Hook and Loop Fasteners Trial Bags

TB3000	Back to back, self mating
TB3401/TB3402	No adhesive, sew-on
TB3506/TB3507	Thin with General Purpose Acrylic PSA
TB3526N/TB3527N	High Performance Rubber PSA
TB3530/TB3531	General Purpose Rubber PSA
TB3546/TB3547	General Purpose Acrylic PSA
TB3571/TB3572	High Performance Acrylic PSA
TB3576/TB3577	Polyester w/High Performance Acrylic PSA

Technical Data **August, 2011**

Product Description

3M™ Hook and Loop Fasteners consist of hooks and loops which engage to form a quick fastening attachment and offer advanced closure alternatives to zippers, screws, snaps, hooks, etc. They offer greater design flexibility, faster product assembly, smoother and cleaner exterior surfaces and improved product performance in many applications by simply pulling the strips apart by hand to disengage.

Thin Products

3M™ Hook and Loop Fastener TB3000 is a thin back to back hook and loop fastener which can wrap around and attach to itself to be used for bundling items. One side of the fastener is covered with tiny polypropylene translucent hooks, about 1400 per square inch. These hooks can engage with thousands of soft pliable thin polyester loops on the reverse side. Available in Red, Black, and White.

3M™ Hook and Loop Fasteners TB3506/TB3507

Thin hook and loop fasteners offer clean smooth lines for applications where aesthetics are critical. The hook side consists of tiny polypropylene hooks, about 1400 per square inch. The loop side contains thousands of soft pliable polyester loops. Both the hook and loop have a general purpose acrylic pressure sensitive adhesive on the backside which will adhere to a wide variety of substrates. Available in White only.

3M™ Hook and Loop Fasteners Trial Bags

Product Description ***(continued)***

Nylon Products

The woven nylon hook backing has flexible, self-supporting inverted J-hooks protruding up from the backing. There are approximately 300 hooks per square inch (46 hooks/square cm). The woven nylon loop backing has thousands of soft, pliable napped loops protruding above the backing, providing for thousands of openings and closings (cycles). The hook and loop are preshrunk to insure maximum dimensional stability and flatness. Available in black.

3M™ Hook and Loop Fasteners TB3401/TB3402 is a plain backed fastener for applications not requiring an adhesive, most commonly sewn.

3M™ Hook and Loop Fasteners TB3526N/TB3527N
These hook and loop fasteners are coated on the backside with a high performance rubber based pressure sensitive adhesive. This permits these fasteners to be easily and conveniently attached to a variety of substrates.

3M™ Hook and Loop Fasteners TB3530/TB3531
These products are coated with a general purpose rubber based pressure sensitive adhesive. They adhere well to low surface energy surfaces.

3M™ Hook and Loop Fasteners TB3546/TB3547
These hook and loop fasteners are coated on the backside with a general purpose acrylic pressure sensitive adhesive designed to adhere to variety of surfaces including low surface energy materials while still providing good temperature resistance.

3M™ Hook and Loop Fasteners TB3571/TB3572
Coated with high performance acrylic pressure sensitive adhesive which has high temperature resistance and is resistant to many environmental and chemical conditions.

Polyester Products

3M™ Hook and Loop Fasteners TB3576/TB3577
The woven polyester hook backing has flexible, self-supporting inverted J-hooks protruding up from the backing. There are approximately 300 hooks per square inch (46 hooks/square cm). The woven polyester loop backing has thousands of soft, pliable napped loops protruding above the backing, providing a thousand openings and closings (cycles). The polyester offers a durable moisture resistant fastener to resist the most humid/wet conditions. Coated with high performance acrylic pressure sensitive adhesive which has high temperature resistance and resistant to many environmental and chemical conditions. Available in Black.

3M™ Hook and Loop Fasteners Trial Bags

Product Construction

Note: The following technical information and data should be considered representative it is not product release requirements, nor product specifications. Rather this data represent typical performance using standard test methods. This is intended for use as a guide to assist in selection of 3M™ Hook and Loop Fasteners for further evaluation. Customer specifications should not be based solely on the data presented in this document.

Backing	3M™ Hook and Loop Fasteners	Material	Backing	Unmated	Mated without Liner	Liner	Full Roll Product Number 3M™ Fasteners
Back to Back	**TB3000**	Hook-polypropylene Loop-Nylon	No Adhesive Back to Back Hook and Loop	0.027"	0.053" (1.3 mm)	none	SJ3000
Plain Back	**TB3401** **TB3402**	Loop-Woven Nylon Hook-Woven Nylon	No Adhesive Sew on	0.080" (2.0mm) 0.080" (2.0mm)	0.125" (3.2mm)	none	SJ3401 SJ3402
Acrylic	**TB3506** **TB3507**	Hook-polypropylene Loop-Polyester	General Purpose Acrylic	.023" (.59mm) .012" (.30mm)	.32" (.80mm)	83 lb Brown Polykraft with green 3M	SJ3506 SJ3507
High Performance Rubber Adhesive	**TB3526N** **TB3527N**	Hook-Woven Nylon Loop-Woven Nylon	High Performance Rubber PSA	.091" (.59mm) .125" (.30mm)	.14" (3.6 mm)	3 mil White Polyethylene with red "3M"	SJ3526N SJ3527N
General Performance Rubber Adhesive	**TB3530** **TB3531**	Hook-Woven Nylon Loop-Woven Nylon	General Purpose Rubber PSA	.091" (.59mm) .125" (.30mm)	.14" (3.6 mm)	3 mil White Polypropylene	SJ3530 SJ3531
General Purpose Acrylic Adhesive	**TB3546** **TB3547**	Hook-Woven Nylon Loop-Woven Nylon	General Purpose Acrylic	.091" (.59mm) .125" (.30mm)	.14" (3.6 mm)	4.0 mil Clear Silicone treated Polyolefin with embossed 3M logo	SJ3546 SJ3547
High Performance Acrylic Adhesive	**TB3571** **TB3572**	Hook-Woven Nylon Loop-Woven Nylon	High Performance Acrylic PSA	.091" (.59mm) .125" (.30mm)	.14" (3.6 mm)	4.0 mil Clear Polyolefin with embossed 3M logo	SJ3571 SJ3572
High Performance Acrylic Adhesive	**TB3576** **TB3577**	Hook-Woven Polyester Loop-Woven Polyester	High Performance Acrylic PSA	.080" (2.0mm) .065" (1.7mm)	.14" (3.6 mm)	4.0 mil Clear Polyolefin with embossed 3M logo	SJ3576 SJ3577

3M™ Hook and Loop Fasteners Trial Bags

System Performance

Note: Unless stated, typical system performance characteristics were measured under controlled laboratory conditions of 72°F (22°C) and 50% relative humidity. The user should evaluate products in the actual application to ensure suitable performance for the intended use.

Typical System Test Values for 3M™ Hook and Loop	Nylon Hook to Nylon Loop	Polyester Hook 3M™ TB3576 to Polyester Loop 3M™ TB3577	Thin Hook 3M™ TB3506 to Thin Loop 3M™ TB3507	Back to Back 3M™ Hook and Loop TB3000
Dynamic Tensile Lbs/in^2	11	11	2.7	N/A
Dynamic Shear Lbs/in^2	22	18	42	31
"T" Peel Lbs/inch width 12 inches per minute	2.0	1.2	0.38	2.0
90° Peel Lbs/inch width 12 inches per minute	2.2	1.8	8.7	3.0
Cleavage Peel	7.5	4.6	4.2	N/A
Cycle Life # of Closures before losing 50% of the initial peel value	5000	1000	25	10

3M™ Hook and Loop Fasteners Trial Bags

Product Performance

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

This guide should assist you in determining which product will adhere best to your substrate for your application.

3M™ Hook and Loop Fasteners Trial Bags	Low Surface Energy			Medium Surface Energy			High Surface Energy		Temperature Resistance °F
	Poly-propylene (29)	Poly-ethylene (31)	EVA (33)	Acrylic (38)	PC (42)	ABS (42)	Aluminum (840)	Stainless Steel (700-1100)	
TB3000	Bundle	Bundle	Bundle	Bundle	Bundle	Bundle	Bundle	Bundle	200
TB3401 TB3402	Sewable	Sewable	Sewable	Sewable	Sewable	Sewable	Sewable	Sewable	200
TB3506 TB3507				X	X	X	X	X	158
TB3526N TB3527N	X	X	X	X	X	X	X	X	120
TB3530 TB3531	X	X	X	X	X	X	X	X	90
TB3546 TB3547				X	X	X	X	X	180
TB3571 TB3572				X	X	X	X	X	200
TB3576 TB3577				X	X	X	X	X	200
	X = Typically good adhesion without the use of surface primers								

3M™ Hook and Loop Fasteners Trial Bags

Attachment Techniques

The following information is intended to assist the designer considering the use of adhesive-coated 3M™ Hook and Loop Fasteners. System product performance depends upon a number of factors, including the fastener (material, adhesive and area), application method, surface characteristics (material, texture and cleanliness), environmental conditions (moisture, ultraviolet and temperature exposure) plus the time it is expected to support a given load. Because many of these factors are uniquely within the user's knowledge and control, it is required that the user evaluate 3M products to determine whether they are fit for a particular purpose and suitable for the user's substrates, method of application and desired end use.

Design Considerations

As a general rule, four square inches of fastener adhesive area per pound (57.3 square centimeters per kilogram) of static load to be supported is suggested as a starting point for evaluation. More or less area may be needed depending on specific conditions or end use applications.

Rounding the corners, slightly recessing the product into the substrate or providing raised edges around the reclosable fastener can reduce the possibility of edge lifting and improve the overall appearance of the fastener on the finished product. Mechanically securing the corners of the fastener with rivets, staples, screws, etc. may also reduce the possibility of edge lifting, but may reduce the closure performance.

The two most common techniques for attaching these 3M™ Hook and Loop™ Fasteners to various surfaces are summarized below.

1) Pressure Sensitive Adhesive attachment: The use of pressure sensitive adhesives eliminates or reduces the need for sewing, solvent activation, dielectric or ultrasonic bonding or bulk adhesive bonding. This can result in simplicity, improved safety and lower installation costs. Pressure sensitive adhesive products can be applied manually or automatically using a variety of equipment choices. Contact your 3M sales representative to discuss automated equipment options.

3M™ Hook and Loop Fasteners Trial Bags

Surface Preparation

Highly textured surfaces may reduce the ultimate adhesion levels and care should be given to minimize the surface texture or roughness. Adhesive backed 3M™ Hook and Loop Fasteners should be applied to surfaces that are clean, dry and free of oil, grease, dust, mold release agents or surface contaminants that could reduce the adhesion. It is recommended to remove any surface contaminants that may reduce adhesion by using a method suited for the type and quantity of surface contaminants present.

Note: It is important for the customer to follow all manufacturer's precautions and directions for use as well as any specific government regulations or customer and supplier requirements for the method(s) used to remove any contamination on the surface of the Substrate or preparing the surface for attaching the fastener(s).

In exceptional cases, especially when removing silicone mold release agents or on rough, porous surfaces, it may be necessary to lightly abrade the surface, use an adhesion promoter, or surface sealer to optimize the adhesive bond to the substrate. The selection of abrasion, priming or sealing methods will depend upon the substrates and the environmental conditions the product will be exposed to during use.

Attachment Techniques

To obtain an optimum bond to any surface, both the fasteners and the target surfaces should have equilibrated for a minimum of 1 hour at temperatures between 68°F (20°C) to 100°F (38°C) before application. The liner protecting the adhesive is removed and preferably without touching the adhesive, the fastener is applied to the substrate. Exposure of the adhesive to ambient conditions without the protective liner, before applying to the surface, should be minimized as initial adhesive tack may decrease. Flexible materials should be lying on a hard flat surface so as to permit uniform adhesive contact with the surface. Use of a rubber hand roller, press platen or similar device is recommended to ensure full adhesive contact or wet-out with the substrate surface. Approximately 4.5 pounds of force per square inch, (310 grams per square centimeter) is recommended to increase adhesive contact, improving bond strength. For all adhesive applications, it is important to ensure that the edges are rolled down to reduce the chance of edge lifting.

Storage

Store in original packaging between 60° to 80°F (16° to 27°C) and 40 to 60% relative humidity.

3M™ Hook and Loop Fasteners Trial Bags

Certification/ Recognition

MSDS: 3M has not prepared a MSDS for this product which is not subject to the MSDS requirements of the Occupational Safety and Health Administration's Hazard Communication Standard, 29 C.F.R. 1910.1200(b)(6)(v). When used under reasonable conditions or in accordance with the 3M directions for use, the product should not present a health or safety hazard. However, use or processing of the product in a manner not in accordance with the directions for use may affect its performance and present potential health or safety hazards.

TSCA: This product is defined as an article under the Toxic Substances Control Act and therefore, it is exempt from inventory listing requirements.

Technical Information

The technical information, recommendations and other statements contained in this document are based upon tests or experience that 3M believes are reliable, but the accuracy or completeness of such information is not guaranteed.

Product Use

Many factors beyond 3M's control and uniquely within user's knowledge and control can affect the use and performance of a 3M product in a particular application. Given the variety of factors that can affect the use and performance of a 3M product, user is solely responsible for evaluating the 3M product and determining whether it is fit for a particular purpose and suitable for user's method of application.

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This Industrial Adhesives and Tapes Division product was manufactured under a 3M quality system registered to ISO 9001:2000 and ISO/TS 16949:2002 standards.

3M

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