



# Fastbond™

## 30 Water Based Adhesive

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### Product Data Sheet

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Updated : July 1997  
Supersedes : June 1996

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#### Product Description

A water dispersed, sprayable contact adhesive with high bond strength and long bonding range. Non-flammable. Good heat resistance. Post Formable. Ideally suited for high performance laminating applications.

FB30 stays very flexible when dry. Used to bond foamed plastics, plastic laminate, wood, plywood, wallboard, wood veneer, plaster and canvas to themselves and to each other.

A typical application is the bonding of high pressure laminate to particle board in the manufacture of kitchens worktops, countertops or doors.

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#### Physical Properties

Not for specification purposes

<b>Solvent</b>	Water (toluene and ethanol less than 5%)	
<b>Base</b>	Polychloroprene	
<b>Consistency</b>	Thin Liquid	
<b>% Solids</b>	Approx 50%	
<b>Specific Gravity</b>	1.09	
<b>pH</b>	10.5	
<b>Viscosity</b> <small>(Brookfield RVF spindle 1 at 20 rpm at 26°C.)</small>	Approx. 300 mPa.s	
<b>Colour</b>	Wet: Turquoise Dry: Green	
<b>Flash point</b>	None	
<b>Shelf Life</b>	6 months from date of despatch by 3M when stored in the original carton at 21°C (70°F) & 50 % Relative Humidity	

This product is non-flammable in the wet state.

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**Performance  
 Characteristics**

Not for specification purposes

<b>Shear Strength</b>	Alcohol wiped (IPA) + abraded P180 + alcohol wiped. Adhesive brushed on both substrates. Bonded when dry with assembly pressure of 3kg/cm <sup>2</sup> minimum.	25 x 25 mm overlap shear specimens were prepared and let to dry for 7 days at 23°C and 50% RH and tested at a separation rate of 10mm/min.
<b>Substrate</b>	<b>Value (MPa)</b>	
Polyethylene	0.83	
Polypropylene	1.37	
EPDM Rubber	0.14	
PMMA Plastic	1.90	
Polycarbonate	2.27	
PVC Plastic	1.63	
ABS Plastic	2.03	
Polystyrene	1.97	
Pine Wood	2.83	
Oak Wood	2.87	
Plywood	2.50	
Glass	0.73	
Aluminium	1.47	
Steel	2.70	

<b>Peel Strength</b> 180° peel (N/25mm)	Aluminium degreased with MEK, glass and plastics wiped with IPA.		180° peel specimen rigid substrate to cotton duck, 25mm width, dried for 7 days at 23°C, 50% RH before being tested or aged. Testing speed 150mm/min.	
<b>Substrate</b>	<b>Control (23°C, 7 days)</b>	<b>70°C, 30 days</b>	<b>40°C, 95% RH, 30 days</b>	<b>UV Exposure 30 days</b>
Glass	10.0	15.1	15.2	0.0
Polypropylene	7.2	10.8	10.2	
PVC	11.6	16.8	17.0	
Aluminium	14.0	43.3	21.5	
Plywood	16.9	23.6	20.0	

<b>T-Peel</b> (N/25mm)	Aluminium degreased with MEK, glass and plastics wiped with IPA.	180° peel specimen rigid substrate to cotton duck, 25mm width, dried for 7 days at 23°C, 50% RH before being tested or aged. Testing speed 150mm/min.
<b>Substrate</b>	<b>Control (23°C, 7 days)</b>	
Cotton / Cotton	134.9	

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<b>Heat Resistance</b> Deal Load Test (500g): 160°C maximum.	Service Temperature Range: the recommended service temperature is from -40°C to +110°C constant. Exposure to temperatures of up to 130°C are acceptable for short periods.	Surface Preparation: MEK + abraded P180 + MEK. Rate of testing 10mm/min.  Steel to cotton duck, 25 x 25 x 25 mm overlap, weight of 500g. 3 dead load specimens placed in an oven at 50°C. Temperature is then increased by 10°C every 15 minutes. Temperature when the last specimen fails is recorded as the maximum temperature.
<b>Test Temperature</b>	<b>Shear Alu/alu (MPa)          7 days at 23°C/50% RH</b>	
- 55 °C + 23 °C + 60 °C + 90 °C + 120 °C	6.43 1.73 0.90 0.30 0.07	

**Storage Conditions**

Store product at 15°C/25°C  
 for maximum storage life.  
 Higher temperatures reduce  
 normal storage life.

Water dispersed products  
 will become unusable with  
 prolonged storage below  
 +4°C.

PROTECT FROM  
 FREEZING.

**Equipment**

Spray Gun	Air Cap Bars	Fluid Tip	Air Pressure recommended ml/minute	Fluid Flow l/min
Kremlin SKM 18	N3 or G2	15	1.0	.3
Binks No. 18. 29. 62. 61	66SF	65	0.6 - 1.3	.3
DeVilbiss JGA JGS or AGB	30	FF	0.6 - 1.3	.3

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## Directions for Use

### Surface Preparation

Surfaces should be clean and dry - remove all dirt, dust, oil, grease, wax, loose paint etc. to assure satisfactory adhesion.

### Application

Apply a uniform coat of adhesive to the substrates (very porous materials may require more than one coat) by using a brush, roller or by spraying. When spraying the adhesive should cover approx 80% of the surface (the natural tendency based on experience with solvent based adhesives is to apply much more than needed). Both surfaces must be coated and dried out for about half an hour, then joined by clamping or applying a high pressure. For porous materials (fabrics, cloths, felt etc.) it may require a heavier coat. An alternative technique to traditional contact bonding may be applied when one or both surfaces are porous. Here wet bonding techniques allow initial repositioning.

### Drying Time

Drying time depends upon temperature, humidity and air movement. FB30 dries sufficiently in 30 minutes under normal conditions. After the adhesive is dry

(indicated by colour change) the bond must be completed within 4 hours. Drying time can be reduced by using forced air ovens or infra-red.

### Assembly

Spacers, such as dowels or strips of laminate may be used to prevent premature adhesive/adhesive contact and bonding prior to positioning. Slide out the spacers and apply uniform pressure (3kg/cm<sup>2</sup> minimum), working toward the edges. A manual roller (75mm width maximum), can be used with high body pressure, to ensure adequate contact and bonding, especially on edges. For maximum performance the use of a pinch roll is preferred. Bonded assemblies may be machined, trimmed etc. immediately after bonding.

### Clean Up

Adhesive in liquid state may be cleaned up using water or soapy water. When dry, aromatic, ketonic solvents (toluene or methylethylketone) or 3M Industrial Cleaner are recommended. When using solvents for clean-up, it is essential that proper precautionary measures for handling such materials are observed.

### Coverage

Approximately 20 m<sup>2</sup>/litre when using the spraying technique (0.020mm dry film). This coverage will depend upon substrate porosity.

Example of typical coverages :

HPL to chipboard: 25m<sup>2</sup>/litre one side, i.e. an average of 12.5 m<sup>2</sup>/litre of final assembly (2 surfaces to be coated).  
 Expanded polystyrene to ABS and to painted metal in the manufacture of sandwich panels for transportation: average of 24 m<sup>2</sup>/litre one side, i.e. an average of 6 m<sup>2</sup>/litre of final assembly (4 surfaces to be coated).  
 Carpet to wood : an average of 16-20 m<sup>2</sup>/litre for one side, i.e. an average of 8-10 m<sup>2</sup>/litre for final bonded assembly (2 surfaces to be coated).

### IMPORTANT

Because the adhesive contains water, pumping equipment should be stainless steel for maximum durability. All material hoses should be nylon or PE lined. Packagings and glands in contact with adhesives should be made of PTFE.

**DO NOT USE MATERIAL HOSES PREVIOUSLY USED WITH SOLVENT BASED ADHESIVE SINCE RESIDUAL SOLVENT WILL CAUSE THE WATER DISPERSION TO BREAK.**

## Specifications

Fastbond 30 has been tested on a range of substrates and meets requirements of BS476 part 7 spread of flame test with class 1 approval.

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## Health and Safety Information

### Precautions:

May cause eye irritation.  
 Avoid contact with eyes.  
 Use only in well ventilated  
 areas.

### First Aid:

**Eye Contact:**  
 rinse immediately with  
 plenty of water and seek  
 medical attention.

**Skin Contact:**  
 wash with soap and water.

**Ingestion:**  
 drink two glasses of water  
 immediately and call a  
 physician immediately. Do  
 not induce vomiting.

For further information,  
 please contact the  
 Toxicology Department at  
 the Bracknell Technical  
 Centre, (01344) 860678.

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Values presented have been determined by standard test methods and are average values not to be used for specification purposes. Our recommendations on the use of our products are based on tests believed to be reliable but we would ask that you conduct your own tests to determine their suitability for your applications. This is because 3M cannot accept any responsibility or liability direct or consequential for loss or damage caused as a result of our recommendations.



## Specialty Tapes & Adhesives

3M United Kingdom PLC  
 3M House,  
 28 Great Jackson Street,  
 Manchester,  
 M15 4PA

Customer Service :  
 Tel 0161 236 8500  
 Fax 0161 237 1105

3M Ireland  
 3M House, Adelphi Centre,  
 Upper Georges Street,  
 Dun Laoghaire, Co. Dublin,  
 Ireland

Customer Service :  
 Tel (01) 280 3555  
 Fax (01) 280 3509

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