Technical Data Sheet

3M™ Hook and Loop Fastener Trial Bag
TB3571 / TB3572

Product Details

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.

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/cm²). 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 TB3571/TB3572 are coated with high performance acrylic pressure sensitive adhesive which has high temperature resistance and is resistant to many environmental and chemical conditions.

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
Material		Hook - Woven Nylon Loop - Woven Nylon
Backing		High Performance Acrylic PSA
Full Roll Product Number 3M™ Fasteners		SJ3571 Hook & SJ3572 Loop
Thickness	Unmated	TB3571: 2.4 mm, TB3572: 3.2 mm (TB3571: 91 mil, TB3572: 125 mil) [1]
Engaged Thickness		3.6 mm (140 mil) [1]
Liner		Polyolefin with embossed 3M logo
Primary Liner Color		Clear
Liner Thickness		0.1 mm (4 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		22 lb/in²
T-Peel Adhesion		3.5 g/cm width (2 lb/in width) [2]
Dynamic Tensile		11 lb/in²
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)
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		93 °C (200 °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

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.

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.

Application 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.

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.

Recognition/Certification

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.

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

Technical Information: The technical information, guidance, and other statements contained in this document or otherwise provided by 3M are based upon records, tests, or experience that 3M believes to be reliable, but the accuracy, completeness, and representative nature of such information is not guaranteed. Such information is intended for people with knowledge and technical skills sufficient to assess and apply their own informed judgment to the information. No license under any 3M or third party intellectual property rights is granted or implied with this information.

Product Selection and 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. As a result, customer is solely responsible for evaluating the product and determining whether it is appropriate and suitable for customer's application, including conducting a workplace hazard assessment and reviewing all applicable regulations and standards (e.g., OSHA, ANSI, etc.). Failure to properly evaluate, select, and use a 3M product and appropriate safety products, or to meet all applicable safety regulations, may result in injury, sickness, death, and/or harm to property.

Warranty, Limited Remedy, and Disclaimer: Unless a different warranty is specifically stated on the applicable 3M product packaging or product literature (in which case such warranty governs), 3M warrants that each 3M product meets the applicable 3M product specification at the time 3M ships the product. 3M MAKES NO OTHER WARRANTIES OR CONDITIONS, EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, ANY IMPLIED WARRANTY OR CONDITION OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, OR ARISING OUT OF A COURSE OF DEALING, CUSTOM, OR USAGE OF TRADE. If a 3M product does not conform to this warranty, then the sole and exclusive remedy is, at 3M's option, replacement of the 3M product or refund of the purchase price.

Limitation of Liability: Except for the limited remedy stated above, and except to the extent prohibited by law, 3M will not be liable for any loss or damage arising from or related to the 3M product, whether direct, indirect, special, incidental, or consequential (including, but not limited to, lost profits or business opportunity), regardless of the legal or equitable theory asserted, including, but not limited to, warranty, contract, negligence, or strict liability.

Disclaimer: 3M industrial and occupational products are intended, labeled, and packaged for sale to trained industrial and occupational customers for workplace use. Unless specifically stated otherwise on the applicable product packaging or literature, these products are not intended, labeled, or packaged for sale to or use by consumers (e.g., for home, personal, primary or secondary school, recreational/sporting, or other uses not described in the applicable product packaging or literature), and must be selected and used in compliance with applicable health and safety regulations and standards (e.g., U.S. OSHA, ANSI), as well as all product literature, user instructions, warnings, and limitations, and the user must take any action required under any recall, field action or other product use notice. Misuse of 3M industrial and occupational products may result in injury, sickness, or death. For help with product selection and use, consult your on-site safety professional, industrial hygienist, or other subject matter expert. For additional product information, visit www.3M.com.

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