Scotchmate™ Reclosable Fasteners

SJ3526N and SJ3527N Family
Nylon Hook and Loop

Product Information **June, 2006**

Product Description

3M™ Scotchmate™ Reclosable Fasteners offer 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. Simply pull the strips apart by hand to disengage.

The woven hook is covered with flexible J shaped hooks, about 300 hooks per square inch (46/sq. cm.) protruding up from a woven backing. The woven loop backing is covered with thousands of soft, pliable napped loops, providing for thousands of openings and closings (cycles). The hook and loop are preshrunk to insure maximum dimensional stability and flatness.

These Scotchmate reclosable hook and loop fasteners are coated on the backside with a firm synthetic rubber pressure sensitive adhesive designed to function for indoor applications. This adhesive is especially suited for attachment to low surface energy substrates such as polyethylene, polypropylene, etc.

The hook product is available with a marked product splice making splice identification easier, allowing splice removal if desired. The product number is SJ3526NFSR. These products are also available with a brown, 83 pound polykraft paper liner. The paper liner allows easier diecutting of pieces. The hook is available as SJ3526NP and the loop as SJ3527NP. When shorter lengths are desired for evaulation, prototypes or small jobs a mini-pack containing a 4.9 yards (4.5 meters) roll of each SJ3526N (hook) and SJ3527N (loop) is available as a single package, MP3526N/27N.

Product Construction

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

Fastener Products		**3M™ Scotchmate™ Reclosable Fasteners**	
	Hook	**SJ3526N MP3526N**	**SJ3526NP**
	Loop	**SJ3527N MP3527N**	**SJ3527NP**
	Hook	**SJ3526NFSR**	
Material of Construction	Hook	nylon 6	
	Loop	nylon 6,6	
	Backing	nylon 6	
	Adhesive[a]	Transparent	
Standard Colors[b]		Black, White, Beige	
Thickness[c] max. unmated	Hook	3/32" (2.4 mm)	
	Loop	4/32" (3.2 mm)	
Selvedge Edge[d] In. (mm) ± 1/32" (0.8 mm)		3/32" (2.4 mm) 4/32" (3.2 mm) for 4" wide	
Weight: oz/in^2 (g/cm^2) without liner			
	Hook	0.013 oz/in^2 (0.058 g/cm^2)	
	Loop	0.015 oz/in^2 (0.063 g/cm^2)	
Liner		White 3.0 mil polyethylene film with a silicone release coating and "3M™ Scotchmate™" printed in red.	Brown 83# polykraft liner with a silicone release coating. No printing.

a) The adhesive may produce a yellow tint to some light colored hook and loop products or adherends.

b) Other fastener colors are available as special orders. 3M recommends the user to evaluate a color sample to see if it meets their color requirements. See your 3M authorized distributor or 3M representative for a color selection guide, minimum requirements and lead times.

c) Thickness was measured using a 1/2" pressure foot supporting a 34 gram weight. Actual thickness depends upon the amount of compressional load on the pieces.

d) See table on page 5 for selvedge edge and extended liner configurations.

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Typical System Performance Characteristics

Note: The following information is not product release requirements, nor product specifications. 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.

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

		System Performance[a]	
		3M™ Scotchmate™ Reclosable Fasteners SJ3526N Hook engaged to SJ3527N Loop	SJ3527N Loop engaged to Dual Lock™ SJ3540[b]
TENSILE (Rigid to Rigid Adherends)		lbs_F/sq inch (Newtons/cm^2):	
Dynamic Tensile Engagement Strength		< 1.0 (0.69)	< 1.0 (0.69)
Dynamic Tensile Disengagement[c]		13.5 (9.3)	50.5 (34.8)
Static Tensile Holding Power		Holds 1.1#/in^2 (77.5 grams/cm^2) for indicated time and temperature	
	100°F	7,300 minutes	8,500 minutes
	120°F	1,000 minutes	2,800 minutes
	158°F	300 minutes	200 minutes
	100°F/100% RH	4,400 minutes	5,800 minutes
SHEAR (Rigid to Rigid Adherends)		lbs_F/sq inch (Newtons/cm^2):	
Dynamic Shear (1" x 1" overlap)[c]		24.5 (16.9)	93.2 (64.3)
Static Shear Holding Power		Holds 1.1#/in^2 (77.5 grams/cm^2) for indicated time and temperature	
	100°F	10,000 minutes	10,000 minutes
	120°F	1,000 minutes	4,300 minutes
	158°F	400 minutes	400 minutes
	100°F/100% RH	10,000 minutes	10,000 minutes
INITIAL PEEL AND CLEAVAGE[c]		Pounds/inch width (grams/cm width)	
"T" Peel Strength (Flexible to Flexible) Ave		1.7 (300)	6.0 (1,070)
90° Peel Strength (Flexible to Rigid) Ave		1.5 (270)	4.9 (880)
Cleavage Peel Strength (Rigid to Rigid)		7.9 (1,400)	31 (5,500)
ENGAGED THICKNESS[d] (Nominal without liner)	Inches (cm)	0.14 (0.36)	0.20 (0.51)
CLOSURE CYCLE LIFE[e]		5,000	50
SHELF LIFE		Eighteen months from date of manufacturing when stored in original packaging at 72°F (21°C) and 50% 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. 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) 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. The "T" peel test only measures the closure performance per ASTM D5170 and was not adhered to aluminum panels. The 90° peel has one of the mated fasteners attached to a non-anodized aluminum plate while the other mated fastener is not attached to a adherend and is disengaged at a 90° angle.

b) The use of 3M™ Scotchmate™ Loop Reclosable Fasteners engaged to 3M™ Dual Lock™ Reclosable Fasteners provides increased strength over standard Scotchmate reclosable fasteners, with a limited number of reclosures compared with Scotchmate systems. Due to the very high strength of Scotchmate reclosable fasteners mated to Dual Lock reclosable fasteners, extra care should be given to ensure the maximum bond strength is obtained to the adherends being joined. Failure to obtain bond strengths sufficiently high to the adherend may cause the fastener's adhesive to release from the adherend.

c) 3M™ Scotchmate™ Reclosable Fasteners SJ3526N and SJ3527N and SJ3540 are engaged with firm pressure and disengaged, peeled or cleaved at the rate of 12 inches (305 mm) per minute.

d) The engaged thickness was measured using a 0.5" diameter pressure foot supporting a 34 gram weight. Engaged thickness per given fastener area will decrease when compressed or increase with no load or when the engaged are separated in tensile.

e) Cycle Life is the number of cycles (openings and closings) that the fastener is subjected to while maintaining 50% or greater of the initial peel value.

Additional Performance Characteristics

Solvent Resistance: The nylon components resist incidental attack by most common solvents and alkaline solutions. Acid solutions may cause deterioration of the fastener. The adhesive on 3M™ Scotchmate™ Reclosable Fasteners SJ3526N and SJ3527N may be affected by many common organic solvents and transportation fluids (gasoline, motor oil, etc.). If increased solvent resistance is desired the customer is directed to evaluate 3M™ Scotchmate™ Reclosable Fasteners SJ3571 or SJ3572 or many of our 3M™ Dual Lock™ Reclosable Fastener Products to determine if the actual adhesive performance meets the requirements of their application.

Plasticizer Resistance: The adhesive on Scotchmate reclosable fasteners SJ3526N and SJ3527N may be affected by plasticizers found in many common flexible vinyl and other materials, resulting in adhesive softening or adhesion loss with time. These products are not recommended for adhering to plasticized materials. If plasticizer resistance is desired then 3M™ Scotchmate™ Reclosable Fasteners SJ3522 or SJ3523 or many of our Dual Lock reclosable fastener products may be evaluated to determine if the actual adhesive performance meets the requirement of their application.

Flammability Resistance: Scotchmate reclosable fasteners SJ3526N and SJ3527N will not pass common flammability tests when tested unattached to an adherend. If you need 3M™ Reclosable Fasteners that 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 3M™ Flame Resistant Reclosable Fasteners.

Environmental Effects: Temperatures down to -20°F (-29°C) increases the typical closure strengths. The Scotchmate reclosable fasteners SJ3526N and SJ3527N adhesive is formulated to withstand typical indoor conditions temperature, humidity and ultraviolet exposure conditions. If your application requires increased ultraviolet exposure or outdoor performance review the 3M™ Scotchmate™ or 3M™ Dual Lock™ product selection guide to determine products that may meet your requirements.

Water (Humidity) Resistance: Closure strength of nylon hook and loop fasteners decreases after prolonged exposure to water due mainly to water absorption by the cut nylon ends for hook products. Closure strength is regained when dried. Review the “3M™ Scotchmate™ Polyester Reclosable Fasteners” product selection guide (70-0709-3962-7) for Scotchmate reclosable fastener products with greater resistance of the closure to moisture. Once bonded the adhesive has high resistance to moisture under typical use 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 fasteners SJ3526N and SJ3527N have not been tested and would not be expected to pass ASTM E595. Products tested at the Goddard Space Flight Center can be found at the following web site: http://outgassing.nasa.gov/

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Additional Performance Characteristics *(continued)*

Sterilization/Autoclaving: 3M™ Scotchmate™ Reclosable Fasteners SJ3526N and SJ3527N have not been tested for performance after gas or steam sterilization, or autoclaving.

Washing and Dry Cleaning: Washing or dry cleaning of these products is not recommended due to the potential for adhesive softening, that could transfer adhesive residues to other materials, or reduce long term performance.

Fungus Resistance:

Mil standard 810F, Method 508.5: Three samples from one lot of Scotchmate reclosable fasteners SJ3526N and SJ3527N were exposed to five fungal organisms (*Aspergillus versicolor* – ATCC 11730, *A. flavus* – ATCC 9643, *A. niger* – ATCC 9642, *Penicillium funiculosum* – ATCC 11797, and *Chaetomium globosum* – ATCC 6205) and gave an average fungal growth rating after 44 days of 2.0 for Scotchmate reclosable fasteners SJ3526N and 2.7 for Scotchmate reclosable fasteners SJ3527N.

ASTM G21-96 "Fungal Challenge Test": Three samples from one lot of Scotchmate reclosable fasteners SJ3526N and SJ3527N were exposed to five fungal organisms (*Aspergillus niger* – ATCC 9642, *Penicillium funiculosum* – ATCC 11797, *Chaetomium globosum* – ATCC 6205, *Trichoderma virens* ATCC 9645 and *Auerobasidium pullulans* ATCC 15233). Scotchmate reclosable fastener SJ3526N had an average fungal growth after 7, 14, 21 and 28 days of 2.0, 2.0, 2.3 and 2.3 respectively, whereas Scotchmate reclosable fastener SJ3527N gave an average rating of 2.3, 2.7, 2.7 and 2.7 for the same time periods.

Static Discharge: Scotchmate reclosable fasteners SJ3526N and SJ3527N have not been tested for static charge released during liner removal, closure opening nor adhesive removal from adherends after attachment of the fastener. 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.

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			Roll Lengths – Yards (Meters)							
			3M™ Scotchmate™ Reclosable Fasteners[a],[b]							
Standard Sizes Available[c]			**SJ3526N (Hook)**		**SJ3527N (Loop)**		**MP 3526N/27N**	**SJ3526NFSR (Hook)**	**SJ3526NP (Hook)**	**SJ3527N (Loop)**
Widths in. ± 1/16" (mm) ± 1.6	**Selvedge Edge[d]**	**Extended Liner[d]**	25 (22.8)	50 (45.7)	25 (22.8)	50 (45.7)	4.9 (4.5)	50 (45.7)	100 (91.4)	100 (91.4)
1/2" (12.7 mm)	One Edge	One Edge		BK, B, W		BK, W				
11/16" (17.5 mm)	One Edge	One Edge		B		B				
5/8" (15.9 mm)	One Edge	One Edge		B, BK, W		B, BK, W				
3/4" (19 mm)	One Edge	One Edge	BK	B, BK, W		B, BK, W				
1" (25,4 mm)	One Edge	One Edge	BK, W	B, BK, W	BK, W	B, BK, W	BK, W	W	W	W
1-1/4" (31.8)	Two Edges	Two Edges		BK		BK				
1-1/2" (38.1 mm)	Two Edges	Two Edges		BK, W		B, BK, W		W	B, BK, W	B, BK, W
2" (50.8 mm)	Two Edges	Two Edges		B, BK, W		B, BK, W			BK, W	BK
2-1/8" (54 mm)	Two Edges	Two Edges		B		B				
4" (101.6)	Two Edges	Two Edges		B, BK, W		BK, B, W				
Fabricated Forms[e]			See Below for Standard Forms						Cut Pieces	

a) 3M™ Scotchmate™ Reclosable Fasteners SJ3526NP and SJ3527NP are the same as Scotchmate reclosable fasteners SJ3526N and SJ3527N respectively, but with a paper instead of film liner. Scotchmate reclosable fastener SJ3526NFSR is SJ3526N with a marked product splice making splice identification easier if splice removal is desired. MP3526N/27N is a package containing a single 4.9 yards (4.5 m) roll of each product for use when smaller quantities are needed.

b) Standard colors are white (W), black (BK) and beige (B). Other colors are available as special orders. 3M recommends the user to evaluate a color sample to determine if it meets their color requirements. See your local 3M authorized distributor or 3M representative for a color selection guide, minimum order quantities and lead times.

c) 3M™ Scotchmate™ Reclosable Fasteners SJ3526N, SJ3527N, SJ3526NFSR, SJ3526NP and SJ3527NP come standard on a 3" diameter fiber core in widths up to 4". The diameter of the side shield is 17.5 inches (44.5 cm) and the width of the roll with the side shield is the product width plus 1/4". Contact your authorized 3M distributor or 3M representative for details on supplying widths or special sizes not listed above.

d) Selvedge edges and extended liner availability. Other configurations may be possible as a special order, or via a 3M authorized distributor.

e) 3M™ Reclosable Fasteners can be fabricated in many custom shapes and sizes to fit your product design and manufacturing process. Some standard shapes and sizes are listed below. For others not listed please contact your local 3M authorized converter or 3M representative for additional options, configurations and ordering information.

Product Number	**Fabricated Forms**
SJ3526N	5/8" x 5/8" individual cut pieces of black hook.
SJ3527N	5/8" x 5/8" individual cut pieces of black loop.
SJ3526N/27N	1" x 3" premated samples in black or white.
SJ3526N/27N	1" x 6" premated black hook and loop pieces.

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Attachment Techniques

The following information is intended to assist the designer considering the use of adhesively coated 3M™ Scotchmate™ Reclosable Fasteners. System product performance depends upon a number of factors, including the fastener (material, adhesive and area), application method, adherend surface characteristics (material, texture and cleanliness), environmental conditions (moisture, ultraviolet and temperature exposure) plus the time it is expected to support a given load. 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 they are fit for a particular purpose and suitable for the user's substrates, 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.

Rounding the corners, slightly recessing the product into the substrate 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. Mechanically securing the corners of the fastener with rivets, staples, screws, etc. may also reduce the possibility of edge lifting, but may reduce the closure performance.

The three most common techniques for attaching these 3M™ Scotchmate™ Reclosable Fasteners to various surfaces are summarized below. For complete details on techniques and options for attaching 3M™ Scotchmate™ or Dual Lock™ Reclosable Fasteners please see the technical bulletin Attachment of 3M™ Scotchmate™ and Dual Lock™ Reclosable Fasteners (70-0709-3929-6).

1) Pressure Sensitive Adhesive attachment: The use of pressure sensitive adhesives eliminates or reduces the need for sewing, solvent activation, dielectric or ultrasonic bonding or bulk adhesive bonding. This can result in simplicity, improved safety and lower installation costs. Pressure sensitive adhesive products can be applied manually or automatically using a variety of equipment choices. Contact your 3M sales representative to discuss automated equipment options.

Adherend Surface Preparation: Highly textured adherend surfaces may reduce the ultimate adhesion levels and care should be given to minimize the surface texture or roughness. Adhesive backed Scotchmate reclosable fasteners 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. 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:** It is important for the customer to follow all manufacturer's precautions and directions for use as well as any specific government regulations or customer and supplier requirements for the method(s) used to remove any contamination 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 on rough, porous surfaces, it may be necessary to lightly abrade the surface, use an adhesion promoter, or surface sealer to optimize the adhesive bond to the adherend. The selection of abrasion, priming or sealing methods will depend upon the adherends and the environmental conditions the product will be exposed to during use.

Attachment Techniques *(continued)*

Attachment Procedure: 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 adherend to obtain initial contact between the adhesive and adherend. 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 adherends 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.

Dwell Time before Handling or Applying a Load: Parts with properly chosen and applied pressure sensitive adhesive reclosable fasteners can be handled immediately. As the adhesive further wets-out the adherend surface, adhesive bond strength increases after application with time, pressure and/or temperature. Once attached to the adherend, a 1-hour minimum dwell time is recommended before applying a load or disengaging mated Scotchmate reclosable fastener pieces. This dwell time is important for achieving a firm adhesive bond before applying a load or using. The adhesive on 3M™ Scotchmate™ Reclosable Fasteners SJ3526N and SJ3527N family of products achieves approximately 50% of the ultimate bond strength within 20 minutes, 90% after 1 hour and the ultimate bond strength of properly applied fasteners is obtained within 24 hours at 72°F (22°C) and 50% relative humidity. Primers or adhesion promoters may reduce the time required to achieve the ultimate bond strength.

2) Heat (Press) Bonding: Scotchmate reclosable fasteners SJ3526N and SJ3527N family of products can be attached to many fabric and foam articles by a process called heat or press bonding. The fastener is initially adhered to the article using finger pressure. The fastener is held in place with the pre-applied adhesive and bond strength is increased by applying heat and pressure through the adherend to the adhesive side of the fastener at previously determined pressure, times and heating periods. 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 as well as other conditions within any specific application. For this reason it is essential that the user evaluated the product to determine if it is fit for a particular purpose and suitable for the user's method of application.

Typical Press Bonding Conditions:
Bonding Temperature: 250 to 425°F (121 to 218°C)
Bonding Pressure: 30 to 100 psi (207 to 690 kPa)
Bonding Time: 3 to 30 seconds.

3) Mechanical Attachment: Scotchmate reclosable fasteners SJ3526N and SJ3527N family of products may also be mechanically attached to difficult to adhere to surfaces such as textured plastics and wood by using staples, screws, rivets and similar methods. 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.

The use of resin coated chisel divergent staples appear to provide excellent attachment to thick sections of soft and hardwood surfaces.

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Application Ideas

3M™ Scotchmate™ Reclosable Fasteners SJ3526N and SJ3527N family of products can provide a firm adhesive bond to a wide variety of surfaces, including, but not limited to those listed below. 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.

		Plastics	
Paper and cardboard		Acrylic	ABS
Glass	Sealed Wood	Polycarbonate	Polystyrene
CARC Paint	Bare and painted Metal	Polypropylene	Rigid Vinyl
Fabrics		Polyethylene	

Scotchmate reclosable fasteners SJ3526N and SJ3527N family of products are not recommended forattaching to flexible vinyl or plasticized substrates.

Scotchmate reclosable fasteners SJ3526N and SJ3527N family of products has shown to be useful for:

Anti-scratch surface	Attaching accessories and equipment
Medical Braces	Vibration and sound dampening control
Attaching Exhibit and Display Graphics	

Certification/ Recognition

Mil Spec. MIL-F-21840: 3M™ Scotchmate™ Reclosable Fasteners SJ3526N and SJ3527N family of products meet the physical requirements of Mil spec. MIL-F-21840, Type II and III, Class 1. Type II and III, Class 5 requirements are met by engaging Scotchmate reclosable fastener SJ3527N, or any of our nylon Scotchmate loop products, to any polyester Scotchmate hook product such as SJ3576 or SJ3586FR.

C.I.D. A-A-55126A: 3M is currently not certifying to this C.I.D. This C.I.D. has lower performance requirements than MIL-F-21840 and also contains errors and omissions preventing reliable product testing.

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.

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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.

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