



# Hook and Loop Reclosable Fasteners

|              |                     |
|--------------|---------------------|
| SJP7401 Loop | Sew-on, no adhesive |
| SJP7402 Hook | Sew-on, no adhesive |
| SJA7501 Loop | Rubber based PSA    |
| SJA7502 Hook | Rubber based PSA    |

Technical Data

January, 2011

## Product Description

These specially formulated 3M™ Hook and Loop Reclosable Fasteners offer value pricing while giving you basic closure alternatives to zippers, screws, snaps, hooks and more. These Hook and Loop Fasteners engage easily with minimal pressure to form a quick fastening attachment, simply pull the strips apart by hand to disengage.

These hook and loop fasteners are available coated on the backside with a rubber based pressure sensitive adhesive or non-coated for sewing applications.

## Product Construction

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

|   | <u>Plain Backed</u>  | <u>Adhesive Backed</u>  |
|---|--|-------------------------|
|   | 3M™ Reclosable Fastener  | 3M™ Reclosable Fastener |
| <b>Loop</b>   | SJP7401  | SJA7501                 |
| <b>Hook</b>   | SJP7402  | SJA7502                 |
| <b>Material of Construction</b>                         |  |                         |
| Hook or Loop  | nylon  | nylon                   |
| Backing   | polyester  | polyester               |
| Adhesive Type   | none   | rubber based            |
| <b>Standard Colors</b><br>(custom colors NOT available) | Black or White   | Black or White          |
| <b>Thickness unmated</b>                                |  |                         |
| Loop (minimum)  | 0.80"  | 0.080"                  |
| Hook (typical)  | 0.076"   | 0.08"                   |
| Engaged   | 0.11"  | 0.12"                   |
| <b>Shelf Life</b>                                       | 18 months  | 12 months               |
| <b>Typical Widths</b>                                   | 5/8", 3/4", 1", 1 1/2", 2", 4"   |                         |
| <b>Available Length</b>                                 | 50 yards (45.7 meters)   |                         |
| <b>Storage</b>  | Store in original packaging between 60° to 80°F (16° to 27°C) and 40 to 60% Relative Humidity. |                         |

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SJP7401 Loop • SJP7402 Hook • SJA7501 Loop • SJA7502 Hook

## Typical System Performance

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

| Loop Hook  | <u>Plain Backed</u>                        | <u>Adhesive Backed</u>                     |
|--|--|--|
|  | 3M™ Reclosable Fastener SJP7401<br>SJP7402 | 3M™ Reclosable Fastener SJA7501<br>SJA7502 |
| <b>TENSILE (Rigid to Rigid Substrates) 12ipm</b>                                   |  | lbs <sub>F</sub> /sq inch                  |
| Dynamic Tensile Engagement   | < 1.0                                      | < 1.0                                      |
| Dynamic Tensile Disengagement  | 9.0  | 9.0  |
| Static Tensile Holding Power for indicated time in minutes and temperature 1" x 1" | <b><u>100 grams/in<sup>2</sup></u></b>     | <b><u>100 grams/in<sup>2</sup></u></b>     |
| 72°F   | 10,000                                     | 10,000                                     |
| 120°F  | 10,000                                     | 10,000                                     |
| 158°F  | 10,000                                     | 500*                                       |
| 100°F/100% RH  | 10,000                                     | 500*                                       |
| <b>SHEAR (1" x 1" overlap)</b>   |  | lbs <sub>F</sub> /sq inch                  |
| Dynamic Shear (12ipm)  | 16.0                                       | 16.0                                       |
| Static Shear Holding Power for indicated time in minutes and temperature           | <b><u>100 grams/in<sup>2</sup></u></b>     | <b><u>100 grams/in<sup>2</sup></u></b>     |
| 72°F   | 10,000                                     | 10,000                                     |
| 120°F  | 10,000                                     | 10,000                                     |
| 158°F  | 10,000                                     | 42*  |
| 100°F/100% RH  | 10,000                                     | 500*                                       |
|  | <b><u>500 grams/in<sup>2</sup></u></b>     | <b><u>500 grams/in<sup>2</sup></u></b>     |
| 72°F   | 10,000                                     | 3,500*                                     |
| 120°F  | 10,000                                     | 700*                                       |
| 158°F  | 10,000                                     | 5*   |
| 100°F/100% RH  | 10,000                                     | 500*                                       |
| <b>PEEL AND CLEAVAGE @ 12" per minute</b>  |  | Peel strength in pounds per inch width     |
| "T" Peel, Flexible to Flexible   | 1.25                                       | 1.25                                       |
| Cleavage rigid to rigid  | 4.35                                       | 4.35                                       |

## 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 |
|---------------------------------|-----------------|-----|---------------|
| <b>Dwell</b>                    |                 |     |               |
| <b>Initial</b><br>(15 minutes)  | 14              | 11  | 12            |
| <b>72 hour</b><br><b>@ 72°F</b> | 14              | 15  | 13            |

\*These are adhesive failures, not failure at the mated hook and loop

As always, 3M suggests that customers test this product for their intended specific application.

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## Design Considerations

- You will need to determine how much fastener will be needed to support your application, however 4 square inches of 3M™ Reclosable Fastener to support 1 pound of weight is our general suggestion.
- 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.
- These hook and loop 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.
- 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 90°F (32.2°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 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 this product to determine whether it is fit for a particular purpose and suitable for the user's method of application

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## Performance Characteristics

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

**Solvent Resistance:** The plain backed nylon/polyester components resist occasional attack by most common solvents and alkaline solutions. Acid solutions may cause deterioration of the fastener. The adhesive on 3M™ Hook and Loop Reclosable Fasteners SJA7501 and SJA7502 may be compromised by many common laboratory solvents and transportation fluids (gasoline, motor oil, etc.). Where solvent resistance is important it is suggested that the customer evaluate 3M™ Hook and Loop SJ3571, SJ3572, SJ3576, SJ3577 or many of our 3M™ Dual Lock™ Reclosable Fastener products to determine if the actual adhesive performance meets their application requirements.

**Plasticizer Resistance:** The adhesive on Reclosable fasteners SJA7501 and SJA7502 is not recommended for attaching to many common flexible vinyl's or other materials containing plasticizing materials. If plasticizer resistance is desired 3M™ Hook and Loop SJ3522 and SJ3523 or many of our Dual Lock products can be evaluated.

**Flammability Resistance:** If you need 3M™ Reclosable Fasteners that meet many the standard flammability tests (such as FAR 25.853) SJ3418FR, SJ3419FR, SJ3486FR and SJ3487FR for sewing applications and SJ3518FR, SJ3519FR, SJ3586FR and SJ3587FR for pressure sensitive applications.

**Environmental Effects:** Temperature as low as -20°F (-29°C) increases the typical closure strengths. The adhesive on 3M™ Hook and Loop Reclosable Fasteners SJA7501 and SJA7502 has not been formulated to withstand varying temperature, humidity and ultraviolet exposure conditions. If applications such as exposure to high temperatures, humidity or ultraviolet light are desired, our 3M™ Scotchmate™ SJ3571, SJ3572, SJ3576 or SJ3577 or many of our Dual Lock products, such as SJ3560, may be evaluated.

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## Application Ideas

- 3M™ Hook and Loop Reclosable Fasteners SJP7401 and SJP7402 can be used in sewing applications where average strength fasteners will be sufficient.
- 3M™ Hook and Loop Reclosable Fasteners SJA7501 and SJA7502 provide a rubber based adhesive solution for applications at ambient temperatures where minimal adhesive requirements occur. 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.
- This product is non-returnable so verify that it performs to your requirements.

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## Technical Information

The technical information, recommendations and other statements contained in this document are based upon tests or experience that 3M believes are reliable, but the accuracy or completeness of such information is not guaranteed.

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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 9001:2008 - ISO/TS 16949:2002

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