

3M

Jet-Weld™ Thermoset Adhesive System

Hot melt speed and structural strength performance for wood, metal, many plastics, and more.



Thin bond lines at hot melt speeds with

The hand-held 3M™ Jet-Weld™ II Adhesive Applicator and moisture-curing urethane adhesives put a powerful production capability in your assembly operation. This single system combines production benefits typical of hot melt adhesives and bond performance usually associated with 2-part structural adhesives.

Benefits typical of hot melt adhesives

- Fast initial set and **handling strength in as few as 15 seconds** helps eliminate or minimize fixturing, and speed assembly.
- One-component, moisture-curing eliminates metering, mixing and curing equipment. Helps simplify production as well as save energy.
- 100% solids gives you a **low-VOC** adhesive system with no drying equipment and no attack on plastics.

Structural strength

- **Up to a half ton** in holding power after only ten minutes exceeds strength of conventional hot melt and PVA adhesives.
- Eliminates nails and other mechanical fasteners in many applications to help **save the time of finishing steps**.

Application versatility

- Proprietary chemistry bonds a **wide variety of substrates**, including wood, plastics, rubber, dissimilar materials and plasticized vinyls.
- **Up to 10-minute open time** allows positioning of multiple or complex parts.
- **Thin, flexible and tough bond lines** help improve the fit, appearance and durability of your product.
- **Help you meet production volume requirements** with self-contained hand-held Jet-Weld II Applicator or your own bulk dispensing equipment.



(A)

2



(C)

4



(B)

3

Photo courtesy of David Trubridge designer.

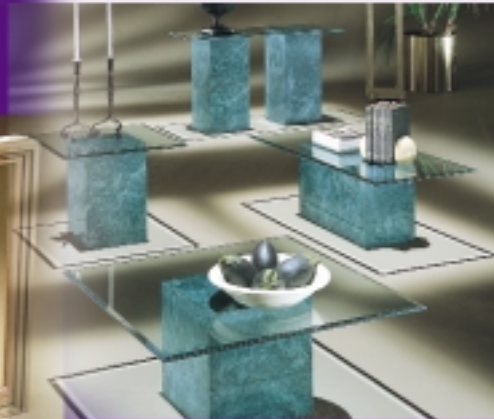
Application ideas

- Countertop edging (A) – Adhesive bead applies neatly and eliminates nails and the extra work of putty and sanding.
- Bent wood furniture (B) – Structural strength holds the aesthetic contours of unique all-wood furniture.
- Store shelving/displays (C) – For clean, modern design, mechanical fasteners are eliminated in construction of cabinets, shelves and tables.
- Decorative trim (D) – Thin glue line forms a virtually invisible bond between simulated-wood plastic trim and the wood cabinet door surface.

holding power up to a half ton



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- Gliding windows (E) – Fast handling strength helps speed bonding of interior wood trim to vinyl sash.
- Speaker cones (F) – Flexible, tough bond lines hold dissimilar materials and multiple components.
- Decorator tables (G) – One-component eliminates fixturing in multi-tasks

including V-groove bonding at the table joints, and laminating tops.

- Trade show booth (H) – Adhesive bonds extruded aluminum bracket to the laminate covering of a honeycomb panel. Bracket is used for hanging graphics.

Many applications in other markets:

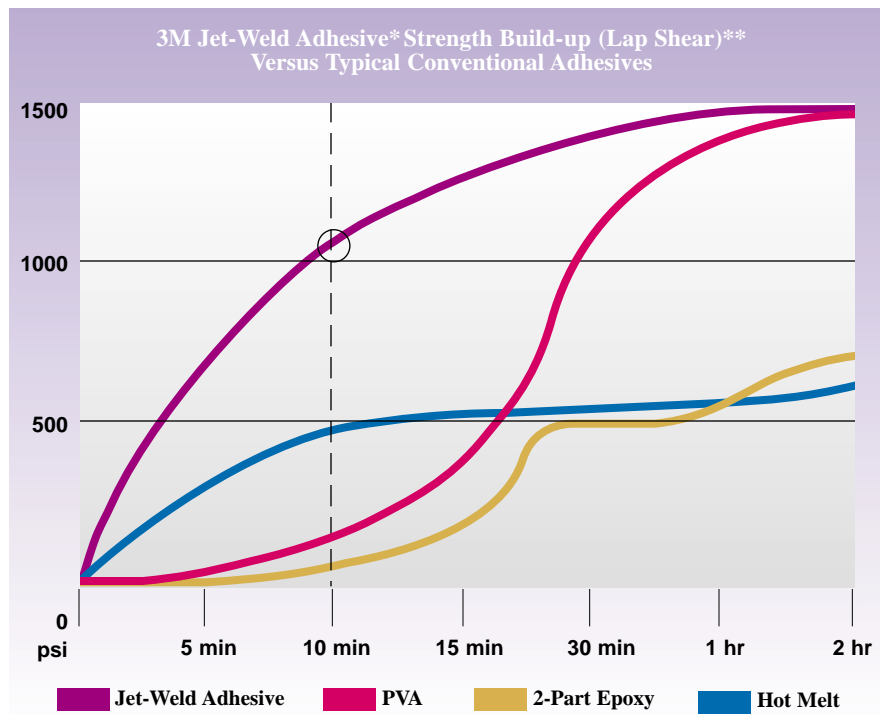
- Home and office furniture
- Windows and doors
- POP and retail shelving/displays
- Automotive and marine
- Electronics cabinetry and housings
- Toys
- Sporting goods

Wide adhesive selection with strength growth

Select adhesives and containers to meet your specific requirements

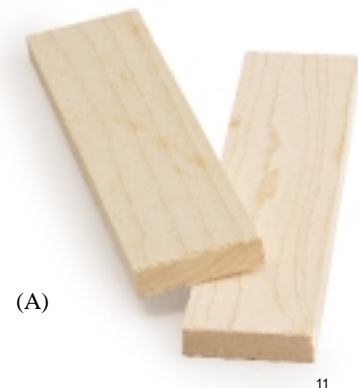


TE-015, TE-030, TE-100, and TE-200 adhesives are your primary choices for wood bonding. For bonding plastics, you'll want to consider TE-031, TS-040, TS-115 HGS, and TS-230. All 3M™ Jet-Weld™ Adhesives are available in **10 fl.oz. cartridges** for use with the 3M Jet-Weld II Applicator. Some Jet-Weld Adhesives are also available in **2k foil packs, gallon pail, 5-gallon pail, and 55-gallon drum.**



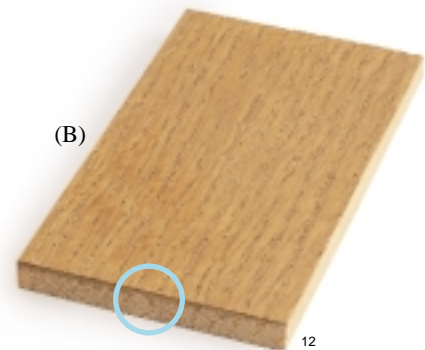
3M™ Jet-Weld™ Adhesive speed decreases fixture time to help increase productivity. In only 10 minutes, bond strength exceeds the structural strength base line of 1,000 psi in lap shear. After an hour, strength is greater than many substrates (note splice test at right).

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

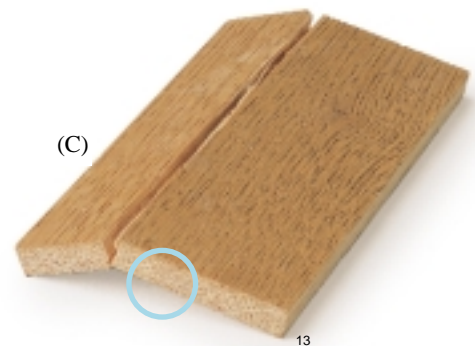


Hard-to-find structural strength bond lines

In a test of two pieces of oak (A) edge-spliced with 3M Jet-Weld Adhesive, the bond line is neat, and clean (B). Even with close scrutiny of the edge and stained surface, the bond line is hard to find.



Ultimate bond strength depends on the adhesive and substrate. But in this edge-splice test using 3M Jet-Weld Adhesive and many other applications, the substrate will fail before the bond (C). See data sheets for additional technical information about 3M Jet-Weld Adhesives.



Greater than many substrates

3M™ Jet-Weld™ Adhesive Information

Product	Description	Application Temperature	Viscosity	Color	Open Time	Set Time	Shore D	Tensile Strength	Elong.	Modulus
TE-015	Extrudable. Very fast set time for bonding wood and selected plastics.	250°F (121°C)	7,000 cps	White/off white	1.5 min.	15 sec.	65	3950 psi	750%	2500 psi
TE-030	Extrudable. Fast set time. Best for bonding wood and selected plastics.	250°F (121°C)	16,000 cps	White/off white	1 min.	30 sec.	60	3800 psi	725%	11,200 psi
TE-031	Extrudable. Fast set for bonding wide variety of plastics, including polystyrene and polyacrylic.	250°F (121°C)	13,000 cps	White/off white	2 min.	30 sec.	50	3900 psi	725%	5600 psi
TE-040	Extrudable. Fast set time, low viscosity, and strong, flexible bonds for a wide variety of plastics, wood, aluminum and glass.	250°F (121°C)	7000 cps	White/off white	2 min.	40 sec.	35	2750 psi	860%	2850 psi
TE-100	Extrudable. Medium set time and low viscosity for bonding wood and selected plastics. Thin glue lines.	250°F (121°C)	7000 cps	White/off white	2 min.	1 min.	61	4200 psi	675%	12,200 psi
TE-200	Low viscosity. Long open time. Thin glue lines. Very high strength to wood. Bonds selected plastics.	250°F (121°C)	3000 cps	White/off white	4 min.	2 min.	60	4000 psi	625%	9700 psi
TS-230	Sprayable/extrudable. Long set time for wide variety of plastics, including polystyrene and polyacrylic. Bonds aluminum and glass to plastic and wood.	250°F (121°C)	9000 cps	White/off white	4 min.	2.5 min.	45	3300 psi	700%	5400 psi
TS-115 HGS	Bonds substrates such as wood, FRP and many other plastics to themselves, metal, and glass. Very high green strength.	250°F (121°C)	16,000 cps	White/off white	10 min.	1 min.	47	3200 psi	600%	3300 psi

3M™ Jet-Weld™ Adhesive Selection Guide

Substrate	TE-015	TE-030	TE-031	TE-040	TE-100	TE-200	TS-230	TS-115 HGS
ABS	●	●	●	●	●	●	●	●
Aluminum ^{1,2}	○	○	◐	●	○	○	●	●
EPDM rubber	○	○	○	○	○	○	○	○
Fabric/felt/cork	●	●	●	●	●	●	●	●
FRP – epoxy	●	●	●	●	●	●	●	●
FRP – polyester	●	●	●	●	●	●	●	●
Glass/ceramic	○	○	◐	●	○	○	●	●
Leather	●	●	●	●	●	●	●	●
Neoprene rubber ³	○	○	◐	◐	○	○	●	●
Nitrile rubber ³	●	●	●	●	●	●	●	●
Nylon	○	○	◐	◐	○	○	◐	◐
Painted metal ¹	○	○	◐	●	○	○	●	●
Polyacrylic	●	◐	●	●	◐	●	●	●
Polycarbonate ⁴	●	●	●	●	●	●	●	●
Polyolefins ⁵	○	○	○	○	○	○	○	○
Polystyrene	○	○	●	●	○	○	●	●
Polystyrene (Beadboard)	●	●	●	●	●	●	●	●
PVC	●	●	●	●	●	●	●	●
Steel ^{1,2}	○	○	◐	◐	○	○	●	●
SBR	●	●	●	●	●	●	●	●
Wood/hardboard	●	●	●	●	●	●	●	○

● Excellent

◐ Good

◑ Fair

○ Poor

1 Not recommended for bonding metal, glass and ceramic to itself or each other due to low moisture transmission of substrates.

2 Abrade uncoated aluminum. Not for use on uncoated aluminum subjected to hot/humid conditions.

3 Rubbers vary in composition. Adhesion to specific rubber must be evaluated by user.

4 Adhesive may partially delaminate from polycarbonate at elevated temperatures.

5 Polypropylene, polyethylene. Corona or plasma treatment may improve adhesion.

Note: User is responsible for determining whether the 3M product is fit for a particular purpose and suitable for user's method of application.

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Trigger a bead – fast, easy and neat



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Get off to a fast start... and finish with no purging

3M™ Jet-Weld™ Adhesive cartridges are simply loaded into the rear of the handy self-contained 3M™ Jet-Weld II™ Applicator. The applicator end cap twist-locks the cartridge into position.

For improved productivity, the optional Jet-Weld Adhesive preheater keeps up to four adhesive cartridges ready to use. That means you can keep one to four Jet-Weld applicators operating full time.

With pre-heated adhesive, a simple squeeze of the trigger immediately starts the application of the adhesive at **up to 11 pounds per hour**.

At the end of operation, there's no purging of the applicator.



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- Job matched tips change with a few simple turns of a common wrench. Tip selection includes the following:

- 1) Threaded cap for sealing tip after use.
- 2) 0.072" orifice (1.25" long) extension tip for improved sight line in hard-to-reach areas.
- 3) 0.062" orifice for low flow applications.
- 4) 0.125" orifice for high flow applications.

0.090" orifice tip comes standard with the applicator.



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- Tool balance – For worker comfort during extended use, the applicator can be balanced and supported from above to effectively decrease the weight.



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- Applicator rest holds applicator upright when not in use. Frees both hands for component assembly.

- Impact-resistant plastic construction is engineered for lightweight handling ease and the hard realities of the shop and plant.

- 100% solids 3M™ Jet-Weld™ Adhesive is applied molten at only 250°F (121°C). No temperature adjustments required.

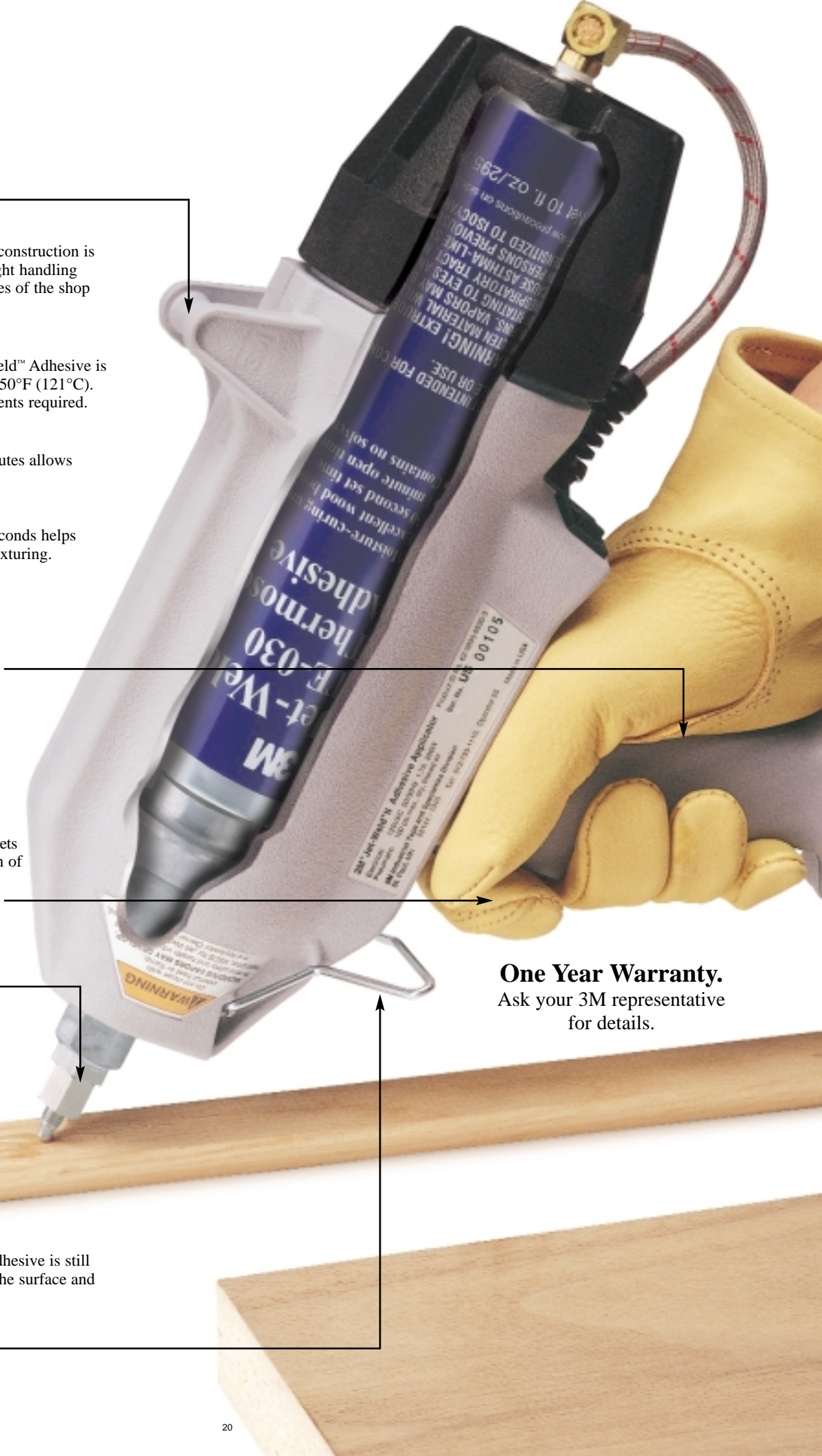
- Open time up to 10 minutes allows product positioning.

- Set time as fast as 15 seconds helps eliminate or minimize fixturing.

- Handle fits most hand sizes and is positioned to help balance the applicator.

- Electrically-heated, pneumatic applicator targets bead for neat application of 3M Jet-Weld Adhesives with the squeeze of a trigger.

- Parts are joined when adhesive is still molten. Adhesive wets the surface and fills gaps.



One Year Warranty.
Ask your 3M representative
for details.

Total Assembly Solutions

There is a 3M adhesive to help solve just about any product assembly problem. And there is a wide range of very practical dispensing methods to put this technology to work. Just as important, 3M Bonding Solutions professionals are readily available to help you determine a total solution: the appropriate 3M adhesive product or combination of products you select, and application

methods you determine that meet your specific objectives. And you can expect in-depth technical support to help you solve or avoid problems, and continue to take full advantage of the latest 3M adhesive technologies.

Now it's easier than ever to get connected: www.3M.com/adhesives.

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