Hot Melt Adhesive

3776LM • 3792LM • 3738 • 3792

Technical Data **July, 2016**

Product Description

3M™ Hot Melt 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, keeping production flowing by eliminating clamps, fixturing and drying, and saving time energy and space.

3M™ Hot Melt 3776LM, 3792LM, 3738 and 3792 are thermoplastic adhesives with low to medium viscosity and long open times. They bond to wide variety of substrates such as wood, plain and coated corrugated, sand cores, foams, many plastics, and other lightweight materials.

3M™ Hot Melt Adhesive 3792	Multi-purpose adhesive with medium viscosity. Bonds dissimilar substrates such as wood to plastic, fabric to metal**.**
3M™ Hot Melt Adhesive 3792LM	Low temperature dispensing version of 3792. Excellent for coated papers, plastics and other heat sensitive substrates.
3M™ Hot Melt Adhesive 3776LM	General purpose bonder with low temperature dispensing.
3M™ Hot Melt Adhesive 3738	Low viscosity and long open time for high flow rates, thin bonds, and repositionability.

Features

- 100% Solids, no VOCs
- Easy to use
- Long open times allow for ease use on large assemblies and large surfaces
- Adhesive sets and obtains strength in seconds
- Low Melt (LM) adhesives are designed for low temperature application and heat sensitive substrates
- 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			
	3776LM	**3792LM**	**3738**	**3792**
Color (solid)	Tan	Clear	Tan	Clear
Density (g/cm^3)	0.95	1.01	0.95	0.095
Flashpoint (°F)[1]	460	> 450	550	> 450

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

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Directions for Use

1. Surface Preparation: Surfaces must be clean, dry and dust free. Wipe with a solvent such as isopropyl alcohol for plastic substrates to aid in removing 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, except the Low Melt (LM) series which are designed to be applied at 250-275°F. LM series are adhesives designed for lower temperature application but still yield long-lasting bonds.
Extruded bead sizes can be customized using 3M™ applicator tips.

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]	250-270°F/ 121-132°C	250-270°F/ 121-132°C	350-385°F/ 177-196°C	350-385°F/ 177-196°C
Viscosity (CPS)[2]	8,250 @ 250°F	10,500 @ 250°F	2,875 @ 375°F	5,000 @ 375°F
Open Time (seconds)[3]	40	40	50	50
Delivery Time (seconds)[4]	47	57	35	45
Available sizes/forms	5/8"x8"Q 1"x3" PG 1/2"x12"AE	5/8"x8"Q 5/8"x2" TC 1"x3" PG 1/2"x12"AE 1/8" Bulk	5/8"x8"Q 5/8"x2" TC 1"x3" PG 1/2"x12"AE 1/8" Bulk	5/8"x8"Q 5/8"x2" TC 1"x3" PG 1/2"x12"AE 1/8" Bulk

(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.

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Typical Performance Properties

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Heat Resistance[1]	140°F/ 60°C	140°F/ 60°C	130°F/ 54°C	140°F/ 60°C
Ball & Ring Melt Point[2]	184°F/ 84°C	178°F/ 81°C	186°F/ 86°C	179°F/ 81°C
Shear Strength[3]	600 psi	350 psi	375 psi	250 psi
Peel Strength[4]	9 piw	13 piw	13 piw	13 piw
UL94 Listing	n/a	V2	V2	V2
FDA Indirect Food Contact[5]	n/a	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).

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.

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