April, 2014

3M™ Hook Fastener SJ3530

Product Description

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

Product Features

The woven nylon hook has flexible, self-supporting inverted j-hooks protruding up from the backing with approximately 300 hooks per square inch (46 hooks/square cm). The woven nylon loop has thousands of soft, pliable napped loops protruding above the backing, providing for thousands of openings and closings (cycles). Both the hook and loop are preshrunk to insure maximum dimensional stability and flatness. Standard colors available are black, white and beige, with several custom colors available with extended delivery times and additional costs.
SJ3530 utilizes general purpose rubber based pressure sensitive adhesive. Adheres well to low surface energy surfaces. Low heat resistance. The adhesive on the back is the stickiest of all other adhesives.
Commonly paired with 3M™ Loop Fastener SJ3531, this hook fastener can also engage with other 3M™ Loop Fasteners.

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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 Physical Properties

Thickness		Test Condition
2.4 mm	91 mil	Unmated without liner
0.33 mm	140 mil	Mated without liner

Property: Thickness
notes: Using 1/2" pressure foot with 34 gram weight

Property	Values	
Material	Hook- Woven Nylon	
Backing	General Purpose rubber based PSA	
Liner	Polypropylene	
Liner Thickness	0.08 mm	3 mil
Liner Color	White	
Weight	0.062 g/cm²	0.014 oz/in²

Typical Performance Characteristics

Property	Values		Substrate	Notes
Dynamic Tensile	7.6 N/cm²	11 lb/in²	Nylon Hook to Nylon Loop	Run at 12 inches per minute
Dynamic Shear	15.2 N/cm²	22 lb/in²	Nylon Hook to Nylon Loop	Run at 12 inches per minute
Cleavage Strength	13.1 g/cm width	7.5 lb/in width	Nylon Hook to Nylon Loop	
T-Peel Adhesion	3.5 g/cm width	2 lb/in width	Nylon Hook to Nylon Loop	Run at 12 inches per minute
90° Peel Adhesion	3.9 g/cm width	2.2 lb/in width	Nylon Hook to Nylon Loop	Run at 12 inches per minute
Cycle Life	5000		Nylon Hook to Nylon Loop	Number of closures before losing 50% of original strength

Typical Performance Characteristics (continued)

Product Performance:

Material Dynes mJ/m²	Polypropylene 29 Low Surface Energy Plastics	Polyethylene 31	EVA 33	Acrylic 38 Medium Surface Energy Plastics	PC 42	ABS 42	Aluminum 840 High Surface Energy Materials	Stainless Steel 700-1100	Typical Temperature Resistance °F
SJ3401 SJ3402	Sew on			Sew on			Sew on		200
SJ3530 SJ3531	X	X	X	X	X	X	X	X	90
SJ3532N SJ3533N	X	X	X	X	X	X	X	X	110
SJ3526N SJ3527N	X	X	X	X	X	X	X	X	120
SJ3522 SJ3523				X	X	X	X	X	150
SJ3571 SJ3572				X	X	X	X	X	200
	X - Typically good adhesion without the use of surface primer								

Additional Information

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

Handling/Application Information

Directions for Use

Attachment Techniques
The following information is intended to assist the designer considering the use of 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) and 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 are suitable for the user's substrates, method of application and desired end use.
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.
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.
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 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. Isopropal alcohol is a good general use solvent for cleaning contaminants from surfaces for example.
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 Procedure: To obtain optimum bond to any surface, both the fasteners and the target surfaces should have equilibrated for a minimum of one 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.
Plain backed
The plain backed 3M hook and loop fasteners are most commonly sewn into their applications. Liquid or hot melt adhesives and staples are other forms of attachment that can be utilized.
Sewing: Although the selvedge edge was initially developed for stitching on, customers often find that they get better anchorage when stitching through the 3M hook and loop portions of the fastener – this may be application dependant. The type of thread and stitch type is also best determined based on individual application, however, the fastener should be stitched on all edges for the best seam strength. Typically, special machine adjustments
are not necessary when using our 3M hook and loop fasteners

Storage and Shelf Life

Shelf Life when stored in original packaging at 72°F (22°C) and 50% RH is 18 months.

3M™ Hook Fastener SJ3530

Family Group

	SJ3401	SJ3522	SJ3523	SJ3526N	SJ3527N	SJ3402	SJ3531	SJ3571	SJ3572	SJ3532N	SJ3533N	SJ3530
Thickness (mm) Test Condition: Unmated without liner	2	2.4	3.2	2.4	3.2	2	3.2	3.2	2.4	2.03	3.05	2.4
Thickness (mm) Test Condition: Mated without liner	3.1	0.33	0.33	0.33	0.33	3.1	0.33	0.33	0.33	3.3	3.3	0.33
Material	Loop-Woven Nylon	Hook-Woven Nylon	Loop-Woven Nylon	Hook-Woven Nylon	Loop-Woven Nylon	Hook-Woven Nylon	Loop-Woven Nylon	Loop-Woven Nylon	Hook-Woven Nylon	Hook-Woven Nylon	Loop-Woven Nylon	Hook-Woven Nylon
Backing	No Adhesive Sew on	Plasticizer resistant acrylic PSA	Plasticizer resistant acrylic PSA	High Performance rubber based PSA	High Performance rubber based PSA	No Adhesive Sew on	General Purpose rubber based PSA	High Performance Acrylic PSA	High Performance Acrylic PSA	Rubber based PSA	Rubber based PSA	General Purpose rubber based PSA
Liner	None	Non printed polyolefin film	Non printed polyolefin film	Polyethylene with red printing	Polyethylene with red printing	None	Polypropylene	Polyolefin with embossed 3M logo	Polyolefin with embossed 3M logo	White Polypropylene	White Polypropylene	Polypropylene
Liner Thickness (mm)		0.089	0.089	0.08	0.08		0.08	0.1	0.1	0.08	0.08	0.08
Liner Color		Clear	Clear	White	White		White	Clear	Clear			White

References

1. 3m.com Product Page
   Url: https://www.3m.com/3M/en_US/company-us/all-3m-products/~/3M-Hook-Fastener-SJ3530?N=5002385+3293241226&rt=rud
2. Safety Data Sheet
   Url: https://www.3m.com/3M/en_US/company-us/SDS-search/results/?gsaAction=msdsSRA&msdsLocale=en_US&co=ptn&q=SJ3530

ISO Statement

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.

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

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