



# Technical Data Sheet

## 3M™ Flame Resistant Hook Fastener SJ3419FR



[Product Details](#)



[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 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/cm<sup>2</sup>). 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 <sup>2</sup> (0.008 oz/in <sup>2</sup> )
Material		Nylon 6,6
Selvage Edge		2.4 ± 0.8 mm (3/32 ± 1/32 in)
Thickness	Maximum unmated without liner	2 mm (78 mil) <sup>1</sup>
Engaged Thickness		3.1 mm (120 mil) <sup>1</sup>
Liner		none
Thickness Tolerance		± 15 %

<sup>1</sup> 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)	Nylon Hook to Nylon Loop	3.9 g/cm width (2.2 lb/in width) <sup>1</sup>
Overlap Shear Strength		Rigid to Rigid	16 N/cm <sup>2</sup> (23 lb/in <sup>2</sup> ) <sup>2</sup>
T-Peel Adhesion		Nylon Hook to Nylon Loop	3.5 g/cm width (2 lb/in width) <sup>3</sup>
Dynamic Tensile (Engage)		Rigid to Rigid	< 0.69 N/cm <sup>2</sup> (< 1.0 lb/in <sup>2</sup> ) <sup>4</sup>
Dynamic Tensile (Disengage)		Rigid to Rigid	8.1 N/cm <sup>2</sup> (12 lb/in <sup>2</sup> ) <sup>4</sup>
Cleavage Strength		Rigid to Rigid	950 g/cm width (5.3 lb/in width) <sup>5</sup>

- <sup>1</sup> 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.
- <sup>2</sup> 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)
- <sup>3</sup> 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.
- <sup>4</sup> 304 mm/min (12 in/min)
- <sup>5</sup> 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 (73 °F)	Rigid to Rigid	10,000 min <sup>1</sup>
Static Shear	38 °C (100 °F)	Rigid to Rigid	120 min <sup>1</sup>
Static Tensile	23 °C (73 °F)		10,000 min <sup>2</sup>

<sup>1</sup> Holds 0.16 kg/cm<sup>2</sup> (2.2 lb/in<sup>2</sup>) for indicated Time and Temperature

<sup>2</sup> All combinations hold minimum 155 g/cm<sup>2</sup> (1000 g/in<sup>2</sup>) for indicated time and temperature

Attribute Name	Substrate	Value
Long Term Temperature Resistance		93 °C (200 °F) <sup>1</sup>
Cycle Life	Nylon Hook to Nylon Loop	5,000 <sup>2</sup>

<sup>1</sup> Long Term (day, weeks)

<sup>2</sup> Number of closures before losing 50% of original peel strength

## **Typical Environmental Performance**

Temperature: 38 °C (100 °F)

Environmental Condition: 100%RH

Attribute Name	Value
Static Tensile	180 min <sup>1</sup>

<sup>1</sup> All combinations hold minimum 155 g/cm<sup>2</sup> (1000 g/in<sup>2</sup>) 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.

## **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.

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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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