SNAPSHOOT
ENGINEERED FOR A SAFER TOMORROW

현장을 이해하고, 필요한 솔루션을 연결합니다.

산업안전 · 추락방지 시스템
산업용 소재 · 건축자재
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.

추락방지 시스템

안전대부착설비 · 수평·수직 라이프라인
레일 시스템 · 리지드 포스트

밀폐공간 진입·구조 솔루션

데빗암 · 삼각대 · 구조용 윈치
윈치 안전블록 · 구조장비

산업안전 보호구

전신형 안전대 · 랜야드 · 안전블록
작업 환경에 맞춘 개인보호구

산업용 소재·건축자재

산업용 테이프 · 접착제 · 기능성 소재
구조용 스크류 · 목조건축 자재

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홈페이지 바로가기 →
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시공사례 바로가기 →
문의하기 →

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

Technical Data Sheet

Preliminary 3M™ Fastener SJ3519FR Hook Flame Resistant

Additional Info

Regulatory Info/SDS

Product Description

3M™ Reclosable Fasteners offer advanced closure alternatives to zippers, screws, snaps, hooks, bolts and more. They offer greater design flexibility, faster product assembly, smoother and cleaner exterior surfaces and improved product performance in many applications. The hook and loop fasteners consist of two strips of nylon fabric which engage to form a quick fastening attachment.

Product Features

• Commonly paired with 3M™ Flame Resistant Loop Fastener SJ3518FR, this hook fastener can also engage with other 3M™ Loop Fasteners.

• Flame resistant; meets FAR.25.853 Para.(a)(1)(ii) 12 second burn

• Available in black, white, beige (Other colors are available as special orders. 3M recommends the user to evaluate the products to see if it meets their color requirements. See your 3M authorized distributor or 3M representative for color selection guide and minimum requirement.)

• The woven hook is covered with about 300 tiny, sti hooks, per square inch (46/cm²). The hook is preshrunk to insure maximum dimensional stability and flatness.

Technical Information Note

The following data is taken from tests conducted on a limited number of production runs. 3M will continue to test samples from additional manufacturing lots and issue a new Technical Data Sheet if the results change. The technical information and data should be considered representative or typical only and should not be used for specification purposes.

Typical Physical Properties

Attribute Name	Value
Color	Black, White, Beige (Other colors are available as special orders. The adhesive may produce a yellow tint to some light colored hook and loop products. Therefore, 3M recommends the user to evaluate the products to see if it meets their color requirements. See your 3M authorized distributor or 3M representative for color selection guide and minimum requirements.)
Cured Color	Translucent White

Attribute Name	Test Condition	Value
Backing		Nylon 6,6
Material		Hook - Nylon 6
Adhesive Type		Flame Resistant Synthetic Rubber
Selvedge Edge		2.4 ± 0.8 mm (3/32 ± 1/32 in)
Weight (Without liner)		0.065 g/cm² (0.015 oz/in²)
Thickness	Maximum unmated without liner	2.4 mm (3 — 32 mil) [1]
Engaged Thickness		3.9 mm (150 mil) [1]

Attribute Name	Test Condition	Value
Liner		Polypropylene film with red “3M™” printing
Primary Liner Color		White
Liner Thickness		0.08 mm (3 mil)
Thickness Tolerance		± 20 %

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

Typical Performance Characteristics

Attribute Name	Temperature	Substrate	Value
90° Peel Adhesion	23 °C (73 °F)	Flexible to Rigid	360 g/cm width (2 lb/in width) [1]
Overlap Shear Strength		Rigid to Rigid	16 N/cm² (23 lb/in²) [2]
T-Peel Adhesion		Flexible to Flexible	380 g/cm width (2.1 lb/in width) [3]
Dynamic Tensile (Engage)		Rigid to Rigid	< 0.69 N/cm² (< 1.0 lb/in²) [1]
Dynamic Tensile (Disengage)		Rigid to Rigid	8.1 N/cm² (12 lb/in²) [1]
Cleavage Strength		Rigid to Rigid	950 g/cm width (5.3 lb/in width) [4]

[1] 300 mm/min (12 in/min)

[2] 25 x 25 mm (1 in x 1 in) overlap; engaged with firm pressure and disengaged, peeled or cleaved at the rate of 300 mm/min (12 in/min)

[3] System performance tests are determined by measuring 2 aluminum plates joined together with the indicated fasteners. Engaged with firm pressure and cleaved at the rate of 300 mm/min (12 in/min).

[4] System performance tests are determined by measuring the performance of the entire mated reclosable fastener system consisting of two non-anodized aluminum plates joined together with the indicated fasteners.

Static Shear

Temperature	Value
23 °C (73 °F)	10,000 min [1]
70 °C (158 °F)	9,000 min [1]

[1] Holds 77.5 g/cm² (1.1 lb/in²) for given time and temp. 57 cm²/kg (4 in²/lb) static load is suggested. External conditions can affect long term performance. Fasteners may slip or creep when subjected to static loads at temps or weights greater than indicated.

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

[1] Long Term (day, weeks)

[2] Cycle life is the number of cycles (openings and closings) that the fastener is subjected to while maintaining 50% or greater of the 2nd closure peel values. Initial peels are slightly higher

Typical Environmental Characteristics

Chemical and Environmental Exposure

Plasticizer Resistance: The adhesive on 3M™ reclosable fasteners SJ3518FR and SJ3519FR may be affected by plasticizers found in many common flexible vinyl or other material that may result in softening or adhesion loss over time. These products are not recommended for adhering to plasticized materials. If plasticizer resistance is desired and flammability resistance is not required, 3M™ Reclosable Fasteners SJ3522 and SJ3523 could be evaluated.

Environmental Effects: Water (Humidity) Resistance: Closure strength of nylon hook and loop fasteners may decrease after prolonged exposure to moisture due to water absorption by the cut nylon ends for hook products. Closure strength is regained when dried.

Volatile Outgassing: 3M™ reclosable fasteners SJ3518FR and SJ3519FR have not been tested for outgassing and would not be expected to pass ASTM E595.

Washing and Dry Cleaning: Washing or dry cleaning of these products is not recommended due to adhesive softening that could transfer trace adhesive residues to other materials.

Static Discharge: 3M™ reclosable fasteners SJ3518FR and SJ3519FR have not been tested for static charge released during liner removal, closure opening, or adhesive removal from the substrate once a fastener has been applied. If your application requires use of these fasteners in areas where static discharge is of a concern, the fasteners should be tested under expected use conditions.

Handling/Application Information

Directions for Use

The following information is intended to assist the designer considering the use of adhesively coated 3M™ Reclosable Fasteners. Product performance depends upon a number of factors, including the fastener selected, the conditions in which the fastener is applied and the time and environmental conditions in which it is expected to perform. 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 it is fit for a particular purpose and suitable for the user's substrates, method of application and desired end use.

The three most important techniques for attaching 3M™ reclosable fasteners SJ3518FR and SJ3519FR to various substrates are summarized below. For complete details on techniques and options for attaching 3M™ reclosable fasteners please see the technical bulletin "Attachment of 3M™ and Dual Lock™ Reclosable Fasteners" (70-0709-3929-6).

Design Considerations: As a general rule, four square inches of fastener area per pound 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, recessing the product into the substrate and 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 reclosable fastener can also reduce the possibility of edge lifting, but may reduce the closure performance.

1) Pressure Sensitive Adhesive attachment: The use of pressure sensitive adhesives eliminates or reduces the need for sewing, solvent activation, dielectric or ultrasonic bonding and bulk adhesive bonding. Pressure sensitive products can be applied manually or automatically using a variety of equipment choices. Contact your 3M Sales Representative to discuss automated equipment options.

Substrate Surface Preparation: Highly textured substrate surfaces may reduce the ultimate adhesion levels and care should be given to minimize the surface texture or roughness. Adhesive backed 3M™ Reclosable Fasteners products should be applied to surfaces that are clean, dry, and free of oil, grease, dust, mold release agents or other 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: When using cleaning agents such as solvents or abrasives, it is important to follow all manufacturer's precautions and directions for use as well as government regulations or customer requirements.

In exceptional cases, especially when removing silicone mold release agents or on rough or porous surfaces, it may be necessary to sand or abrade the surface, use an adhesive primer, or surface sealer to optimize bond performance. The selection of priming or sealing materials will depend on both the substrates and the environmental conditions the product will be exposed to during use.

Attachment Procedure: To obtain an optimum bond to any surface, both the fasteners and the target surface should have equilibrated at temperatures between 70°F (21°C) and 100°F (38°C) for a minimum of 1 hour before application. Remove the adhesive liner and without touching the adhesive apply the adhesive side of the fastener to the pre-cleaned

and prepared surface. Using finger pressure, press the fastener onto the substrate to obtain initial surface contact between the adhesive and substrate. If the substrate is flexible, make sure it is laying on a hard flat surface so as to permit uniform application of the adhesive. Use of a rubber hand roller, press platen or similar device is recommended to ensure full contact of adhesive with the substrate. Three passes in each direction, with special attention paid to rolling down the edges, should be adequate.

Dwell Time before Handling or Applying a Load: Parts with properly chosen and applied reclosable fasteners with pressure sensitive adhesives can be handled immediately. Adhesive bond strength increases after application with time, pressure and/or temperature, as the adhesive further wets out the substrate surface. Once attached to the substrate, a 1-hour minimum dwell time is recommended before applying a load or disengaging. This dwell time is important for achieving a firm adhesive bond before applying a load or using. This adhesive achieves approximately 50% of the ultimate bond strength within 20 minutes, 90% after 1 hour and the ultimate bond strength is obtained within 24 hours at 72°F (22°C) and 50% relative humidity. The use of primers or adhesion promoters may reduce the time required to achieve the ultimate bond strength.

2) Heat (Press) Bonding: 3M™ Reclosable Fasteners SJ3518FR and SJ3519FR can be attached to many fabric and foam articles by press bonding. The fastener is initially adhered to the article using finger pressure. Bond strength is increased by applying heat and pressure through the substrate to the adhesive side of the fastener for given pressure, times and heating period. For properly chosen press bonding conditions the product can be used immediately after cooling, usually a matter of minutes. Once applied these fasteners should not be washed or dry cleaned. Product performance will depend upon the nature of the fabric or foam and other conditions within any specific application. For this reason it is essential that the user evaluate the product to determine if it is fit for a particular purpose and suitable for the user's method of application.

3) Mechanical Attachment: 3M™ reclosable fasteners SJ3518FR and SJ3519FR may also be mechanically attached to difficult to adhere to surfaces such as textured plastics and wood by using staples, screws or rivets. The head of the mechanical fastener should be flat and large enough to resist pull through when the fastener is disengaged. The head of the fastener should also be recessed as much as possible below the surface of the hook or loop to prevent interference with (dis)engagement properties.

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 18 months from date of manufacture.

Product Family

This product is a part of the the Flame Resistant Fastener Family which includes: 3M™ Flame Resistant Hook Fastener SJ3419FR, 3M™ Flame Resistant Hook Fastener SJ3519FR, 3M™ Flame Resistant Loop Fastener SJ3418FR, 3M™ Flame Resistant Loop Fastener SJ3518FR

Recognition/Certification

SDS: 3M has not prepared a SDS for these products which are not subject to the SDS 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, these products should not present a health and safety hazard. However, use or processing of the products in a manner not in accordance with the directions for use may affect their performance and present potential health and safety hazards.

TSCA: These products are defined as an article under the Toxic Substances Control Act and therefore, are 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

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ISO Statement

This product was manufactured under a 3M quality system registered to ISO 9001: 2015standard.

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