English-US

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Technical Data Sheet

3M™ Dual Lock™ Reclosable Fastener SJ3461

Regulatory Info/SDS

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 SJ3461, 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 clear 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).

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

Attribute Name	Test Condition	Value
Color		Clear
Material		Polyolefin blend
Stems		62 Stems/cm² (400 Stems/in²)
Thickness	Unmated	2.57 mm (101 mil) [1]
Engaged Thickness		3.86 mm (152 mil) [1]
Thickness Tolerance		± 10 %

[1] Thickness depends upon the amount of compression load on the pieces.

Typical Performance Characteristics

Overlap Shear Strength

Substrate	Value
Type 170 to 250	9.8 N/cm² (14 lb/in²) [1]
Type 170 to 400	14.5 N/cm² (21 lb/in²) [1]
Type 250 to 250	15 N/cm² (22 lb/in²) [1]
Type 250 to 400	41.3 N/cm² (59 lb/in²) [1]

[1] 25 x 25 mm (1 in x 1 in) overlap; Rigid to Rigid substrates

Temperature: 23 °C (73 °F)

Attribute Name	Value
Static Shear	10,000 min [1]

[1] All combinations hold minimum 116 g/cm² (750 g/in²) for indicated time and temperature

Attribute Name	Temperature	Substrate	Value
Dynamic Tensile (Disengage)		Type 170 to 250	19 N/cm² (27 lb/in²)
Dynamic Tensile (Disengage)		Type 170 to 400	30 N/cm² (43 lb/in²)
Dynamic Tensile (Disengage)		Type 250 to 250	30 N/cm² (43 lb/in²)
Dynamic Tensile (Disengage)		Type 250 to 400	42 N/cm² (60 lb/in²)
Dynamic Tensile (Engage)		Type 170 to 250	9 N/cm² (13 lb/in²)
Dynamic Tensile (Engage)		Type 170 to 400	14.5 N/cm² (21 lb/in²)
Dynamic Tensile (Engage)		Type 250 to 250	15 N/cm² (22 lb/in²)
Dynamic Tensile (Engage)		Type 250 to 400	22 N/cm² (31 lb/in²)
Static Tensile	23 °C (73 °F)		10,000 min [1]

[1] All combinations hold minimum 155 g/cm² (1000 g/in²) for indicated time and temperature

Attribute Name	Value
Long Term Temperature Resistance	104 °C (220 °F) [1]

[1] Long Term (day, weeks)

Attribute Name	Substrate	Value
Cleavage Strength	Type 170 to 250	21 N/cm (12 lb/in width) [1]
Cleavage Strength	Type 170 to 400	42 N/cm (24 lb/in width) [1]
Cleavage Strength	Type 250 to 250	42 N/cm (24 lb/in width) [1]
Cleavage Strength	Type 250 to 400	63 N/cm (35 lb/in width) [1]
Cycle Life	Type 170 to 250	1,000 [2]
Cycle Life	Type 170 to 400	1,000 [2]
Cycle Life	Type 250 to 250	1,000 [2]
Cycle Life	Type 250 to 400	1,000 [2]

[1] Rigid to Rigid, 57 mm (2.25 in) long

[2] Number of closures before losing 50% of original peel strength

Attribute Name	Value

Attribute Name	Value
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.

Typical Environmental Performance

Environmental Condition: 100%RH

Attribute Name	Temperature	Value
Static Shear	104 °C (220 °F)	10,000 min [1]
Static Shear	38 °C (100 °F)	10,000 min [1]
Static Tensile	38 °C (100 °F)	10,000 min [2]
Static Tensile	104 °C (220 °F)	10,000 min [2]

[1] All combinations hold minimum 116 g/cm² (750 g/in²) for indicated time and temperature

[2] All combinations hold minimum 155 g/cm² (1000 g/in²) for indicated time and temperature

Typical Environmental Characteristics

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 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.

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.

Storage and Shelf Life

Store under normal conditions of 16° to 27°C (60° to 80°F) and 40 to 60% relative humidity in the original packaging, out of direct sunlight. For best performance, use this product within 24 months from date of manufacture.

Automotive Disclaimer

Select Automotive Applications:
This product is an industrial product and has not been designed or tested for use in certain automotive applications, such as automotive electric powertrain battery or high voltage applications, which may require the product to be manufactured in a IATF certified facility, meet a Ppk of 1.33 for all properties, undergo an automotive production part approval process (PPAP), or fully adhere to automotive design or quality system requirements (e.g., IATF 16949 or VDA 6.3). Customer assumes all responsibility and risk if customer chooses to use this product in these applications.

Information

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ISO Statement

This product was manufactured under a 3M quality system registered to ISO 9001 standards.

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