



# Dual Lock™ Reclosable Fasteners

SJ3551 (Type 400)

SJ3552 (Type 170)

SJ3550 (Type 250)

## Technical Data

### Product Description

3M™ Dual Lock™ Reclosable Fasteners SJ3550, SJ3551 and SJ3552 consist of continuous strips of polyolefin stems with a mushroom shaped top protruding up from the backing. There are three types (170, 250 and 400) of these fasteners referring to the approximate number of stems per square inch.

These fasteners have a 37 mil white conformable acrylic foam adhesive providing good contact with substrates having a slight texture or surface irregularities. The adhesive is protected with a clear silicone treated liner allowing easy removal from the adhesive.

This product is also available in some widths with a fabricator splice which is sometimes called a functional splice. This consists of the Dual Lock adhesive and/or the adhesive side of the liner being spliced, thus providing product and liner continuity on the roll. These products are designated with a FS suffix, after the SJ product number.

This product is available in some widths with a colored 3M™ Scotchmate™ Reclosable Fastener loop splice. The Scotchmate reclosable fastener loop engaged to the Dual Lock reclosable fastener provides for a strong splice allowing the product to be pulled through automated converter equipment. These products are designated with a SM suffix after the SJ product number.

A version suitable for use in clean room conditions is designated with a V suffix after the SJ product number. This product is vacuumed to remove particles and surface contaminants before being sealed in plastic bag to reduce the chance for contamination before use.

These Dual Lock reclosable fasteners can be mated in the following combinations of increasing closure strength: Type 170 to Type 250, Type 250 to Type 250, Type 170 to Type 400 and Type 250 to Type 400. In some cases mating with 3M™ Scotchmate™ Reclosable Fasteners Loop provides a quick grab - low engagement force with a high closure strength, but reduced cycle life.

### Product Construction

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

Product Number	3M™ Dual Lock™ Reclosable Fastener		
	SJ3552	SJ3550	SJ3551
Type: Approx. Stems/In <sup>2</sup> (stems/cm <sup>2</sup> )	170 (26)	250 (39)	400 (62)
<b>Material of Construction</b>			
Stem/Heads	Black Polypropylene		
Backing	Black Polypropylene		
Adhesive	White 3M™ Acrylic Foam Adhesive		
Thickness <sup>(a)</sup> Unmated ± 10%	0.14" (3.5 mm)		
Selvedge Edges	None		
Liner	Clear 4.0 mil (0.10 mm) thick silicone treated polyolefin liner printed with 3M Dual Lock in red.		
Weight <sup>(a)</sup> ounces/in <sup>2</sup> (grams/cm <sup>2</sup> )	0.028 (0.123)	0.030 (0.132)	0.032 (0.142)

a) All thickness and weight values are with the liner removed.

# Dual Lock™ Reclosable Fasteners

SJ3551 (Type 400) • SJ3552 (Type 170) • SJ3550 (Type 250)

## Typical System Performance Characteristics and Properties

**Note:** The following technical information and data is intended as a guideline to assist customers in selecting 3M™ Reclosable Fasteners for further evaluation. This technical information is not product release specifications or standards. Unless stated differently, the typical system performance and product properties were obtained using specific test methods under controlled laboratory conditions of 72°F ± 5°F and 50% ± 10% relative humidity. The user is responsible for evaluating 3M reclosable fasteners under expected use conditions to ensure suitable performance for the intended application.

	System Performance <sup>(a)</sup>		
	3M™ Dual Lock™ Reclosable Fastener SJ3552 (Type 170) engaged to 3M™ Dual Lock™ Reclosable Fastener SJ3550 (Type 250) <sup>(b)</sup>	3M™ Dual Lock™ Reclosable Fastener SJ3550 (Type 250) engaged to 3M™ Dual Lock™ Reclosable Fastener SJ3551 (Type 400) <sup>(b)</sup>	3M™ Scotchmate™ SJ3571 (loop) engaged to 3M™ Dual Lock™ Reclosable Fastener SJ3550 (Type 250) <sup>(c)</sup>
<b>INITIAL TENSILE (Rigid to Rigid Substrates)</b>	lbs <sub>F</sub> /sq inch (kNewtons/m <sup>2</sup> )		
Dynamic Tensile Engagement Strength <sup>(f)</sup>	15 (103)	40 (276)	<1 (<6.9)
Dynamic Tensile Disengagement <sup>(d),(e),(g)</sup>	33 (225)	57 (395)	35 (242)
Static Tensile Holding Power	Holds minimum 2.2 #/in <sup>2</sup> (155 grams/cm <sup>2</sup> ) for indicated time and temperature		
	100°F/100% RH	10,000 minutes	10,000 minutes
	200°F	10,000 minutes	10,000 minutes
	220°F	10,000 minutes	10,000 minutes
	250°F	60 minutes	10,000 minutes
<b>INITIAL SHEAR (Rigid to Rigid Substrates)</b>	lbs <sub>F</sub> /sq inch (kNewtons/m <sup>2</sup> )		
Dynamic Shear (1" x 1" overlap) <sup>(d),(h)</sup>	16 (110)	43 (298)	124 (855)
Static Shear Holding Power (1" x 1" overlap)	Holds minimum 2.2 #/in <sup>2</sup> (155 grams/cm <sup>2</sup> ) for indicated time and temperature		
	100°F/100% RH	7,200 minutes	10,000 minutes
	200°F	10,000 minutes	10,000 minutes
	220°F	45 minutes	10,000 minutes
	250°F	33 minutes	47 minutes
<b>PEEL AND CLEAVAGE<sup>(d)</sup></b>	Pounds/inch width (grams/cm width)		
Cleavage Strength (Rigid to Rigid)	12 (2,150)	32 (5,725)	18 (3,220)
Peel Strength ("T" Peel, Flexible to Flexible)	0.7 (125)	1.5 (268)	1.9 (340)
Peel Strength (90° Peel, Flexible to Rigid)	1.8 (322)	4.6 (823)	4.4 (787)
<b>ENGAGED THICKNESS<sup>(i)</sup></b> (Nominal without liner)	Inches (mm) ± Tolerance		
	0.22 (5.7) ± 10%	0.22 (5.7) ± 10%	0.18 (4.6) ± 20%
<b>CLOSURE CYCLE LIFE<sup>(j)</sup></b>	1,000	1,000	50
<b>SHELF LIFE<sup>(k)</sup></b>	24 months	24 months	24 months

**Note: Long Term Performance:** Conditions such as engagement area, supported weight, forces on the closure, vibrations or side to side movement, as well as changes or prolonged exposure to environmental factors, such as temperature, ultraviolet light or humidity and other factors beyond the control of 3M can affect the closure strength and long term performance. Reclosable fasteners may slip or creep in the direction of the static load forces when subjected to static loads at temperatures, times or weights greater than indicated. The user is responsible for designing the amount of fastening area based upon the expected use conditions for the intended application. Four square inches of engaged fastening area per pound of static load is suggested as a starting point for such evaluations.

- a) System performance tests are determined by measuring the engaged system performance of the listed reclosable fasteners when used to join two 1/16" thick non-anodized aluminum plates.
- b) Dual Lock reclosable fastener type 250 (SJ3550) engaged to type 250 (SJ3550) and type 170 (SJ3552) engaged to type 400 (SJ3551) have approximately the same performance and are approximately midway between the performance of type 170 engaged to type 250 (the lowest performance recommended) and type 250 engaged to type 400 (the highest performance recommended). Type 170 engaged to type 170 as well as type 400 engaged to type 400 are not recommended as the former is too weak and the later may be too strong potentially causing part damage or ergonomic issues.
- c) 3M™ Scotchmate Reclosable Loop Fastener engaged to Dual Lock reclosable fastener may provide increased closure strength over standard Dual Lock reclosable fastener combinations, especially after movement or vibration of the closure system. Due to this increased strength, extra care should be given to ensure the maximum bond strength is obtained to the substrates being joined. Failure to obtain bond strengths to the substrate that are sufficiently high may cause the fastener to release from the substrate upon disengagement.
- d) The listed reclosable fastener combinations were engaged with firm pressure and disengaged at the rate of 12 inches (305 mm) per minute.
- e) Maximum tensile disengagement strength is dependent upon all of the stems disengaging at the same time with the two substrates parallel to and moving away from each other. If sections of the Dual Lock reclosable fastener lift during disengagement, the fastener will disengage in a peel or cleavage mode, reducing the observed strength.
- f) System dynamic tensile engagement strength of Dual Lock reclosable fastener SJ3552 (Type 170) to Dual Lock reclosable fastener SJ3551 (Type 400) is 29 lbs<sub>F</sub>/sq inch (397 kNewtons/m<sup>2</sup>) and Dual Lock reclosable fastener SJ3550 (Type 250) to Dual Lock reclosable fastener SJ3550 (Type 250) is 29 lbs<sub>F</sub>/sq inch (397 kNewtons/m<sup>2</sup>).
- g) System dynamic tensile disengagement strength of Dual Lock reclosable fastener SJ3552 (Type 170) to Dual Lock reclosable fastener SJ3551 (Type 400) is 50 lbs<sub>F</sub>/sq inch (346 kNewtons/m<sup>2</sup>) and Dual Lock reclosable fastener SJ3550 (Type 250) to Dual Lock reclosable fastener SJ3550 (Type 250) is 44 lbs<sub>F</sub>/sq inch (304 kNewtons/m<sup>2</sup>).
- h) System dynamic shear strength of Dual Lock reclosable fastener SJ3552 (Type 170) to Dual Lock reclosable fastener SJ3551 (Type 400) is 20 lbs<sub>F</sub>/sq inch (138 kNewtons/m<sup>2</sup>) and Dual Lock reclosable fastener SJ3550 (Type 250) to Dual Lock reclosable fastener SJ3550 (Type 250) is 36 lbs<sub>F</sub>/sq inch (249 kNewtons/m<sup>2</sup>).
- i) Engaged thickness is measured with a 1/2" diameter pressure foot with a 34 gram weight and will decrease if a load is applied or increase if a separation force is applied.
- j) 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.
- k) Shelf life is from date of manufacture when stored in original packaging at 60° to 80°F (16° to 27°C) and 40 to 60% relative humidity.

# Dual Lock™ Reclosable Fasteners

SJ3551 (Type 400) • SJ3552 (Type 170) • SJ3550 (Type 250)

Available Sizes	Standard Widths <sup>(a)</sup> ± 1/16" (1.6 mm)	Roll Length Yards (Meters)	3M™ Dual Lock™ Reclosable Fasteners						
			SJ3551	SJ3551V <sup>(b)</sup>	SJ3552	SJ3552V	SJ3550	SJ3550FS <sup>(c)</sup>	SJ3550SM <sup>(d)</sup>
1/2" (12.7 mm)		50 (45.7)	√	–	√	–	√ <sup>(e)</sup>	–	–
3/4" (19 mm)		50 (45.7)	√	–	√	–	√ <sup>(e)</sup>	–	–
1" (25.4 mm)		50 (45.7)	√	√	√	√	√	√	√
1 <sup>3</sup> / <sub>8</sub> " (31.8 mm)		50 (45.7)	√	–	√	√	√	–	–
1 <sup>1</sup> / <sub>2</sub> " (38.1 mm)		50 (45.7)	√	–	√	√	√	–	–
2" (50.8 mm)		50 (45.7)	√	–	√	√	√	√	–
3" (76.2 mm)		50 (45.7)	–	–	–	–	√	–	–
4" (101.6 mm)		50 (45.7)	√	–	√	–	√	–	–
6" (152.4 mm)		50 (45.7)	√	–	√	√	√	–	–
<b>Fabricated Forms<sup>(f)</sup></b>			<b>Cut Pieces</b>						

- a) All of the 3M™ Dual Lock™ Reclosable Fastener SJ3551, SJ3552 and SJ3550 products are supplied on 3" core with the liner to the edge of the adhesive. There are no extended liners or selvage edge with any of the standard products listed above.
- b) V is the identical SJ product construction except the product is vacuumed to remove debris and packaged in a plastic bag to reduce particle contamination. Useful for cleanroom applications.
- c) FS is the identical SJ product construction, except the liner and product are each spliced to provide a continuous product.
- d) SM is the identical SJ product construction except the Dual Lock reclosable fastener is spliced with a colored 3M™ Scotchmate™ Reclosable Fastener loop, providing a strong splice for pulling through automated converting equipment.
- e) It is not recommended to engage Dual Lock reclosable fastener type 250 to type 250 (Dual Lock reclosable fastener SJ3550 to SJ3550 for widths of 0.75" or narrower.
- f) Reclosable fasteners can be fabricated in many custom shapes and sizes to fit your product design and manufacturing process. Contact your local 3M authorized distributor, converter or 3M representative for additional options, configurations and ordering information.

# Dual Lock™ Reclosable Fasteners

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## Application Ideas

3M™ Dual Lock™ Reclosable Fasteners SJ3551, SJ3552 and SJ3550 can replace conventional mechanical fasteners in a wide range of assembly and attachment applications where reclosability is desired. They 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

Glass

Sealed Wood

Acrylic

Rigid Vinyl

Bare Metal

Polycarbonate

Polystyrene

**Not suitable for powder coated paints and low surface energy substrates such as polypropylene, unless surface modification, such as use of a primer, is made.**

Dual Lock reclosable fasteners SJ3551, SJ3552 and SJ3550 have shown to be useful for:

Attaching window and door trim panels

Attaching accessories and equipment

Interior trim

Vibration and sound dampening control