



Scotch-Weld™ Foam Adhesive 100 Neutral and Lavender

Product Data Sheet

Updated : July 2006
Supersedes: February 2000

Product Description

3M™ Scotch-Weld™ Foam Adhesive 100 is a one-part, water dispersed, fast setting adhesive. This neoprene-based product bonds many porous substrates to porous or non-porous substrates with minimal dry time. Adheres to many types of flexible polyurethane foam, latex foam fabric, polyester fibrefill, wood, plywood, particleboard and many plastic and metal surfaces.

Physical Properties

Not for specification purposes

Base Polymer	Polychloroprene (neoprene)
Viscosity	15-40 cps (Brookfield RVF #1 sp @ 20 rpm)
Solids (by weight)	45-49 %
Colour	100 Neutral – White (semi-transparent when dry) 100 Lavender – Lavender (wet and dry)
Density	9.0-9.4 lbs. Per gallon 1.07 – 1.13 Ky / litre
Flashpoint	None (Setaflash closed cup tester)
Coverage (approx.)	25 sq. m per litre 1000 sq. ft. per gallon (@ 21.5g/sq. m 2 gms/sq ft dry wt)
PH	8.4 – 9.0
Set Time	15 seconds
Bonding Range	20 minutes

Typical Adhesive Performance Characteristics

Not for specification purposes

Heat Resistance : After air drying 24 hours, 10cm cube knife edge foam bonds made with Foam Adhesive 100 on 19 Ky/m³ density urethane foam specimens withstood operating temperatures at 110°C (230°F) for 24 hours without showing any signs of failure along the bonded seams. The adhesive exhibited no indication of attacking or deteriorating the foam and the bondlines remained strong and flexible.

Peel Adhesion : Peel bonds of cotton duck (canvas) to various substrates were tested at a peel angle of 180 degrees at 5 cm per minute separation rate at a temperature of 25°C (77°F). The value listed is the average force required to peel the canvas from the substrates in Neutons per centimetre of bond width (N/cm).

Foam Tear : Polyurethane foam of 19Ky/m³ density was bonded to various substrates at a dry coating weight of 0.2 – 0.3 gms./sqm. After bonds were made they were air-dried at ambient temperature for 24 hours. At the end of the drying period, an effort was made to pull the foam from the surface of the substrate. It was noted if the adhesive released from the substrate or if there was tearing of the foam.

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Typical Adhesive Performance Characteristics Cont'd Not for specification purposes	Substrate	Peel Adhesion (N/cm)	Foam Tear
	ABS	3.5	Yes
	Polyethylene	2.6	Yes
	Polypropylene	1.6	Yes
	PVC	3.3	Yes
	Aluminium	1.9	Yes
	Galvanised Steel	1.9	Yes
	Cold Rolled Steel	1.9	Yes

Fog Test Results Scotch-Weld™ Foam Adhesive 100 Neutral*

GM 9505P (110c/38c-6hrs/16hrs-RT)

Fog Number > 60 = pass

Sample	#1	#2	#3
Actual	134.2	147.4	147.3
	134.8	146.8	147.8
	135.3	147.2	147.5
	134.6	147.2	147.7
	134.4	147.3	147.5
Fog #	87	96	96

* Important : These Fog Test Results apply to Fastbond Foam Adhesive 100 Neutral only. Because of the lavender dye, Scotch-Weld Foam Adhesive 100 Lavender does not pass the GM 9505P Fog Test.

Application Equipment Suggestions

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.

Air Atomising Spray Equipment				
Low to Medium Volume Applications				
Equipment Type	Equipment Example *		Air Pressure **	
Low volume siphon gun	Critter Siphon Gun #118		0.7 BAR	
Siphon cup gun	Campbell Hausfield DH 5300		0.5 BAR	
Gravity feed gun	Binks Model 95G		0.5 BAR	
Medium to High Volume Applications				
Equipment Type	Equipment Example *	Air Cap	Fluid Tip ***	Air Pressure **
Pressure fed, hand held spray guns	Binks 2001 SS	66SK	63A SS	0.7 BAR
	Binks Model 95	66SK	63A SS	0.7 BAR
	Binks Model 62	66SK	63A SS	0.7 BAR

* Systems other than those listed can be used with Scotch-Weld Foam Adhesive 100. 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, contact your local 3M Bonding Solutions representative.

** Starting air pressure on regulator. Adjust up or down based on application requirements.

*** Also available are 2 piece fluid tips as replacement

Pressure Pots

Stainless Steel pressure pots recommended. Non-stainless may be used with plastic liners of dip tube and fittings are changed to plastic or stainless steel.

Pumping Equipment

1 inch plastic diaphragm pump with Teflon™ checks and diaphragms manufactured by Warren Rupp Co. part# TGN-3-PP.

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Application Equipment Suggestions Cont'd

Filter (pump output)
 Graco model 12 (stainless steel) with filter bag # 521-264 or equivalent.

Hoses

All fluid hoses should be nylon or polyester lined. Hose fittings should be stainless steel or plastic. Minimum fluid hose length @ 3mm i.d. is 7.5m. Use of larger fluid hose i.d. or lengths less than 7.5m will result in loss of fluid pressure control. 3mm i.d. hose may be used for fluid hose lengths up to 23m.

Note: Do not use fluid lines that have been previously used with solvent.
 Do not use air operated piston pumps with these products.

Handling/Application Instructions

Directions for Use:

Note : When using Scotch-Weld Foam Adhesive 100, it is required that at least one of each pair of substrates to be bonded be porous or water permeable.

1. **Surface Preparation:** Use only on clean, dry surfaces. Contamination of surfaces with oil, grease or release agents will prevent good, strong bonds.
2. **Application:** Adhesive does not require agitation before use. Adjust the spray equipment to give a fine, mist-like spray pattern. Spray a uniform, light coat of adhesive to both surfaces holding spray applicator 25-30 cm from surface.
3. **Coverage:** Coverage will depend on foal density, surface porosity of substrates and strength of adhesive bond required. Typically one gallon of adhesive will cover up to 25 sq. m of substrate surface at a coating weight of approximately 21.5g.sqm dry. In all cases, user evaluation will be required to determine the optimum coverage levels.

Note : Application of adhesive at coating weights above 21.5 g/sqm dry or using a coarse spray pattern may result in longer activation times.

4. **Activation Time:** The adhesive activates sufficiently to permit making foam/foam bonds within 15 seconds after application. Bonds of foam or fabric to smooth, non-porous surfaces such as plastic or metal will require longer activation times. Bonds may be made up to 20 minutes after application depending on ambient temperature and humidity conditions. See Note above.
5. **Assembly and Bonding:** For foam bonding and foam fabrication, pressure sufficient to compress the foam should be applied to the bond line by manual or mechanical methods. Bond the adhesive coated surfaces with sufficient pressure to ensure good contact across the entire adhesive bond line.
6. **Cleanup:** Wet adhesive may be removed with water containing a small amount of detergent*. Dry adhesive may be removed with a combination of 3M Citrus Base Cleaner or equivalent and mechanical systems such as wire brushing**. Dry adhesive cannot be removed from porous surfaces such as foams or fabrics. Flush the adhesive wetted surfaces of spray equipment with water containing a small amount of detergent*. Follow with a flush of clean water.

* Cleaning Solution : One ½ litre such as Teepol Cleaner to 20 litres of water. Flush with clean water.

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

Features/Advantages

- Water-dispersed
 - High solids
 - One component
 - Neoprene-based
 - Low pressure sprayable
 - Non-dimpling
 - Non-flammable in the wet state
 - High coverage
 - Simplified dispensing
 - High heat resistance
 - Reduces misting and overspray
 - Soft bondlines
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Features/Advantages
Cont'd

Note : This product is designed to be applied between two substrates. Application to substrates that results in direct exposure of the adhesive to light may result in eventual discolouration of the exposed adhesive. Direct exposure can be controlled by proper spray application. Adhesive may soak through very thin fabrics.

Not recommended for use on bare metal surfaces unless metal surfaces are completely dried by force drying and protected from moisture.

Storage and Shelf Life

Protect from Freezing

Storage: Best storage temperature is 15-27°C (60-80°F). Higher temperatures reduce normal storage life. Lower temperatures cause increased viscosity of a temporary nature. This water-dispersed adhesive will become unusable with prolonged storage below 4°C (40°F). Rotate stock on a "first-in, first-out" basis.

Shelf Life: When stored at the recommended temperature in the original, unopened container, this product has a shelf life of 12 months from date of despatch.

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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.



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