SNAPSHOOT
ENGINEERED FOR A SAFER TOMORROW

# 현장을 이해하고, 필요한 솔루션을 연결합니다.

산업안전 · 추락방지 시스템
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제품 제안부터 공급·시공·설치·교육까지




COMPANY INFORMATION

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TECHNICAL DOCUMENTS

## 인증서 · 데이터시트 · 기술자료

제품의 규격과 성능, 인증 및 적용 조건을 확인하기 위한 자료입니다.

ABOUT SNAPSHOOT

### 제품 공급을 넘어, 현장에 맞는 해결책으로

스냅슛은 산업현장의 작업 환경과 요구 조건을 바탕으로
적합한 제품과 시스템을 제안합니다. 현장 실사를 통해 설치 조건을 확인하고,
공급부터 시공·설치 및 사용 교육까지 필요한 과정을 함께합니다.

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시공사례 바로가기 →
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본 페이지는 스냅슛의 자료 제공 안내용 표지입니다. 첨부된 인증서 및 기술자료의 발행 주체, 인증 대상과 적용 범위는 해당 원문을 기준으로 확인해 주세요.



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# Technical Data Sheet

3M™ Hook Fastener SJ3402

English-US

**Last Revision Date:** September, 2024

**Supersedes:** June, 2024

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

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.

SJ3402 is plain backed hook for applications not requiring an adhesive. Most commonly sewn. Very durable.

Commonly paired with 3M™ Loop Fastener SJ3401, this hook fastener can also engage with other 3M™ Loop 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, White |
| Weight | | 0.035 g/cm² (0.008 oz/in²) |
| Material | | Hook- Woven Nylon |
| Backing | | No Adhesive Sew on |
| Thickness | Maximum unmated without liner | 2 mm (80 mil) [1] |
| Engaged Thickness | | 3.1 mm (120 mil) [1] |

[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 | | 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

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.

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