September, 2017

3M™ Dual Lock™ Reclosable Fastener SJ3441

Product Description



3M™ Dual Lock™ Reclosable Fasteners consist of a continuous polyolefin film backing with mushroom shaped stems protruding up from the backing. When pressed together these mushroom shaped stems interlock to provide you with a strong reliable attachment. There are three different stem densities (170, 250 and 400) offered with these fasteners, referring to the approximate number of stems per square inch.

This 3M™ Dual Lock™ Reclosable Fastener SJ3441, has no adhesive backing and is used in specialty applications where unique attachment methods are necessary. 3M™ Dual Lock™ Reclosable Fasteners were developed and work best when held rigid and flat therefore all data provided in this document is typical data for when the product is securely anchored, held rigid and lays flat. The strength will vary depending on the applications and how well the fastener is attached. It is up to the end user to determine if this product meets the application needs. This black fastener is most commonly attached by applying hot melt, epoxy or liquid adhesive.

This 3M™ Dual Lock™ Reclosable Fastener can be mated in the following combinations of increasing closure strength: type 170 to type 250; type 170 to type 400 and type 250 to type 250 are about the same strength; and type 250 to type 400. For high tensile and shear strength applications, the 3M™ Dual Lock™ Reclosable Fasteners can combine with 3M™ Loop Fastener to form a limited use closure (about 25).

3M™ Dual Lock™ Reclosable Fastener SJ3441

General Information

This product is used for alternative attachment methods it requires a unique attachment method and, based on how this product is used, the heat resistance, tensile and shear strength can vary. This product does not have adhesive backing, so there is no release liner.
Product Family: Plain backed for hot melt, liquid adhesive or other forms of attachment.
These are typical values which were gathered from testing the PSA backed materials. Similar values can be expected when the Dual Lock is held securely in a rigid fashion, however the data may vary depending on the attachment method used.

Technical Information Note

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

Typical Physical Properties

Property	Values	
Dual Lock Color	Black	
Thickness Tolerance	± 10 %	
Stems	62 Stems/cm²	400 Stems/in²
Material	Polyolefin blend	

Thickness		Test Condition
2.57 mm	101 mil	Unmated
3.86 mm	152 mil	Engaged

Property: Thickness

Typical Performance Characteristics

Static Tensile	Test Condition
10,000 min	Room Temperature
10,000 min	38°C (100°F)/100% R.H.
10,000 min	104°C (220°F)/100%R.H.

Property: Static Tensile
notes: All combinations hold minimum 1000 grams/in² for indicated time and temperature

Static Shear	Test Condition
10,000 min	Room Temperature
10,000 min	38°C (100°F)/100% R.H.
10,000 min	104°C (220°F)/100%R.H.

Property: Static Shear
notes: All combinations hold minimum 750 grams/in² for indicated time and temperature

Typical Performance Characteristics (continued)

Dynamic Tensile (Engage)		Substrate
9 N/cm²	13 lb/in²	Type 170 to 250
14.5 N/cm²	21 lb/in²	Type 170 to 400
15 N/cm²	22 lb/in²	Type 250 to 250
22 N/cm²	31 lb/in²	Type 250 to 400

Property: Dynamic Tensile (Engage)

Dynamic Tensile (Disengage)		Substrate
19 N/cm²	27 lb/in²	Type 170 to 250
30 N/cm²	43 lb/in²	Type 170 to 400
30 N/cm²	43 lb/in²	Type 250 to 250
42 N/cm²	60 lb/in²	Type 250 to 400

Property: Dynamic Tensile (Disengage)

Dynamic Shear		Substrate
9.8 N/cm²	14 lb/in²	Type 170 to 250
14.5 N/cm²	21 lb/in²	Type 170 to 400
15 N/cm²	22 lb/in²	Type 250 to 250
41.3 N/cm²	59 lb/in²	Type 250 to 400

Property: Dynamic Shear
notes: 1" x 1" overlap; Rigid to Rigid substrates

Cleavage Strength		Substrate
21 N/cm width	12 lb/in width	Type 170 to 250
42 N/cm width	24 lb/in width	Type 170 to 400
42 N/cm width	24 lb/in width	Type 250 to 250
63 N/cm width	35 lb/in width	Type 250 to 400

Property: Cleavage Strength
notes: Rigid to Rigid, 2.25in long

Cycle Life	Substrate
1000	Type 170 to 250
1000	Type 170 to 400
1000	Type 250 to 250
1000	Type 250 to 400

Property: Cycle Life
notes: Number of closures before losing 50% of original strength

Typical Performance Characteristics (continued)

Note

The following technical information and data is intended as a guideline to assist customers in selecting 3M™ Dual Lock™ Reclosable Fasteners for further evaluation. This technical information is not product release specifications or standards.
All of these tests were performed on 3M™ Dual Lock™ Reclosable Fasteners which was well anchored, held rigid and laid flat. Flexible applications can expect different results.
Note: 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™Dual Lock™ Reclosable Fasteners under expected use conditions to ensure suitable performance for the intended application.

Design Considerations

The following information is intended to assist the designer considering the use of 3M™ Dual Lock™ Reclosable Fasteners. Product performance depends upon a number of factors, including the 3M™ Dual Lock™ Reclosable Fastener selected, the
manner in which reclosable fastener is attached, and the time and environment in which it is expected to perform.
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 it is fit for a particular purpose and suitable for the users substrates, method of application and desired end use.
It is suggested that 4 square inches of 3M™ Dual Lock™ Reclosable Fasteners per 1 pound of static load be used as a starting point when determining how much 3M™ Dual Lock™ Reclosable Fasteners to use on any particular application. The amounts may be adjusted up or down depending on the needs of the specific applications.

Typical Environmental Performance

Chemical and Environmental Exposure

To Chemicals: The polyolefin backing stems and mushroom top should resist attack by most common solvents and alkaline solutions.
To Environmental Exposure: Temperatures between -20°F (-29°C) and and 220°F (104°C) should have minimal effect on closure strength. To maintain performance when exposed for extended periods to sunlight or ultraviolet radiation these products should be placed between two opaque or UV resistant surfaces. Specific testing under the expected environmental conditions is recommended.
To Water or Humidity: Closure strength should not be affected by prolonged exposure to water or humidity.

Storage and Shelf Life

Store under normal conditions of 70°F (21°C) and 50% R.H.
To obtain best performance, use this product within 24 months from date of manufacture.

Family Group

	SJ3440	SJ3441	SJ3442
Thickness (mm) Test Condition: Unmated	2.57	2.57	2.57
Thickness (mm) Test Condition: Engaged	3.86	3.86	3.86
Material	Polyolefin blend	Polyolefin blend	Polyolefin blend

References

1. 3m.com Product Page
   Url: https://www.3m.com/3M/en_US/company-us/all-3m-products/~/3M-Dual-Lock-Reclosable-Fastener-SJ3441?N=5002385+3293242266&rt=rud
2. Safety Data Sheet
   Url: https://www.3m.com/3M/en_US/company-us/SDS-search/results/?gsaAction=msdsSRA&msdsLocale=en_US&co=ptn&q=SJ3441

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