3M Science. Applied to Life.™

English-US

Last Revision Date: September, 2024

Supersedes: June, 2024

Technical Data Sheet

3M™ Dual Lock™ Reclosable Fastener SJ3442

Product Details

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 SJ3442, 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).

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		Black
Material		Polyolefin blend
Stems		26 Stems/cm² (170 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

Technical Information: The technical information, guidance, and other statements contained in this document or otherwise provided by 3M are based upon records, tests, or experience that 3M believes to be reliable, but the accuracy, completeness, and representative nature of such information is not guaranteed. Such information is intended for people with knowledge and technical skills sufficient to assess and apply their own informed judgment to the information. No license under any 3M or third party intellectual property rights is granted or implied with this information.

Product Selection and 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. As a result, customer is solely responsible for evaluating the product and determining whether it is appropriate and suitable for customer's application, including conducting a workplace hazard assessment and reviewing all applicable regulations and standards (e.g., OSHA, ANSI, etc.). Failure to properly evaluate, select, and use a 3M product and appropriate safety products, or to meet all applicable safety regulations, may result in injury, sickness, death, and/or harm to property.

Warranty, Limited Remedy, and Disclaimer: Unless a different warranty is specifically stated on the applicable 3M product packaging or product literature (in which case such warranty governs), 3M warrants that each 3M product meets the applicable 3M product specification at the time 3M ships the product. 3M MAKES NO OTHER WARRANTIES OR CONDITIONS, EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, ANY IMPLIED WARRANTY OR CONDITION OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, OR ARISING OUT OF A COURSE OF DEALING, CUSTOM, OR USAGE OF TRADE. If a 3M product does not conform to this warranty, then the sole and exclusive remedy is, at 3M's option, replacement of the 3M product or refund of the purchase price.

Limitation of Liability: Except for the limited remedy stated above, and except to the extent prohibited by law, 3M will not be liable for any loss or damage arising from or related to the 3M product, whether direct, indirect, special, incidental, or consequential (including, but not limited to, lost profits or business opportunity), regardless of the legal or equitable theory asserted, including, but not limited to, warranty, contract, negligence, or strict liability.

Disclaimer: 3M industrial and occupational products are intended, labeled, and packaged for sale to trained industrial and occupational customers for workplace use. Unless specifically stated otherwise on the applicable product packaging or literature, these products are not intended, labeled, or packaged for sale to or use by consumers (e.g., for home, personal, primary or secondary school, recreational/sporting, or other uses not described in the applicable product packaging or literature), and must be selected and used in compliance with applicable health and safety regulations and standards (e.g., U.S. OSHA, ANSI), as well as all product literature, user instructions, warnings, and limitations, and the user must take any action required under any recall, field action or other product use notice. Misuse of 3M industrial and occupational products may result in injury, sickness, or death. For help with product selection and use, consult your on-site safety professional, industrial hygienist, or other subject matter expert. For additional product information, visit www.3M.com.

ISO Statement

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

3M™ Industrial Adhesives and Tapes Division
3M Center, St. Paul, MN 55144-1000
3M.com/iatd

3M and Dual Lock are trademarks of 3M Company.
©3M 2024 (9/24)