



Scotchmate™ Reclosable Fasteners

SJ3546 and SJ3547

Nylon Hook and Loop

with General Purpose Acrylic Adhesive

Technical Data **January, 2009**

Product Description

3M™ Scotchmate™ Reclosable 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.

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/square cm). 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.

These hook and loop fasteners are coated on the backside with a general purpose acrylic pressure sensitive adhesive designed to adhere to variety of surfaces including low surface energy materials while still providing good temperature resistance.

Product Construction

Note: The following technical information and data should be considered representative or typical only and should not be used for specification purposes.

Material of Construction

Hook	nylon 6.6 hook, nylon 6.6 ground
Loop	all nylon 6.0
Adhesive	Acrylic

Standard Colors

Custom colors are available with a special order.
(1800 lineal yards per order per color, 35 day shipping, 10% up charge from price pages)

Black, White, Beige

Thickness max. unmatd

Measured using 1/2" diameter pressure foot supporting a 34 gram weight

Hook	0.09" (2.3 mm)
Loop	0.09" (2.3 mm)

Engaged Thickness

Nominal without liner

0.13" (3.3 mm)

Selvedge Edge

Tolerance ±

0.09" (2.3 mm)
0.3" (0.8 mm) [0.125" (3 mm) for 4" wide material]

Weight

Hook	0.013 oz/in ² (0.06 g/cm ²)
Loop	0.014 oz/in ² (0.06 g/cm ²)

Liner

Clear silicone treated polyolefin film liner with an embossed 3M logo in white / 4.0 mil
PET-also available in special order with a clear polyester liner / 2.0 mil

Liner Release

180° liner release at 90 inches per minute
0.20 pounds per inch width (90 grams per inch width)

Closure Cycle Life

(Before losing 50% of the initial peel strength)

5,000

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Typical System Performance

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3M™ Scotchmate™ Reclosable Fastener SJ3547 Loop engaged to SJ3546 Hook
Laminated to 1/8" aluminum plates to provide a rigid backing.

TENSILE (Rigid to Rigid Substrates)		lbs _F /sq inch	
Dynamic Tensile Engagement Strength		< 1.0	
Dynamic Tensile Disengagement (Test run at 12 inches per minute)		11.0	
Static Tensile Holding Power for indicated time and temperature		2.2 #/in²	1.1 #/in²
	72°F	10,000 minutes	10,000 minutes
	180°F	5,000 minutes	10,000 minutes
	100°F/100% RH	5,000 minutes	10,000 minutes
SHEAR (Rigid to Rigid Substrates) (1" x 1" overlap)		lbs _F /sq inch	
Dynamic Shear (12 ipm)		22.0	
Static Shear Holding Power for indicated time and temperature		2.2 #/in²	
	72°F	10,000 minutes	
	180°F	10,000 minutes	
	100°F/100% RH	10,000 minutes	
PEEL AND CLEAVAGE @ 12 inches per minute		Pounds/inch	
Peel Strength "T" Peel, Flexible to Flexible (not backed with aluminum)		2.0	
Peel Strength 90° Peel, Flexible to Rigid (one side backed with aluminum)		2.0	
Cleavage Rigid to Rigid		7.5	

Typical Adhesive Performance

Note: The following technical information and data should be considered representative or typical only and should not be used for specification purposes.

90° Peel Adhesion at 12 inches per minute

Pounds per inch	Stainless Steel	ABS	Polypropylene
Dwell / Initial (15 minute)	4.5	4.5	2.5
72 hour @ 72°F	7.0	4.7	2.5
72 hour @ 158°F (Cooled before peel test)	12.0	4.8	2.6

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Design Considerations

- As a general rule, four square inches of adhesive backed fastener per pound of static load to be supported is suggested as a starting point for evaluation. More or less may be needed depending on specific conditions or applications.
- Rounding the corners of the fastener, slightly recessing the product into the surface 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.
- This 3M™ Scotchmate™ Reclosable Fastener 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.
- 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 surface to obtain initial contact between the adhesive and 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 with the adherend 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.
- 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 of application.

Storage

Store in original packaging between 60° to 80°F (16° to 27°C) and 40 to 60% relative humidity.

Shelf Life

To obtain best performance, use this product within two years from date of manufacture.

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Product 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. Given the variety of factors that can affect the use and performance of a 3M product, user is solely responsible for evaluating the 3M product and determining whether it is fit for a particular purpose and suitable for user's method of application.

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ISO 9001:2000 - ISO/TS 16949:2002

This Industrial Adhesives and Tapes Division product was manufactured under a 3M quality system registered to ISO 9001:2000 and ISO/TS 16949:2002 standards.



Industrial Adhesives and Tapes Division

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