



Technical Data Sheet

3M™ Flame Resistant Hook Fastener SJ3419FR

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 SJ3418FR, 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 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 | | 0.04 g/cm ² |
| Material | | Nylon 6,6 |
| Selvage Edge | | 2.4 ± 0.8 mm |
| Thickness | Maximum unmated without liner | 2 mm ¹ |
| Engaged Thickness | | 3.1 mm ¹ |
| Liner | | none |
| Thickness Tolerance | | ± 15 % |

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 | Nylon Hook to Nylon Loop | 3.9 g/cm width ¹ |
| Overlap Shear Strength | | Rigid to Rigid | 16 N/cm ² ² |
| T-Peel Adhesion | | Nylon Hook to Nylon Loop | 3.5 g/cm width ³ |
| Dynamic Tensile (Engage) | | Rigid to Rigid | < 0.69 N/cm ² ⁴ |
| Dynamic Tensile (Disengage) | | Rigid to Rigid | 8.1 N/cm ² ⁴ |
| Cleavage Strength | | Rigid to Rigid | 950 g/cm width ⁵ |

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 25 x 25 mm (1 in x 1 in) overlap; engaged with firm pressure and disengaged, peeled or cleaved at the rate of 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.

⁴ 304 mm/min (12 in/min)

⁵ 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.

| Attribute Name | Temperature | Substrate | Value |
|----------------|-------------|----------------|-------------------------|
| Static Shear | 23 °C | Rigid to Rigid | 10,000 min ¹ |
| Static Shear | 38 °C | Rigid to Rigid | 120 min ¹ |
| Static Tensile | 23 °C | | 10,000 min ² |

¹ Holds 0.16 kg/cm² (2.2 lb/in²) for indicated Time and Temperature

² All combinations hold minimum 155 g/cm² (1000 g/in²) for indicated time and temperature

| Attribute Name | Substrate | Value |
|----------------------------------|--------------------------|--------------------|
| Long Term Temperature Resistance | | 93 °C 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

Typical Environmental Performance

Temperature: 38 °C

Environmental Condition: 100%RH

| Attribute Name | Value |
|----------------|----------------------|
| Static Tensile | 180 min ¹ |

¹ All combinations hold minimum 155 g/cm² (1000 g/in²) for indicated time and temperature

Handling/Application Information

Directions for Use

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 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 hook and loop fasteners.

Application Examples

3M™ Flame Resistant Hook and Loop Fasteners SJ3419FR and SJ3418FR can provide a strong fastening system with flame resistance for materials which can be sewn, stapled or adhered using hot melt or liquid adhesives. Because product performance will depend on actual conditions within any specific application, it is essential that the user evaluate the 3M product to determine whether it is fit for a particular material purpose and suitable for the user's method of application.

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.

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

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

Precautionary Information: Refer to product label and Material Safety Data Sheet for health and safety information before using the product. For information, please contact your local 3M Office. You can click or scan QR code to see contact detail or visit www.3M.com Important Information: All statements, technical information and recommendations contained in this document are based upon tests or experience that 3M believes are reliable. However, many factors beyond 3M's control can affect the use and performance of a 3M product in a particular application, including the conditions under which the product is used and the time and environmental conditions in which the product is expected to perform. Since these factors are uniquely within the user's knowledge and control, it is essential that the user evaluate the 3M product to determine whether it is fit for a particular purpose and suitable for the user's method or application. All questions of liability relating to this product are governed by the terms of the sale subject, where applicable, to the prevailing law. Values presented have been determined by standard test methods and are average values not to be used for specification purposes. Our recommendations on the use of our products are based on tests believed to be reliable but we would ask that you conduct your own tests to determine their suitability for your applications. This is because 3M cannot accept any responsibility or liability direct or consequential for loss or damage caused as a result of our recommendations.

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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