



# Technical Data Sheet

## Preliminary 3M™ FastBond™ 1100NF

### Product Description

3M™ Fastbond™ Foam Adhesive 1100NF is a water-based, one part adhesive formulated for fast bonding and long term heat resistant bonds. It is designed to adhere to many types of flexible foam, fabric, wood, plastic and metal surfaces.

### Product Features

- Water-based
- Less than 1 % VOC by weight
- Designed to bond foams and fabrics to substrates such as, aluminum, galvanized steel, stainless steel, HDPE, Polycarbonate, ABS, wood and geotextile fabrics.
- High solid content
- One sided bonding for porous foams

### Technical Information Note

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

#### **Preliminary Technical Data Sheet Status:**

The data presented in this preliminary data sheet are 3M's best estimates for the current product construction being evaluated. While this product is developed for general commercialization, additional testing is underway to generate more data. Before the Technical Data Sheet is finalized, changes in the product construction, process conditions and performance may occur that can cause subsequent changes in product attributes. User should consult with 3M before making any business plans in reliance upon the future availability or the current properties of this product.

### Typical Uncured Physical Properties

Attribute Name	Value
Net Weight	1.0 g/mL
Base	Synthetic Elastomer

### Typical Physical Properties

Attribute Name	Temperature	Value
Color		Milky White (wet), Clear (dry)
Solids Content by Weight		47-52 %
Viscosity	23 °C	100-700 cP <sup>1</sup>
Coverage		11.6 m <sup>2</sup> <sup>2</sup>
pH		2-5
Dry Time		0-10 min <sup>3</sup>
Bonding Range		30 min

<sup>1</sup> Brookfield Viscometer RVF #3 Sp. @ 20 rpm

<sup>2</sup> 2.2 mg/cm<sup>2</sup> (2.0 g/ft<sup>2</sup>) dry wt

<sup>3</sup> Dry time will depend on ambient temperature, humidity and coverage applied.

## Typical Performance Characteristics

Attribute Name	Value
Shear Adhesion Failure Test - SAFT	>149 °C <sup>1</sup>

<sup>1</sup> SAFT Shear Adhesion Failure Test with birch plywood, 25 mm (1 in) overlap, 100 g used, temperature start at 32 °C (90 °F) and ramped 5.5 °C (10 °F) every 10 min. until complete failure.

## Handling/Application Information

### Directions for Use

Bonds can be made by applying 3M™ FastBond™ 1100NF to one or both of the surfaces to be bonded. For maximum strength, apply to both substrates. For lighter duty uses, application to only one surface may be acceptable. Single surface application may require heavier coverage, and pressure to activate the adhesive. User should evaluate the adhesive to determine which method(s) is suitable for their use. Bonds to porous substrates can generally be made without significant drying, typically <30 seconds depending on environmental factors and adhesive coverage. Pressure must be applied to activate the adhesive. Non-porous substrates need to dry until adhesive does not transfer when touched.

Apply a uniform, generous coat of adhesive to one of the surfaces to be bonded (porous surface preferred.) Very porous material may require more than one coat. (Allow adhesive to dry completely between coats). Temperature: Maintain temperature between 16-27 °C for adhesive and substrates to be bonded

**Coverage:** Coverage is dependent upon porosity of the substrate and the method by which the adhesive is applied. apply the adhesive in a uniform pattern at a coverage rate between 22 – 32 dry g/m<sup>2</sup> (Additional adhesive may be required for heavier materials and porous substrates).

**Cleanup:** Wet adhesive may be removed using water or soapy water. For dry adhesive removal, use 3M™ Citrus Base Adhesive Remover, or Ethyl Acetate.\*

**Disposal:** Empty cylinder completely. Puncture the friable disc on the cylinder using a non-spark producing tool. Dispose of the scrap metal in accordance with local regulations.

\*Note: When using solvents, extinguish all ignition sources and follow manufacturer's precautions and directions for use.

### Surface Preparation

Surfaces must be clean, dry and dust free. Remove all dirt, dust, oil, grease, wax, loose paint, etc. to ensure proper adhesion.

### Application Equipment

#### Setting Up 3M™ Performance Water-Based Cylinder Spray Applicator and Adhesive Pex Hose for 3M™ Fastbond™ 1100NF:

Inspect the equipment: Check the cylinder valve stem for residual dry adhesive. Clean with 3M™ CitrusBase Adhesive Remover and tools if there is residual dry adhesive. Check the connections on hoses and clean, if needed. Rinse components with soapy water after use of solvent based cleaning products.

Assemble the Spray Applicator: Slide the nozzle onto the spray applicator with the quick connect fitting for the hose oriented down. Firmly press the nozzle to the gun, and lock it into place by twisting the collar. Insert the desired spray tip into the tip collar fitting. Place the gasket into the tip collar fitting and gently push it into place. Lock the tip collar assembly onto the nozzle. Lock the applicator by twisting the nut clockwise to lock the trigger.

Connect Applicator to the Cylinder: Connect Pex the hose to the spray applicator using the quick connect fitting. Connect the hose to the cylinder valve, this is a threaded connection. slowly open the cylinder valve, check the connection for any leaks, and tighten or adjust if needed. Fully open the cylinder valve and unlock the trigger to begin spray.

#### Equipment Shut Down:

- Lunch or small break: Close/lock the spray needle to avoid accidental actuation of the applicator.
- Full day: Close the cylinder valve and spray needle on the applicator. Leave cylinder, hose, nozzle and applicator all assembled. On start-up the next day remove the collar and metal spray tip. Replace with clean components.
- More than a day: Close the cylinder valve, release remaining adhesive/pressure in the adhesive hose then disassemble all components. Dispose of used parts and clean remaining components before leaving.
- For a holiday close everything, remove all components and store the cylinder according to the appropriate storage conditions.

Cylinder Disposal: Once all adhesive has been dispensed the cylinder may qualify for scrap or recycling. Check local regulations. Rupture the burst disc and clean the outside before disposal.

## **Bulk Spray**

Many systems can be used with 3M™ FastBond 1100NF. Existing spray equipment can also be adapted. Fluid hoses used previously with solvent-based adhesive or cleaning compounds must be replaced with new hose. Be sure to follow the equipment manufacturer's precautions, directions for use, and recommendations for such equipment. For additional information on spray equipment, contact your local 3M representative or 3M Application Engineer.

Note: New fluid lines are recommended due to potential incompatibility with other adhesives. Use only plastic and stainless steel fittings in contact with adhesive. Adhesive is incompatible with steel, galvanized steel, and cast aluminum parts.

## **Industry Specifications**

### **Storage and Shelf Life**

Protect from freezing! Best storage temperature is 15 - 27 °C. Higher temperatures reduce normal storage life. Lower temperatures can cause increased viscosity of a temporary nature. This water-based adhesive will become unusable with prolonged storage below 4 °C. Rotate stock on a "first in, first out" basis.

When stored at recommended temperature in the original, unopened container, this product has a shelf life of 12 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.

### **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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## **ISO Statement**

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

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