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## Technical Data Sheet

3M™ Fastbond™ Contact Adhesive 30-NF



[Product Details](#)



[Regulatory Info/SDS](#)

### **Product Description**

3M™ Fastbond™ Contact Adhesive 30-NF is a water-dispersed, sprayable contact adhesive for long bonding range.

### **Product Features**

- Non-flammable in the wet state.
- Post-formable and heat resistant.
- Bonds most foamed plastics, plastic laminate, wood, plywood, and canvas to themselves and to each other.
- 3M™ Fastbond™ Contact Adhesive 30 has been tested and approved for use by the Woodwork Institute of California under the provisions of ANSI/HPMA HP 1983 for Type II adhesive and the heat resistance test set forth in its Manual of Millwork.
- Fastbond contact adhesive 30 is recognized under the Component Program Underwriter's Laboratories, Inc. Component Recognition Program Guide GSRJ2, File R14485, Door Construction Materials. For use with swinging type fire doors of the hollow metal and steel composite types rated up to and including 3 hours.
- PPAP (Production Part Approval Process) documentation has been issued for 3M™ Fastbond™ Contact Adhesive 30H. (30 Low Mist)
- Not recommended for drywall laminating or for bonding metal surfaces (unless metal surfaces are completely dried by force drying and protected from moisture).
- Certified to GREENGUARD® Product Emission Standard For Children and Schools(SM) for low emitting interior building materials:
  - Addresses or Contributes to LEED® EQ Credit 4.1: Low Emitting Materials: Adhesive and Sealants
  - Addresses or Contributes to LEED® EQ Credit 4.3: Low Emitting Materials: Flooring Materials
  - Addresses or Contributes to LEED® EQ Credit 4.4: Low Emitting Materials: Composite Wood and Agrifiber Products
  - Addresses or Contributes to LEED® EQ Credit 4.5: Low Emitting Materials: Furniture and Furnishings
  - Addresses or Contributes to LEED® EQ Credit 4.6: Low Emitting Materials: Ceiling and Wall Systems



### **Technical Information Note**

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

## Typical Uncured Physical Properties

Attribute Name	Value
Net Weight	1.06 — 1.11 kg/L (8.9 — 9.3 lb/gal)

## Typical Physical Properties

Attribute Name	Temperature	Value
Color		Green when wet. Darker green when dry. Neutral, White (Wet), Clear (Dry)
Solids Content by Weight		47 — 51 %
Base		Polychloroprene
Solvent Resistance		Water Methanol <2% Toluene <3%
Coverage		17 m <sup>2</sup> /L (680 ft <sup>2</sup> /gal) <sup>1</sup>
Viscosity	27 °C (80 °F)	200 — 750 cP <sup>2</sup>

<sup>1</sup> @ 32 g/m<sup>2</sup> (3 g/ft<sup>2</sup>) dry

<sup>2</sup> Brookfield Viscometer RVF #2 spindle @ 20 rpm

Attribute Name	Value
*Note	When bonding wood veneers, success is dependent on many variables such as environmental conditions, bonding process, type of base material, type of veneer, adhesive type and top coat finishing systems to name a few. For un-backed wood veneers, water based contact adhesives are not recommended. It is the user's responsibility to thoroughly test any adhesive for its suitability in bonding wood veneers. It is also recommended to follow the veneer manufacturers recommendation and industry guidelines.

## Typical Performance Characteristics

### 180° Peel Adhesion

Substrate: Canvas to Steel

Dwell Time	Temperature	Value
24 h	23 °C (73 °F)	44 N/cm (400 oz/in)
72 h	23 °C (73 °F)	62 N/cm (560 oz/in)
120 h	23 °C (73 °F)	53 N/cm (480 oz/in)
168 h	23 °C (73 °F)	35 N/cm (320 oz/in)
2 week	23 °C (73 °F)	35 N/cm (320 oz/in)
3 week	23 °C (73 °F)	26 N/cm (240 oz/in)
3 week	-34 °C (-29 °F)	8.8 N/cm (80 oz/in)
3 week	66 °C (150 °F)	18 N/cm (160 oz/in)
3 week	82 °C (180 °F)	18 N/cm (160 oz/in)

## Overlap Shear Strength

Substrate: Birch to Birch

Temperature	Test Condition	Value
23 °C (73 °F)		330 N/cm <sup>2</sup> (480 lb/in <sup>2</sup> ) <sup>1</sup>
	-34 °C (-30 °F)	760 N/cm <sup>2</sup> (1100 lb/in <sup>2</sup> ) <sup>1</sup>
	82 °C (180 °F)	41 N/cm <sup>2</sup> (60 lb/in <sup>2</sup> ) <sup>1</sup>
	93 °C (200 °F)	21 N/cm <sup>2</sup> (30 lb/in <sup>2</sup> ) <sup>1</sup>
	107 °C (225 °F)	28 N/cm <sup>2</sup> (40 lb/in <sup>2</sup> ) <sup>1</sup>

<sup>1</sup> 3 mm (1/8 in) thick substrates

## Static Shear

Substrate: Birch to High-Pressure Laminate

Dwell Time	Temperature	Value
3 month	23 °C (73 °F)	220 N/cm <sup>2</sup> (320 lb/in <sup>2</sup> ) <sup>1</sup>
3 month	66 °C (150 °F)	97 N/cm <sup>2</sup> (140 lb/in <sup>2</sup> ) <sup>1</sup>
3 month	82 °C (180 °F)	55 N/cm <sup>2</sup> (80 lb/in <sup>2</sup> ) <sup>1</sup>
6 month	23 °C (73 °F)	210 N/cm <sup>2</sup> (300 lb/in <sup>2</sup> ) <sup>1</sup>
6 month	66 °C (150 °F)	100 N/cm <sup>2</sup> (150 lb/in <sup>2</sup> ) <sup>1</sup>
6 month	82 °C (180 °F)	52 N/cm <sup>2</sup> (75 lb/in <sup>2</sup> ) <sup>1</sup>
9 month	23 °C (73 °F)	200 N/cm <sup>2</sup> (290 lb/in <sup>2</sup> ) <sup>1</sup>
9 month	66 °C (150 °F)	90 N/cm <sup>2</sup> (130 lb/in <sup>2</sup> ) <sup>1</sup>
9 month	82 °C (180 °F)	35 N/cm <sup>2</sup> (50 lb/in <sup>2</sup> ) <sup>1</sup>
	23 °C (73 °F)	180 N/cm <sup>2</sup> (270 lb/in <sup>2</sup> ) <sup>1</sup>
	66 °C (150 °F)	90 N/cm <sup>2</sup> (130 lb/in <sup>2</sup> ) <sup>1</sup>
	82 °C (180 °F)	20 N/cm <sup>2</sup> (30 lb/in <sup>2</sup> ) <sup>1</sup>

<sup>1</sup> Laminate sprayed with adhesive, dried, and stored @RT for the given time (free of dust and dirt). Adhesive sprayed to birch and dried for 10 min. Pinch roller bond samples and aged 3 weeks. Adhesive can be activated with certain contact adhesives.

## Flatwise Tensile Strength

Temperature	Value
23 °C (73 °F)	78 N/cm <sup>2</sup> (113 (particle board failure) lb/in <sup>2</sup> ) <sup>1</sup>
66 °C (150 °F)	38 N/cm <sup>2</sup> (55 lb/in <sup>2</sup> ) <sup>1</sup>
82 °C (180 °F)	21 N/cm <sup>2</sup> (30 lb/in <sup>2</sup> ) <sup>1</sup>
93 °C (200 °F)	19 N/cm <sup>2</sup> (27 lb/in <sup>2</sup> ) <sup>1</sup>

<sup>1</sup> High pressure laminate/particle board. Test speed = 1.3 mm/min (0.05 in/min).

## Handling/Application Information

### Directions for Use

1. Surface Preparation: Surfaces must be clean, dry and dust free. Wiping with a solvent such as 3M™ Scotch-Grip™ Solvent No. 3\* will aid in removing oil and dirt. Temperature of adhesive and surfaces during fabrication should be at least 65°F (18°C). If used for decorative plastic laminates, the laminate should have reached moisture equilibrium for the shop conditions.
2. Application: Apply a uniform, generous coat of adhesive to both surfaces with a nylon brush, roller (texturing type), or spray. One coat is usually sufficient on most surfaces. Dull spots when dry indicate insufficient adhesive. Very porous material may require more than one coat. (Allow adhesive to dry completely between coats.) A uniform, glossy film indicates sufficient adhesive.
3. Coverage: Coverage is dependent upon porosity of the substrate and the method by which the adhesive is applied. Use 3.0-3.5 gms/ft<sup>2</sup> of dry adhesive per surface for wood, particle board and high pressure laminates with the adhesive applied by spray or roller. More adhesive (lower coverage) is recommended if very soft wood, fabrics, foams, etc. are to be bonded, or if the adhesive is applied by brushing.
4. Drying Time: The adhesive dries sufficiently in 30 minutes under normal temperatures and humidities to make bonds. High humidity will slow the drying; high temperature will speed the drying. After the adhesive is dry the bond must be completed within four hours.
5. Assembly: Spacers, such as dowels or strips of laminate, may be used to help prevent premature adhesive to adhesive contact and bonding prior to positioning. Slide out the spacers and apply uniform pressure, working toward the edges.

A 3 in wide (maximum) roller with maximum body pressure should be used to help ensure adequate contact and bonding, especially on edges. Bonded assemblies may be machined, trimmed, etc. immediately after bonding. The use of a pinch or nip roll is preferred for optimum performance.

6. Cleanup: If adhesive has not dried, clean equipment with water containing a small amount of detergent.\*\* Adhesive cannot be cleaned off rollers or brushes after it has dried.

\*When using solvents, extinguish all ignition sources, including pilot lights, and follow the manufacturer's precautions and directions for use.

\*\*Cleaning solution: One pint of cleaner to five gallons of water. Flush with clean water.

### Application Techniques

**Working Temperature:** The adhesive and both surfaces to be bonded should be 65°F (18°C) or above at the time of bonding. After storage at low temperature and before using, the adhesive must be warmed to room temperature. Do not place in oven or on stove; bring to temperature by placing in a warm room. If this is not done, the open time and other working properties of the adhesive may be adversely affected.

**Use Enough Adhesive:** It is important to remember that it is difficult to use too much adhesive, but you can have problems if you don't use enough. 3M™ Fastbond™ Contact Adhesive 30 must be applied to both surfaces. Adhesive can be applied by spray (see Application Equipment Suggestions), brush or a texturing type roller.

Non-porous surfaces should require only one coat, while porous surfaces may require two coats. Wherever you use more than one coat, be sure to let the adhesive dry completely between coats. Hardwoods, tempered hardboard and decorative laminates are non-porous. Soft woods, untempered hardboard, plywood and plaster are typical porous surfaces which may require two coats.

**Note:** 3M water-dispersed contact adhesives should never be thinned.

**Let Adhesive Dry Completely:** Under normal temperature and humidity conditions, Fastbond contact adhesive 30 will dry in approximately 30 minutes. In very warm, low humidity conditions, drying may take as little as 10-15 minutes. Lower temperatures and higher humidity mean slower drying. When the adhesive coating completely loses its milky appearance and becomes clear it is ready to bond. You have four (4) hours after the adhesive is dry in which to complete the bonding job. You can bond as soon as it is dry, but the longer you wait the stronger the initial bond will be.

To speed drying, infrared heat lamps may be used. When force drying is used, assembly and bonding must be completed while one or both of the bonding surfaces is warm. If both surfaces are cold, reheat either or both before bonding.

If your two surfaces do not grab onto each other immediately when brought into contact, the adhesive has dried too long or not enough adhesive was applied. In either case, another coat of adhesive over each surface will remedy the problem.

**Apply Pressure Thoroughly:** Bonding is immediate upon contact. Sustained pressure is not required, but good uniform pressure must be applied to every square inch of the surface. Apply pressure by using heavy body pressure on a small (not over 3") hand "J"-roller. The use of a pinch roll is preferred for optimum performance.

**Note:** Rolling pins and other wide rollers are unsatisfactory because they bridge low spots and because they distribute the pressure over too large an area.

**Assembling:** Position the surfaces carefully before assembly. No adjustment is possible after the adhesive films make contact. Use the paper slip sheet method or spacers to position large pieces.

**Finishing:** Bonded assemblies can be machined, trimmed and finished immediately after bonding.

**Cleaning:**Brushes or rollers which are to be reused should be wrapped with plastic wrap to keep adhesive wet as complete cleaning is difficult.

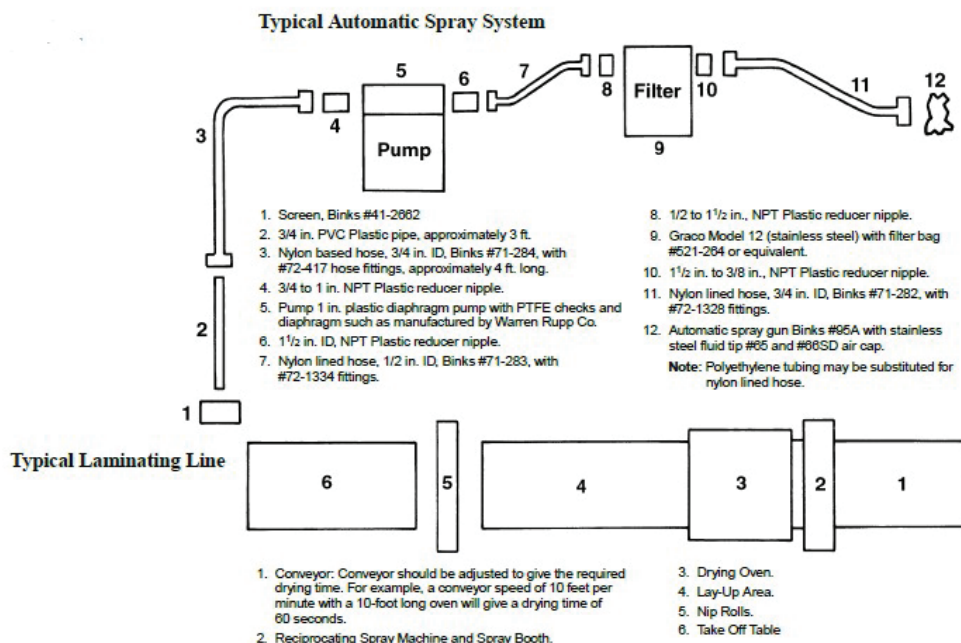
**Note:**Never pour solvent onto a bonded surface; it will attack the adhesive line and weaken the bond. Just wipe with cloth dampened in solvent or cleaner such as 3M™ Citrus Base Cleaner.\* Turpentine will not dissolve the adhesive.  
\*When using solvents, extinguish all ignition sources, including pilot lights, and follow the manufacturer’s precautions and directions for use.

**Application Equipment**

**Note:**Appropriate application equipment can enhance adhesive performance. We suggest the following application equipment for the user’s evaluation in light of the user’s particular purpose and method of application.

1. Air Atomizing Spray Equipment

Hand Held Spray Applicators	Air Cap	Fluid Tip	Air Pressure	Approximate Air Requirement	Fluid Flow*
Binks 2001SS, 95	66SD	65SS	10-15 psi	6 scfm @ 20 psi	9-12 fl. oz./min.
DeVilbiss MSA-510	#30	FF	10-15 psi	6 scfm @ 20 psi	9-12 fl. oz./min.
<b>H.V.L.P. (high volume, low pressure)</b>					
Binks Mach 1	95P	94F	30 psi	11 scfm @ 30 psi	9-12 fl. oz./min.
<b>Automatic Spray Applicators</b>					
Binks No. 95A	66SD	65SS	10-15 psi	6 scfm @ 20 psi	9-12 fl. oz./min.
H.V.L.P. Mach 1A	95P	94F	30 psi	11 scfm @ 30 psi	9-12 fl. oz./min.



\*To measure fluid flow: Pressurize fluid source only; pull trigger; flow material into measuring device for 60 seconds; increase or decrease fluid source pressure to obtain desired fluid flow.

**Note:**Low pressure, air operated piston pumps should not be used with these products.

- 2. Pressure Pot: Polyethylene liner. Dip tube and fittings should be plastic or stainless steel.
- 3. Pumping Equipment: 1 in plastic diaphragm pump with PTFE checks and diaphragms such as manufactured by Warren Rupp Co.
- 4. Filter: (pump output) Graco model 12 (stainless steel) with filter bag #521-264 or equivalent.
- 5. Airless Spray: This product can be airless sprayed. Fluid tips ranging from .018 in to .031 in at fluid pressures up to 1,100 psi are normally used.
- 6. Hoses: All material hoses should be nylon or polyethylene lined with plastic or stainless steel fittings.

7. Roll Coating: 3M™ Fastbond™ Contact Adhesive 30H may be coated with a machine type roll coater such as manufactured by Black Bros., Mendota, IL. Roll covering should be urethane with 24 grooves per inch for most applications.

Start Up, Maintenance and Shut Down for Automatic Spray Lines:

Water-based adhesives differ from solvent based adhesives in two major respects:

1. Dried water-based adhesive will not dissolve in the wet adhesive.
2. The presence of water in the system creates the potential for corrosion of or reaction with certain metals, such as copper, brass, steel, aluminum, etc. As a result, extra care is required to assure proper functioning of spray equipment. The attached schematic of a suggested spray system, start-up

procedure for this system, and suggested maintenance program, were developed with the properties of 3M water-based adhesives in mind.

Start-Up Procedure for Air Atomizing Spray System with Rupp Pump

1. Connect pump to piping system. Flush lines and pipes with hot, soapy water\* to remove possible contaminants before attaching pump or spray gun. Flush thoroughly with clean water. Blow out excess water. Do not connect fluid line to spray applicator.
2. If pump has not been supplied with air regulator, attach regulator and gauge to air inlet of pump.
3. Close air inlet valve on pump and attach regulator inlet to air supply.
4. Adjust regulator to "0" pressure reading on the gauge.
5. Open air inlet valve all the way and tighten lock nut.
6. Insert suction tube in adhesive so that inlet to tube is at bottom of container.
7. Direct end of fluid hose into a waste container.
8. Start pump by increasing regulated inlet air pressure (approximately 5 psi will be required).
9. Run pump until all traces of air are out of the system and adhesive is flowing in a steady, uninterrupted stream.
10. Shut off pump by reducing inlet air pressure to "0" psi or disconnecting inlet air line from regulator.
11. Immediately connect fluid hose to spray applicator.
12. Turn on pump and manually trigger applicator a few times to purge air from applicator.
13. Set flow rate of spray applicator by increasing or decreasing inlet air pressure to pump (normally 5-30 psi).
14. Adjust atomizing air pressure and fan air to obtain desired spray pattern (normally 10-20 psi).

\*Cleaning solution: One pint detergent to five gallons of water. Flush with clean water.

Maintenance Program

1. Filter: Follow the manufacturer's instructions for disassembling filter. Remove dirty filter bag and replace with clean bag. Do not allow adhesive to dry. Reassemble filter immediately.

2. Pump: To remove pump from system for cleaning, disconnect fluid line at outlet of pump and insert threaded plug into fluid line to prevent drying of adhesive. Remove suction line from adhesive and place in 5 gallons of soapy water.\*\* Flush through the pump. Disconnect siphon line at inlet to pump and invert pump to allow water to drain out. Follow disassembly instructions to remove manifold, diaphragms and valves. Soak these parts in 3M™ Adhesive Remover or equivalent until adhesive has been sufficiently loosened and can be rubbed off.\* Dry parts overnight at room temperature or 2 to 3 hours at 120°F (49°C) before reassembling pump. Do not install parts until all odor is gone. If pump must be returned to service quickly, a second set of diaphragms and valves should be purchased and installed while the first set is being cleaned. To put the pump back into operation, follow steps 6 through 12 in Start-Up Procedure.

3. Spray Applicator: Should the fluid tip become plugged, shut off pump by reducing inlet air pressure to "0" psi, or disconnect inlet air. Manually trigger applicator to relieve pressure in fluid lines. Remove tip, wipe any particles from fluid needle with damp cloth and immediately install a clean fluid tip. (**Note:** Fluid tips must be stainless steel.) Do not allow adhesive to dry in applicator or tip. Plugged tip may be rinsed in water and soaked in mineral spirits, followed by brushing with stiff bristle brush to remove adhesive. Air caps which become coated with adhesive should be replaced with clean caps. Soak adhesive coated caps in mineral spirits to clean.\*

\*When using solvents, extinguish all ignition sources, including pilot lights, and follow the manufacturer's precautions and directions for use.

\*\*Cleaning solution: One pint cleaner to five gallons of water. Flush with clean water.

#### Attention:

1. Do not use fluid lines that have previously been used with solvents whether flammable or non-flammable.
2. Do not use "rubber" lined hose. Hose should be either flexible polyethylene or nylon lined. All hose and pipe fittings should be plastic or stainless steel. DO NOT use copper, aluminum, brass or steel fittings.
3. A pressure pot may be used in place of the pump. In this case, a polyethylene bag liner should be used. Also the DIP TUBE AND FITTINGS SHOULD BE CHANGED TO PLASTIC OR STAINLESS STEEL.

## Industry Specifications

Tested to GMW 14892

- Tested and approved for use by the Woodwork Institute of California under the provisions of ANSI/HPMA HP 1983 for Type II adhesive and the heat resistance test set forth in its Manual of Millwork.
- Recognized under the Component Program Underwriter's Laboratories, Inc. Component Recognition Program Guide GSRJ2, File R14485, Door Construction Materials. For use with swinging type fire doors of the hollow metal and steel composite types rated up to and including 3 hours.
- PPAP (Production Part Approval Process) documentation has been issued for 3M™ Fastbond™ Contact Adhesive 30H.

(30 Low Mist)

- Certified to GREENGUARD® Product Emission Standard For Children and Schools(SM) for low emitting interior building materials:
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  - Addresses or Contributes to LEED® EQ Credit 4.6: Low Emitting Materials: Ceiling and Wall Systems

## **Storage and Shelf Life**

Store under normal conditions of 16° to 27°C (60° to 80°F) and 40 to 60% relative humidity in the original, unopened packaging, out of direct sunlight. Lower temperatures cause increased viscosity of a temporary nature. Product will become unusable with prolonged storage under 4°C (40°F). Protect from freezing. For best performance, use this product within 21 months from date of manufacture.

## **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

## **Automotive Disclaimer**

### **Select Automotive Applications:**

This product is an industrial product and has not been designed or tested for use in certain automotive applications, such as automotive electric powertrain battery or high voltage applications, which may require the product to be manufactured in a IATF certified facility, meet a Ppk of 1.33 for all properties, undergo an automotive production part approval process (PPAP), or fully adhere to automotive design or quality system requirements (e.g., IATF 16949 or VDA 6.3). Customer assumes all responsibility and risk if customer chooses to use this product in these applications.

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