr>
<td>Small</td>
<td>AEI/AEIIL/LT/TC 1.5 lbs. - 4.0 lbs. per hour</td>
<td>AEI/AEIIL/LTQ/TCQ 1.0 lbs. - 4.0 lbs. per hour</td>
<td>AEI/AEIIL/EC 1.5 lbs. - 5.5 lbs. per hour</td>
</tr>
<tr>
<td>Medium</td>
<td>AEI/AEIIL/LTQ/TCQ 1.0 lbs. - 4.0 lbs. per hour</td>
<td>AEI/AEIIL/EC 1.0 lbs. - 5.5 lbs. per hour</td>
<td>PGILT/PGII 6.0 lbs. - 7.5 lbs. per hour</td>
</tr>
<tr>
<td>Large</td>
<td>AEI/AEIIL/LTQ/TCQ 1.0 lbs. - 5.5 lbs. per hour</td>
<td>PGILT/PGII 6.0 lbs. - 7.5 lbs. per hour</td>
<td>PGILT/PGII 6.0 lbs. - 7.5 lbs. per hour</td>
</tr>
</tbody>
</table>

1 lb. yields approx. 400-425 lin. ft. (1/8" semi-circular bead).
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.
Recycled Paper
40% pre-consumer
10% post-consumer

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