



Scotchmate™ Reclosable Fastener SJ3000

Thin back to back hook and loop

Product Information

February, 2007

Product Description

3M™ Scotchmate™ Reclosable Fastener SJ3000 is a thin back-to-back fastener offering closure alternatives to plastic wire, tape, string, rubber bands and other types of closure systems used to secure individual or bundles of items.

One side of the thin fastener strip is covered with tiny translucent polypropylene hooks, approximately 1400 per square inch (220/sq. cm.). These hooks can engage with thousands of soft, pliable, thin polyester loops on the reverse side providing for a limited number of openings and closings (cycles). The thin loop can easily engage with 3M™ Scotchmate™ Reclosable Fastener SJ3506 hook and possibly other small hooks. The thin hook can easily engage with 3M™ Scotchmate™ Reclosable Fastener SJ3507 loop and possibly other loops. This forms a quick grab, fastening attachment system. Simply pull the strips apart to disengage.

Additionally, this product, in combination with Scotchmate reclosable fastener SJ3506 or SJ3507 could be used as a removable roll wrap for starting pull through of textile and similar materials. Scotchmate reclosable fastener SJ3000 offers design flexibility, fast product assembly and improved product performance in many applications.

Product Construction

Note: The following information is not product release requirements, nor product specification limits. Rather, this data represent typical performance using standard test methods. This is intended for use as a guide to assist in selection of 3M™ Scotchmate™ Reclosable Fasteners for further evaluation. Customer specifications should not be based solely on the data presented in this document. It is recommended that the customer test the product under expected use conditions in the desired application to determine actual suitability and performance.

Fastener Product	Scotchmate Reclosable Fastener SJ3000	
Material of Construction	Hook	Translucent Polypropylene
	Loop	Polyester
	Adhesive	None
Standard Colors	Red or Black	
Thickness^(a) - unmated	0.027", 0.69 mm	
Liner	None	
Selvedge Edge	None	
Weight oz/in² (g/cm²)	0.005 oz/in ² (0.021 g/cm ²)	

(a) Unmated thickness was measured using a 0.5" diameter pressure foot supporting a 34 gram weight. Actual thickness will decrease when a load is applied and will increase if a load is removed.

3M™ Scotchmate™ Reclosable Fastener SJ3000

Thin back to back hook and loop

Typical Performance Properties and Characteristics^(a)

Note: The following information is not product release requirements, nor product specification limits. Rather, this data represent typical performance using standard test methods. This is intended for use as a guide to assist in selection of 3M™ Scotchmate™ Reclosable Fasteners for further evaluation. Customer specifications should not be based solely on the data presented in this document. It is recommended that the customer test the product under expected use conditions in the desired application to determine actual suitability and performance.

Unless stated, typical system performance characteristics were measured under controlled laboratory conditions of 72°F ± 5°F (22°C ± 2.7°C) and 50% ± 10% relative humidity. The user should evaluate products in the actual application to ensure suitable performance for the intended use.

Fastener Product	3M™ Scotchmate™ Reclosable Fastener SJ3000
CLOSURE SHEAR (Rigid to Rigid Substrates)	Pounds _F /inch ² (Newtons/cm ²)
Dynamic Shear (1/2" x 1" overlap) ^(b)	31 (21.6)
Static Shear Holding Strength	Holds 1.1#/in ² (77.5 grams/cm ²) for indicated time and temperature
100°F (38°C)/100% R.H.	10,000 minutes
120°F (49°C)	10,000 minutes
158°F (70°C)	10,000 minutes
200°F (93°C)	10,000 minutes
PEEL^(b)	Pounds _F /inch width (kilograms _F /cm width)
“T” Peel Force (Flexible to Flexible) - Maximum	1.2 (1.0)
“T” Peel Force (Flexible to Flexible) - Average	0.44 (0.36)
90° Peel Force (Flexible to Rigid) - Maximum	2.2 (1.9)
90° Peel Force (Flexible to Rigid) - Average	0.42 (0.36)
ENGAGED THICKNESS^(c)	Inches, mm
	0.053, 1.3
CLOSURE CYCLE LIFE^(d)	10
SHELF LIFE	Twenty four months from date of manufacturing when stored in original packaging at 70°F ± 10°F (21°C ± 5.5°C) and 50% ± 10% relative humidity.

Note: Long Term Static Load: Conditions such as temperature variations, engagement area, closure pressure and vibrations or side to side movement after engagement or exposure to prolonged periods of moisture, ultraviolet or other environmental factors can affect the closure strength and long term static load performance. Scotchmate reclosable fasteners may slip or creep in the direction of the static load forces when subjected to static loads at temperatures or weights greater than indicated. The user is responsible for designing the amount of fastening area based upon the specific conditions for the application. Four square inches of fastening area per pound (57.3 sq. cm/kilogram) of static load is suggested as a starting point for such evaluations.

- (a) Performance tests are determined by measuring the performance of the entire reclosable fastener when the hook on one side is engaged to the loop on the other side of the fastener.
- (b) Scotchmate reclosable fastener SJ3000 is engaged with firm pressure and disengaged or peeled at the rate of 12 inches (305 mm) per minute.
- (c) The engaged thickness was measured using a 0.5" diameter pressure foot supporting a 34 gram weight. Engaged thickness will decrease when compressed or if a load is applied. The engaged thickness will increase when a load is removed or the fasteners are partially separated.
- (d) Cycle life is the number of cycles (openings and closings) that the fastener is subjected to while maintaining 50% or greater of the original peel values.

3M™ Scotchmate™ Reclosable Fastener SJ3000

Thin back to back hook and loop

Additional Performance Characteristics

Note: The following information is not product release requirements, nor product specification limits. Rather, this data represent typical performance using standard test methods. This is intended for use as a guide to assist in selection of 3M™ Scotchmate™ Reclosable Fasteners for further evaluation. Customer specifications should not be based solely on the data presented in this document. It is recommended that the customer test the product under expected use conditions in the desired application to determine actual suitability and performance.

Resistance to Chemicals: The polypropylene hook and polyester loop resist incidental attack by most common solvents and alkaline solutions. Acid solutions may cause deterioration of the loop. Small amounts of oils and mold release agents between the mated hook and loop may cause lower closure performance issues with 3M™ Scotchmate™ Reclosable Fastener SJ3000. An oily or slippery surface may cause difficulties in starting a roll wrap.

Resistance to Plasticizers: The polypropylene hook and polyester loop should have good resistance to direct contact with most plasticized materials.

Flammability Resistance: Scotchmate reclosable fastener SJ3000 will not pass common flammability tests when tested unattached. If you need Scotchmate reclosable fasteners to meet many of the standard flammability tests (such as FAR 25.853, FMVSS-302, ASTM E-162, ASTM E-662, BSS-7239 and others), it is suggested that you refer to the product selection guide “Flame Resistant Reclosable Fasteners”.

Resistance to Environmental Exposure: Temperatures down to -20°F (-29°C) typically increases the closure strengths. Scotchmate reclosable fastener SJ3000 is formulated to withstand typical indoor temperature, humidity and ultraviolet exposure conditions. Scotchmate reclosable fastener SJ3000 performed acceptably after outdoor weathering for one year in Minnesota.

Resistance to Water or Humidity: Closure strength should be minimally affected by high humidity conditions.

Volatile Outgassing: Volatile outgassing, as per ASTM E595, is one important test in determining the suitability of materials for usage within spacecraft. Generally products with acrylic or no adhesive have lower volatile outgassing values. Scotchmate reclosable fastener SJ3000 has not been tested to ASTM E595, but would be expected to have low outgassing. Products tested at the Goddard Space Flight Center can be found at the following web site: <http://outgassing.nasa.gov/>

Scotchmate reclosable fastener SJ3000 has not been tested for visual appearance or performance after exposure to:

- Gas or steam sterilization, or autoclaving.
- Common disinfectants used in the medical industry.
- Common fungus growth tests (ASTM G21 and Mil Std 810F Method 508.5).
- Washing or dry cleaning.

or

- For static discharge released during closure opening after engagement of the fastener.

3M™ Scotchmate™ Reclosable Fastener SJ3000

Thin back to back hook and loop

Standard Sizes Available ^(a)	Widths inch ± 1/16" (cm ± 1.6)	Length Yds (Meters)	Selvage Edge ^(b)	Color	Weight ^(c) Pounds (Kilograms)
	9" (22.9 cm)	50 (45.7)	None	Red, Black	5.0 (2.3)

Fabricated Forms^(d)

- a) 3M™ Scotchmate™ Reclosable Fastener SJ3000 is available on a 3" I.D. fiber core with hook facing outwards.
- b) The product has useable product to the roll edges.
- c) Weight of roll on standard 3" core.
- d) Scotchmate reclosable fastener SJ3000 can be fabricated into many custom shapes and sizes to fit your product design and manufacturing process. Contact your authorized 3M representative, distributor or converter for details on supplying widths, lengths of configurations not listed above.

Attachment Techniques

The following information is intended to assist the designer considering the use of 3M™ Scotchmate™ Reclosable Fastener SJ3000. 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 recommended that the user evaluate 3M products to determine whether they are fit for a particular purpose and suitable for the user's materials, method of application and desired end use.

Design Considerations: As a general rule, four square inches of fastener area per pound (57.3 square centimeters per kilogram) 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.

Scotchmate reclosable fastener SJ3000 can easily be cut to desired dimensions and shapes per application need. The product is often used in rectangular strips 1/2" width by appropriate length required to wrap at least one and one half times around item(s) being bundled plus a 0.5 inch (1.3 cm) tab or flag. A common formula for determining desired length is:

$$(\text{Bundle or item circumference in inches}) \times (1.5) + 0.5 \text{ inch}$$

$$(\text{Bundle or item circumference in centimeters}) \times (1.5) + 1.3 \text{ cm}$$

While Scotchmate reclosable fastener SJ3000 is more flexible than many common bundling materials, care should be exercised in wrapping bundles that have very small diameters, lest flagging of the end will occur, possibly leading to premature disengagement. To prevent premature or undesirable flagging a small quantity of a curable liquid adhesive, hot melt, epoxy or similar material could be applied joining the exposed end of the fastener with the underlying fastener. This method will make it more difficult to easily disengage the fasteners.

Rounding the corners can reduce the possibility of edge lifting or flagging while improving the overall appearance of the fastener on the finished product. Mechanically securing the corners of the fastener with rivets, staples, screws, etc. may reduce the closure performance.

Material Surface Preparation: Textured or rough surfaces, especially those that may engage with a hook or loop can allow easier starting of a wrap around an object(s). Very smooth surfaces may cause slippage or difficulty in starting the wrap. In that case the surface could be roughened, or small strips of 3M™ Scotchmate™ Reclosable Fastener SJ3506 or SJ3507 could be first applied to the surface.

3M™ Scotchmate™ Reclosable Fastener

SJ3000

Thin back to back hook and loop

Attachment Techniques (continued)

Surfaces containing oils, mold release agents or other coatings and materials that can create a slippery surface should be avoided due to possible difficulty in getting the wrap started, or slipping in usage. It is recommended to remove any surface contaminants that may cause slippage or problems with starting the wrap, by using a method suited for the type and quantity of surface slip agent present.

Note: It is important the customer follow all manufacturer’s precautions and directions for use as well as any specific government regulations or customer requirements for the method(s) used to remove any contaminants on the surface of the adherend or preparing the surface for attaching the fastener(s).

In exceptional cases, especially when removing silicone mold release agents or similar materials, it may be necessary to lightly abrade the surface increasing roughness, thus allowing 3M™ Scotchmate™ Reclosable Fastener SJ3000 to have better initial grab to the surface. The selection of abrasion methods will depend upon the materials to be bound together and the environmental conditions the product will be exposed to during use.

Engagement Procedure: Highly porous, soft or fragile materials such as some vegetables or foam materials may crush or collapse if too high of a pressure is applied during bundle wrapping. Approximately 2 pounds per inch width (0.4 kilograms per centimeter width) is required for engaging Scotchmate reclosable fastener SJ3000 to itself. For all applications, it is important to ensure that an acceptable amount of overlap at the end of the fastener is provided to prevent premature unwrapping or flagging.

The most common technique for attaching Scotchmate reclosable fastener SJ3000 is to wrap the product upon itself, forming the closure system to bundle items together, provide surface protection or to secure items during transport. To ensure full fastener strength the fastener should be completely overlapped, not spiral wound unless the reduced engaged surface area is taken into account.

Dwell Time before Handling or Applying a Load: Parts with properly chosen and applied Scotchmate reclosable fastener SJ3000 can be handled and a load immediately applied. If an adhesive is used to bond the end of the wrap to prevent flagging, it is important to allow sufficient dwell or cure time per the adhesive manufacturers directions before applying a load.

Application Ideas

Scotchmate reclosable fastener SJ3000 can provide a firm closure system used to secure bundles of items or hold items in packaging during shipping or storage. Additionally, this product, in combination with Scotchmate reclosable fasteners SJ3506 or SJ3507 could be used as a removable roll wrap for starting pull through of textile and similar materials. Wrapping a variety of surfaces can provide a removable protection. 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.

Scotchmate reclosable fastener SJ3000 can be evaluated for use in:

- | | |
|--|--|
| Securing wire bundles | Labeling garden plants/temporary identification |
| • During assembly, inspection, repair | • Write-on loop for weather resistant label |
| • Abrasion protection (loop against wires) | Box Closures |
| | Securing light-weight items in shipping containers |

3M™ Scotchmate™ Reclosable Fastener SJ3000

Thin back to back hook and loop

Certification/ Recognition

MSDS: This product is not subject to the MSDS requirements of the Occupational Safety and Health Administration's Hazard Communication Standard, 29 C.F.R. 1910.1200(b)(6)(v) and therefore 3M has not prepared a MSDS for this product. However, use or processing of the product in a manner not in accordance with the directions for use may affect its performance and present potential health and safety hazards.

TSCA: This product is defined as an article under the Toxic Substances Control Act and therefore, it is exempt from inventory listing requirements.

Product Use

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 of application.

Warranty and Limited Remedy

Unless stated otherwise in 3M's product literature, packaging inserts or product packaging for individual products, 3M warrants that each 3M product meets the applicable specifications at the time 3M ships the product. Individual products may have additional or different warranties as stated on product literature, package inserts or product packages. 3M MAKES NO OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR ANY IMPLIED WARRANTY ARISING OUT OF A COURSE OF DEALING, CUSTOM OR USAGE OF TRADE. User is responsible for determining whether the 3M product is fit for a particular purpose and suitable for user's application. If the 3M product is defective within the warranty period, your exclusive remedy and 3M's and seller's sole obligation will be, at 3M's option, to replace the product or refund the purchase price.

Limitation of Liability

Except where prohibited by law, 3M and seller will not be liable for any loss or damage arising from the 3M product, whether direct, indirect, special, incidental or consequential, regardless of the legal theory asserted, including warranty, contract, negligence or strict liability.

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.

3M

Industrial Business Industrial Adhesives and Tapes Division

3M Center, Building 21-1W-10, 900 Bush Avenue
St. Paul, MN 55144-1000
800-362-3550 • 877-369-2923 (fax)
www.3M.com/industrial



Recycled Paper
40% pre-consumer
10% post-consumer

3M and Scotchmate are trademarks of 3M.
Printed in U.S.A.
©3M 2007 70-0709-4000-5 (2/07)