Technical Data Sheet

3M™ Gripping Material GM631

Product Description

Finite Element Analysis (FEA) data is available for this product at: **3m.com/FEA**

3M™ Gripping Material utilizes 3M's proprietary micro-replication technology to create a high-friction surface which can enhance grip and reduce slippage. These Pressure Sensitive Adhesive (PSA) versions of 3M™ Gripping Materials are constructed using a thin flexible fabric backing laminated to an acrylic PSA which is designed to bond to a wide variety of surfaces; including low surface energy substrates. These products all utilize the same 300LSE PSA which allows the Gripping Materials to be easily applied using a peel and stick application. 3M™ Gripping Material products are designed to be used alone, or as a two- part mated system. When used alone (on a single surface), the soft 3M™ Gripping Materials provide a strong secure grip. When used as a two-part mated system, for example, on a glove and handle bar, grip strength is maximized. As firmly as 3M™ Gripping Material holds, it releases just as easily.

Product Features

- Composed of tough, durable thermo-plastic elastomer
- The 3M™ Gripping Materials contain 3,000 stems or 'tiny fingers' per square inch to provide excellent grip performance in both wet and dry conditions
- Stems can provide a cushioned feel for many applications
- Good abrasion resistance
- Reinforced with polyester knit
- Wide useable temperature range: -40°F to 140°F (-40°C to 60°C) (Dependent upon the particular application)
- Contains mineral oil which can migrate out of the product under some conditions
- This product can also be ordered with 6035PC PSA

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	Additional Information
Color	Gray	
Total Tape Thickness (mil) Test Method: ASTM D3652	38 mil	View
Total Tape Thickness (mm) Test Method: ASTM D3652	0.97 mm	View
Weight (Without liner)	568 g/m²	

Weight (Without liner)	16.8 oz/yd²

Typical Cured Characteristics

Property	Values	Additional Information
Shore A Hardness	30	View
Test Method: ASTM D2240 Temp C: 23C Temp F: 73F		

Typical Performance Characteristics

Property	Values	Additional Information
Tensile Strength	42.7 N/cm	View
Test Method: ASTM D5035 Test Condition: Machine Direction		
Tensile Strength	390 oz/in	View
Test Method: ASTM D5035 Test Condition: Machine Direction		
Tensile Strength	49.8 N/cm	View
Test Method: ASTM D5035 Test Condition: Cross Direction		
Tensile Strength	456 oz/in	View
Test Method: ASTM D5035 Test Condition: Cross Direction		
Elongation at break	56 %	View
Test Method: ASTM D882 Test Condition: Machine Direction		
Elongation at break	94 %	View
Test Method: ASTM D882 Test Condition: Cross Direction		
Abrasion Resistance	1300 revolutions	View
Test Method: ASTM D3389		

Test Condition: Wear through

Notes: H18, 500g

Abrasion Resistance	0.38 mg/revolution	View

Test Condition: Wear rate

Notes: Weight loss rate at 1000 revolutions

Tear Resistance	10.8 N	View

Test Method: ASTM D5734

Test Condition: Machine Direction

Tear Resistance	2.4 lb	View

Test Method: ASTM D5734

Test Condition: Machine Direction

Tear Resistance	13.6 N	View

Test Method: ASTM D5734

Test Condition: Cross Direction

Tear Resistance	3 lb	View

Test Method: ASTM D5734

Test Condition: Cross Direction

Coefficient of Friction	1.7/1.5	View

Test Method: ASTM D1894

Test Condition: Grip to Grip System – Dry / Wet

Notes: COF of 3M™ Gripping Material to itself.

Coefficient of Friction	1.8/1.3	View

Test Method: ASTM D1894

Test Condition: Grip to Synthetic Classic Leather – Dry / Wet

Notes: Synthetic Nassimi Classic Faux Leather (Vinyl)

Available Sizes

Property	Values	Additional Information
Standard Roll Length	32.9, 65.8 m	
Standard Roll Length	36, 72 yd	

Standard Width	2.54, 61 cm

Standard Width	1, 24 in

Maintenance

3M™ Gripping Materials can be hand washed with mild detergent in cool to warm water. Surface contamination – lint or other debris – can be easily removed with Scotch® Tape, Scotch® Lint Roller and Scotch® Lint Sheets, or other lint removing mechanisms.

Converting

Pressure Sensitive Adhesive backed 3M™ Gripping Materials can be shear cut, die-cut, or converted by other applicable methods. Minimum tension should be used to avoid stretching and distortion of the product. Avoid direct contact with heated processing surfaces, in excess of 160°F (71°C), for prolonged periods of time.

Storage and Shelf Life

Store under normal conditions of 60° to 80°F (16° to 27°C) and 40% to 60% Relative Humidity in the original carton.
To obtain best performance, use this product within 18 months from date of manufacture.

Bottom Matter

3M
Industrial Adhesives and Tapes Division
3M Center, Building 225-3S-06
St. Paul, MN 55144-1000
800-362-3550

Trademarks

Handling/Application Information

Application Examples

When used to spiral wrap a handle, it is recommended that electrical tape be used to finish off the ends of the wrap. This helps the wrap look great and prevents ends from lifting during use.

Application Techniques

For maximum bond strength, the substrates surface should be thoroughly cleaned and dried. Typical cleaning solvents are heptane and isopropyl alcohol. Test the substrate surface to ensure the solvents clean the surface properly and do not harm the surface. Carefully read and follow the manufacturer's precautions and directions for use when using cleaning solvents. This cleaning recommendation may not be compliant with the rules of certain Air Quality Management Districts in California; consult applicable rules before use.

Ideal tape temperature application range is 70°F to 100°F (21°C to 38°C). Application to substrate surfaces that are below 50°C is not recommended because the adhesive can become too firm to adhere readily. Once properly adhered, low temperature holding is generally satisfactory.

Firm, even pressure should be used when applying 3M™ Gripping Material to ensure good adhesion between the substrate and adhesive. Minimum tension should be used to avoid stretching and distortion of the product. In some applications, a roller may be used to apply the 3M™ Gripping Material, but care must be taken to ensure that this does not damage the stems of the 3M™ Gripping Material.

3M™ Gripping Material will bond on contact, so parts can be handled immediately. Once applied, adhesive bond strength will continue to increase with time, pressure, and temperature. At room temperature, approximately 50% of the ultimate strength will be achieved after 20 minutes, 90% after 24 hours, and 100% after 72 hours.

Bond strength can be improved with firm application pressure and moderate heat, from 100°F (38°C) to 130°F (54°C), which causes the adhesive to develop improved contact with the substrate surface. Abrasion of the substrate surface and / or the use of 3M Primers / Adhesion Promoters such as 3M™ Primer 94 and 3M™ Adhesion Promoter 111 can also be used. Consult the Technical Data Sheets for these and other 3M Primers / Adhesion Promoters for additional information.

References

Property	Values
3m.com Product Page	https://www.3m.com/3M/en_US/p/d/b40069675/
Safety Data Sheet SDS	https://www.3m.com/3M/en_US/company-us/SDS-search/results/?gsaAction=msdsSRA&msdsLocale=en_US&co=ptn&q=GM631

ISO Statement

This Industrial Adhesives and Tapes Division product was manufactured under a 3M quality system registered to ISO 9001 standards.

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.