



Dual Lock™ Low Profile Reclosable Fastener

SJ 4570

Technical Data

March, 2001

Product Description

3M™ Dual Lock™ Low Profile Reclosable fasteners can replace conventional fasteners, such as screws, clips, rivets, snaps, hook and loop and bolts in many applications where frequent access or repositioning is needed. Dual Lock Low Profile Reclosable fasteners consist of continuous strips of plastic backing, with tiny plastic mushroom shaped stems protruding up from the backing strip. When two pieces of Dual Lock Low Profile Reclosable fasteners are pressed together, thousands of “mushroom heads” interlock with one another creating an audible snap, that announces the fastener is locked. The Dual Lock Low Profile Reclosable fastener is thinner allowing it to be more flexible than similar reclosable fasteners. In addition, the Dual Lock Low Profile Reclosable fastener offers intermediate strength between regular 3M Dual Lock and 3M Scotchmate™ reclosable fasteners, with all of the advantages of a self-mating product.

Product Construction

Material of Construction:	Polypropylene
Backing Color:	Clear
Adhesive: Color:	Clear
Type:	300 LSE (Acrylic)
Liner Type:	6.5 mil 86# Polycoated Kraft

Typical Physical Properties and Performance Characteristics

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

Weight, grams/1 in. ² (25 mm):	0.31
Operating Temperature Range:	-20°F (29°C) and up to 158°F (70°C)
Engaged Thickness, in. (mm) ± 15%: (without liner)	0.107 (2.7)
Plasticizer Resistance:	No
Closure Cycle Life:	25-100
Shelf Life:	Two Years

- Shelf life is from date of manufacture and when stored in original package at 72°F (21°C) and 50% relative humidity.
- Cycle Life is the number of cycles (openings and closings) that the fastener is subjected to while maintaining ≥ 50% of the original values for tensile, shear or peel.

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Typical Performance Characteristics

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(Closure Performance)

Fastener:	SJ 4570	
Dynamic Tensile Engagement Strength, lbs/sq. inch (kNewtons/m ²):	25.9	
Dynamic Tensile Disengagement Strength, lbs/sq. inch (kNewtons/m ²):	42.4	
Dynamic Shear (1" x 1" overlap) Strength, lbs/sq. inch (kNewtons/m ²):	31.7	
90° Angle T-Peel Lbs/inch width (N/100mm)	1.2	
Static Shear Holding Power on Stainless Steel Lbs/sq. inch (75 grams/cm ²)	1000 grams	500 grams
- at -20°F:	10,000 minutes	10,000 minutes
- at 72°F/50% relative humidity:	10,000 minutes	10,000 minutes
- at 158°F:	NA	10,000 minutes
Static Tensile Holding Power on aluminum Lbs/sq. inch (75 grams/cm ²)	1000 grams	500 grams
- at -20°F:	10,000 minutes	10,000 minutes
- at 72°F/50% relative humidity:	10,000 minutes	10,000 minutes
- at 158°F:	NA	10,000 minutes

(Adhesive Performance)

	To Stainless Steel	To Polypropylene	To ABS
90° Angle Peel Adhesion: Lbs/inch width (N/100 mm)			
- after 1 week at 72°F/50% relative humidity:	9.1	6.5	8.9
- after 1 week at 158°F:	6.2	4.6	5.0
- after 1 week at 100°F/100% relative humidity:	5.9	6.3	6.6

- Dual Lock™ Low Profile Reclosable fastener SJ 4570 was disengaged or peeled at the rate of 12 inches (305 mm) per minute.

Note: In long term static load applications, conditions such as temperature variation, jarring, vibration, etc., can affect long term performance. The user should design the amount of fastening area based on the specific conditions in the application. Four square inches of fastening area per pound of static load is suggested as a starting point for such evaluations.

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Available Sizes

Standard Widths
(inches ± 1/32"):

Standard Roll Length:

5/8"

25 yds & 50 yds

1"

25 yds & 50 yds

2"

50 yds

4"

50 yds & 75 yds

12"

75 yds

Attachment Guide

PRESSURE SENSITIVE ADHESIVE ATTACHMENT:

The adhesive system on SJ 4570 provides reliable bonding to a wide variety of materials:

Bare Metals

Many Plastics: ABS

Painted Metals

Acrylic

Glass

Polycarbonate

Fiberglass

Polystyrene

Sealed Wood

Rigid Vinyl

Structural Composites

Powder Coated Paints

Glass

Application Techniques

Surfaces must be smooth, thoroughly cleaned and free of oil and surface contamination and dry. In some exceptional cases (contamination by mold release, rough or porous surfaces, etc.) it may be necessary to sand or lightly abrade the surface. It is recommended that the substrate be cleaned with a solvent such as isopropanol/water solution (50/50) and allowed to dry before application of fastener.

Note: When using solvents, be sure to follow the manufacturer's precautions and directions for use when handling such materials.

Apply when fastener and surface temperatures are above 68°F (20°C). Remove protective liner (avoid contamination of adhesive) and apply with uniform, firm pressure for intimate surface contact to the substrate. Allow 72 hours dwell for maximum bond strength prior to testing or stressing the adhesive bond. Improved resistance to edge peel can be provided by recessing the Dual Lock or by rounding the corners.

Application Ideas

Backed with 300 LSE Laminating Adhesive technology, Dual Lock™ Low Profile Reclosable fasteners are designed for joining together dissimilar materials such as powder-coated paint and hard-to-bond to surfaces as well as acrylic, wood, glass, metal, polypropylene, foam and fiberglass. Used in POP (point of purchase) and trade show exhibition, marine, electronic and automotive markets, Dual Lock Low Profile Reclosable fasteners attach ceiling tiles, carpet, headliners, seat cushions, covers, trade show designs, access panels, wall panels and small electronic devices.

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For Additional Information

To request additional product information or to arrange for sales assistance, call toll free 1-800-362-3550 or visit www.3M.com/bonding. Address correspondence to: 3M Bonding Systems Division, 3M Center, Building 220-7E-01, St. Paul, MN 55144-1000. Our fax number is 651-733-9175. In Canada, phone: 1-800-364-3577. In Puerto Rico, phone: 1-809-750-3000. In Mexico, phone: 5-728-2180.

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ISO 9002

This Bonding Systems Division product was manufactured under a 3M quality system registered to ISO 9002 standards.

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