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3M Hot Melt Adhesive

3747 • 3779 • 3789 • 3797

Technical Data **July, 2016**

Product Description

3M™ Hot Melt Adhesives are heat applied, 100% solids adhesives. 3M™ Hot Melt 3747, 3779, 3789 and 3797 are thermoplastic adhesives to bond to wide variety of substrates such as wood, plastic, vinyl, metal and glass.

3M™ Hot Melt Adhesive 3747 General purpose adhesive for bonding dissimilar substrates such as wood to plastic, fabric to metal.

3M™ Hot Melt Adhesive 3779 High strength bonding with excellent environmental stability including very high heat resistance. Fast set time.

3M™ Hot Melt Adhesive 3789 High performance for plastic with good fuel, oil and plasticizer resistance. Long open time.

3M™ Hot Melt Adhesive 3797 Low viscosity for fast flow rates, good high temperature resistance, and fast set. Good for electrical potting.

Features

- 100% solids, no VOCs
- Easy to use
- Long open times allow for easy use on large assemblies and large surfaces
- Adhesive sets and obtains strength in seconds
- Creates high performance bonds
- Ideal for woodworking and general industrial applications.

Typical Physical Properties

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

	3M™ Hot Melt Adhesive			
	3747	**3779**	**3789**	**3797**
Color (solid)	Tan	Amber	Brown	Off-White
Density (g/cm³)	0.97	0.99	0.95	0.92
Flashpoint (°F)[1]	509	550	>392	570

(1) Determined by Cleveland Open Cup ASTM D 92-72.

Directions for Use

1. Surface Preparation: Surfaces must be clean, dry and dust free. Wipe with a solvent such as isopropyl alcohol for plastic, metal and glass substrates to remove oil and dirt.* ***Note:** When using solvents, extinguish all ignition sources, including pilot lights, and follow the manufacturer's precautions and directions for use.

2. Application: 3M™ Hot Melt Adhesives are designed for application with a 3M™ Hot Melt Applicators. Read and follow the precautions and directions for use in the user's manual before operating the applicator. 3M™ Hot Melt Adhesives are applied at 350-385°F. Adhesives yield approximately 430 linear feet per pound of adhesive when extruded as a 1/8" diameter semi-circular bead. Extruded bead sizes can be customized using 3M™ applicator tips.

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Directions for Use (continued)

3. Coverage: 3M™ Hot Melt Adhesives yield approximately 430 linear feet per pound of adhesive when extruded as a 1/8" diameter semi-circular bead.

4. Set up time: After the bond is made, 3M™ Hot Melt Adhesives immediately build strength and no clamping is necessary. Set will occur faster on cold or metallic substrates.

Typical Application Properties

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	3M™ Hot Melt Adhesive			
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Application Temperature[1]	350-385°F/ 177-196°C	350-385°F/ 177-196°C	350-385°F/ 177-196°C	350-385°F/ 177-196°C
Viscosity (CPS)[2]	4,100 @ 375°F	7,000 @ 375°F	5,200 @ 375°F	2,650 @ 375°F
Open Time (seconds)[3]	45	25	50	30
Delivery Time (seconds)[4]	45	75	70	55
Available sizes/forms	5/8"x8" Q 5/8"x2" TC 1"x3" PG 1/2"x12" AE	5/8"x8" Q 5/8"x2" TC 1"x3" PG 1/8" Bulk	5/8"x8" Q 1"x3" PG 1/8" Bulk	5/8"x2" TC 1"x3" PG

(1) Recommended application temperature range. Temperature can be adjusted to regulate desired viscosity, delivery rate and pot life.
(2) Brookfield Thermocel Viscometer in Centipoise using a #27 Spindle @ 10 RPM.
(3) Open time is the maximum time between the application of the adhesive and when the parts must be joined together. Data based on 1/8" semicircular bead on non-metallic substrates at 75°F. Higher environmental temperatures and/or larger beads will lengthen open times.
(4) Extrusion time for one 1"x3" PG cartridge.

Typical Performance Properties

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

	3M™ Hot Melt Adhesive			
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Heat Resistance[1]	145°F/ 63°C	300°F/ 149°C	220°F/ 104°C	170°F/ 77°C
Ball & Ring Melt Point[2]	220°F/ 104°C	325°F/ 163°C	270°F/ 132°C	304°F/ 151°C
Shear Strength[3]	430 psi	700 psi	570 psi	350 psi
Peel Strength[4]	20 piw	18 piw	16 piw	10 piw
UL94 Listing	n/a	V0	V2	V2
FDA Indirect Food Contact[5]	21 CFR 175.105	21 CFR 175.105	21 CFR 175.105	21 CFR 175.105

(1) Highest temperature that the adhesive will support a 2 psi dead load
(2) ASTM E28-67
(3) Overlap shear measured on Douglas Fir to Douglas Fir
(4) Measured in pounds per inch width (piw). Flexible canvas bonded to Douglas Fir
(5) Permitted for indirect food contact subject to the limitations in applicable CFR section(s).

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Storage	Store product below 120°F (49°C).
Shelf Life	When stored at the recommended conditions, this product has a shelf life of 2 years after 3M ships the product to a customer or distributor.
Precautionary Information	Refer to Product Label and Material Safety Data Sheet for health and safety information before using this product. For additional health and safety information, call 1-800-364-3577 or (651) 737-6501
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.
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ISO 9001:2000

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

3M

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