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Technical Data Sheet

3M™ Plasticizer Resistant Loop Fastener SJ3523

Product Details

Regulatory Info/SDS

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

3M™ Plasticizer Resistant Loop Fastener SJ3523 is one part of a two-part fastener solution designed to provide great durability for thousands of closures. With its plasticizer resistant, acrylic-based pressure sensitive adhesive backing, this fastener allows for easy and convenient attachment to a variety of substrates, especially flexible vinyl's.

Commonly paired with 3M™ Hook Fastener SJ3522, this loop fastener can also engage with other 3M™ Hook Fasteners.

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

Attribute Name	Test Condition	Value
Color		Black
Adhesive Type		Acrylic
Weight		0.059 g/cm² (0.014 oz/in²)
Material		Loop- Woven Nylon
Backing		Plasticizer resistant acrylic PSA
Thickness	Maximum unmated without liner	3.2 mm (125 mil) [1]
Engaged Thickness		3.6 mm (140 mil) [1]
Liner		Non printed polyolefin film
Primary Liner Color		Clear
Liner Thickness		0.089 mm (3.5 mil)

[1] Thickness depends upon the amount of compression load on the pieces.

Typical Performance Characteristics

Substrate: Nylon Hook to Nylon Loop

Attribute Name	Temperature	Value
90° Peel Adhesion	23 °C (73 °F)	3.9 g/cm width (2.2 lb/in width) [1]
Overlap Shear Strength		15.2 N/cm² (22 lb/in²) [2]
T-Peel Adhesion		3.5 g/cm width (2 lb/in width) [3]
Dynamic Tensile		7.6 N/cm² (11 lb/in²) [2]
Cleavage Strength		13.1 g/cm width (7.5 lb/in width)

[1] 304 mm/min (12 in/min). The 90° peel has one of the mated fasteners attached to a non-anodized aluminum panel, while the other mated fastener is not attached to an adherend and is disengaged at 90° angle during the peel.

[2] 304 mm/min (12 in/min)

[3] 304 mm/min (12 in/min)
The "T" peel test only measures the closure performance per ASTM D5170 and was not adhered to aluminum panels.

Attribute Name	Substrate	Value
Long Term Temperature Resistance		70 °C (158 °F) [1]
Cycle Life	Nylon Hook to Nylon Loop	5,000 [2]

[1] Long Term (day, weeks)

[2] Number of closures before losing 50% of original peel strength

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. Isopropyl 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 dependent. 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

Store under normal conditions of 16° to 27°C (60° to 80°F) and 40 to 60% relative humidity in the original packaging, out of direct sunlight. For best performance, use this product within 24 months from date of manufacture.

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.

Information

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ISO Statement

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

3M™ Industrial Adhesives and Tapes Division
3M Center, St. Paul, MN 55144-1000
3M.com/iatd

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