

3M™ Gripping Material

Hold it right there

From handles and shafts to work gloves...
grip lighter, hold tighter even in slippery conditions



Thousands of gripping fingers to increase traction, reduce slippage, and improve grip

If you design or manufacture products where getting a grip is a performance requirement, strengthen your competitive advantage with 3M™ Gripping Material products. This 3M innovation utilizes 3M patented micro-replication technology to add thousands of micro gripping fingers on one side of a flexible backing to enhance control and improve performance in applications such as jackhammers, kayak paddles, therapeutic medical equipment, wheelchairs, handrails, and more.

At work, home, or play, your customers will see a noticeable increase in holding power, while using less force, no matter what the end use application. Ultimately this can lead to enhanced performance and decreased fatigue.

Adhesives-backed versions stick on contact to many metals, plastics, and sealed woods for a fast, easy increase in traction for applications such as fishing rods, ATV handlebars, and forklift steering wheels.

Plain-backed versions offer some stretch and are designed for sew-on applications such as sports gloves or work gloves, where improved grip is a performance advantage.

Performance features at a glance –

- Increases friction to reduce slippage even in wet or oily conditions
- Immediate release when the hand lets go
- Abrasion and puncture resistance for tough use in a factory or on a field
- Water and oil resistance for secure attachment
- Performs across a broad temperature range from -40 to 160°F (-40 to 71°C) indoors and out

Application features at a glance –

- Adhesive-backed version sticks on contact to most materials as quickly and easily as tape
- Plain-backed version can be sewn to fabric and leather
- Ready-to-use molded grips can be slipped over handles and shafts

Get a grip on applications



in dry, wet,

equipment levers • Lawn mower handle

Bicycle, ATV, and motorcycle handle bars •

therapeutic medical equipment grips • Snow ski

• Snowblower handlebars • Bow grip • Tennis r

3M™ Gripping Material for sure hold with less fatigue



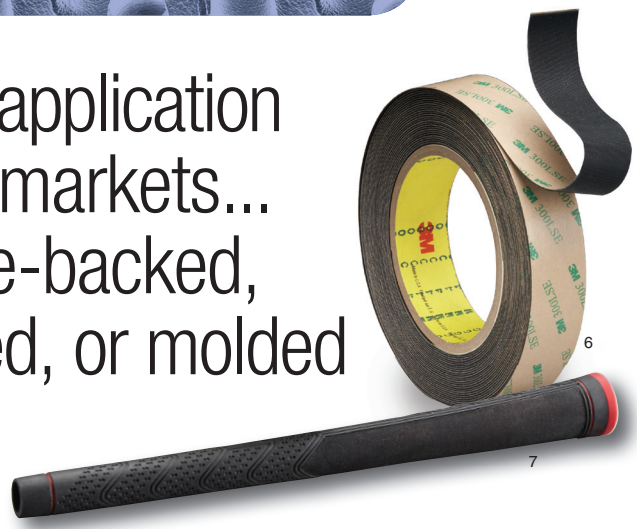
- Work and sports glove palms and fingers (double grip strength when handle is also covered)
- Manual, power, and pneumatic tool handles and grips for industrial professionals and do-it-yourselfers
- Golf club grip
- Steering wheels for construction equipment, tractors, and forklifts
- Lawn and garden



and oily conditions

- Water ski tow line handlebar
- Shipboard handrails
- Exercise and pole grips
- Portable microphone
- Racquet handle
- And more

Versatile application
in many markets...
adhesive-backed,
plain-backed, or molded



At Work	At Play	At Home
<ul style="list-style-type: none"> • Work gloves • Industrial tool handles and levers • Automotive and construction hand tools • Construction equipment steering wheels and levers • Truck, forklift and auto steering wheels • Handrails 	<ul style="list-style-type: none"> • Bat wraps • Baseball batting gloves • Golf club gloves and grips • Water ski gloves and equipment • Snow ski gloves and equipment • Racquetball gloves and grips • Bicycle handlebars and gloves • Fishing rods 	<ul style="list-style-type: none"> • Power tools • Garden tools • Lawn care equipment • Snow blowers • Medical assistive and therapeutic products • And more

5 Steps

for choosing the right products for your application

Five easy steps can help you narrow the range of 3M™ Gripping Material products to a selection for testing and evaluation:

- 1 Determine if you need adhesive-backed, plain backed, or molded material.
- 2 Determine if you need a 1-part or 2-part system.
- 3 Determine the end use condition of dry, wet, or oily.
- 4 Select the balance of tactility (soft/firm), durability (low/high), and friction.
- 5 Select appropriate trial bags for testing.

1 Determine adhesive-backed, plain, or molded

Adhesive-backed sticks on contact

3M pressure sensitive acrylic adhesive sticks on contact to many metals, plastics, and sealed woods. It sticks even to hard-to-bond low surface energy plastics, such as polyethylene and polypropylene, and powder-coated metals.



8

Plain-backed for sew-on applications

Plain-backed products provide some stretch, and are designed for sew-on applications such as gloves, where fabrics or leather are used. Plain-backed products can be washed if necessary.



10

Molded grips

3M high durability molded grips can be custom designed and manufactured for different high volume applications.



9

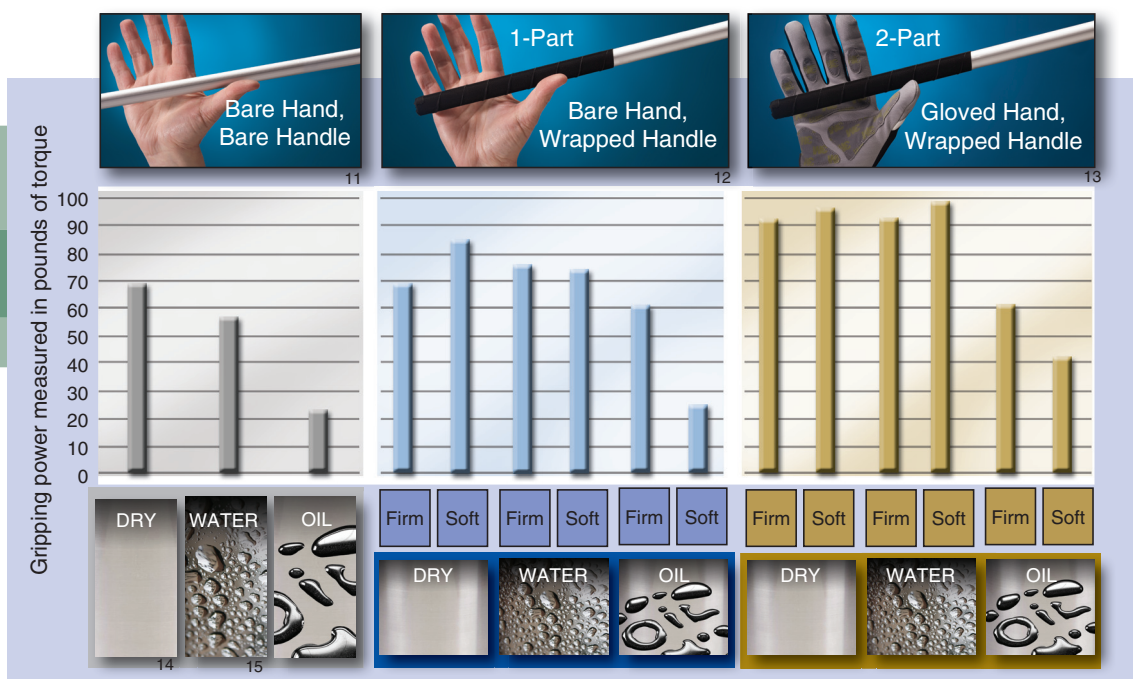
2

Determine 1-part or 2-part system

Gripping power increases with a 2-part system

In a one-part system, the 3M™ Gripping Material product is either on a glove **or** on the surface to be gripped. In a two-part systems, 3M™ Gripping Material is on both the glove **and** the surface.

Specific results depend on the tactility (firmness/softness) of the 3M™ Gripping Material and the dryness/wetness of the gripped surface during use.



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

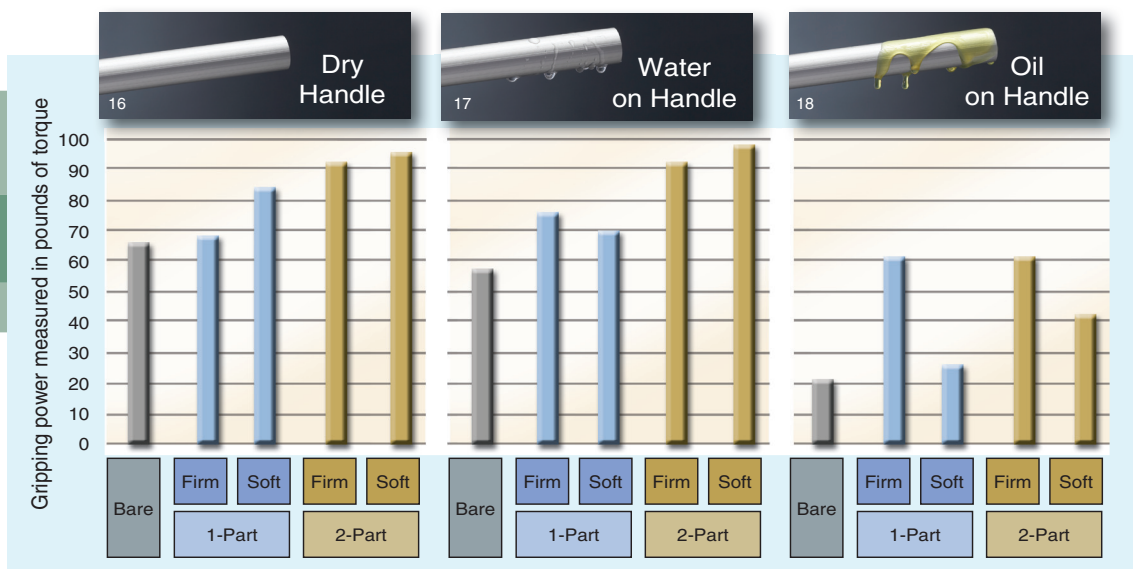
3

Determine end use conditions

Increase friction when dry, wet, or oily

The information in this chart is the same as above but presented from the perspective of end use conditions rather than a 1-part or

2-part system. In most environmental conditions, a 1-part or 2-part system increases friction compared to a bare hand on a bare surface.



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

4

Select the balance of tactility, durability and friction

Durability matched to the job

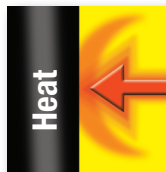
3M™ Gripping Material products are available with a range of tactility from ultra soft to firm.

Soft Gripping Material products are designed to be more comfortable during skin contact. Softer products tend to be more flexible to contour more easily to curves with small radii. Firm Gripping Material products are extremely durable, and tend to be stiffer.

If prolonged service life in harsh use conditions is a critical feature for your product, durability of the gripping material increases with firmness. Actual service life will depend on frequency of use and severity of end use conditions, but typically, most 3M™ Gripping Material may outlast leather in a factory or in the field.



19



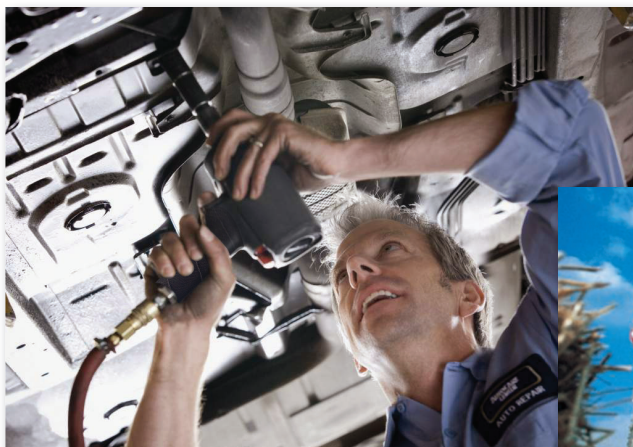
20



21

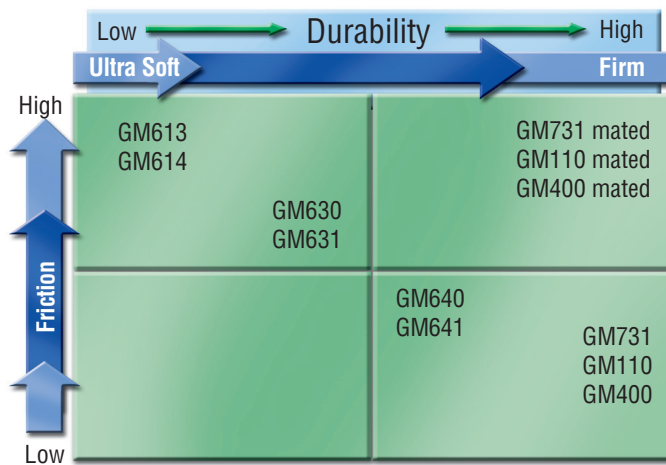
Each product in the line is engineered to resist abrasion, puncturing, water, chemicals, heat, and sunlight. Results will vary, depending on specific product and application combinations.

- No degradation after a 15 minute submersion in brake fluid, regular unleaded gasoline, W30 motor oil, diesel fuel, and other chemicals
- Physical characteristics retained at up to 160°F (71°C)
- Good resistance to UV sunlight with only some fading over time



22

Relative Product Properties



As shown in the chart, Gripping Material products offer a range of durability, tactility, and friction. The softer the product, the greater the friction, and lower the durability. The firmer the product, the lower the friction (unless mated) and greater the durability. The position of the product numbers will help you determine the balance of properties you need for selecting a product to test.



23



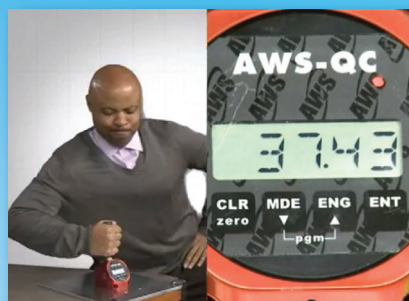
24

5

Select appropriate trial bags for testing

See for yourself

See the performance in a gripping video demo... <http://www.youtube.com/watch?v=YAVtg4apJos>



25



26



27

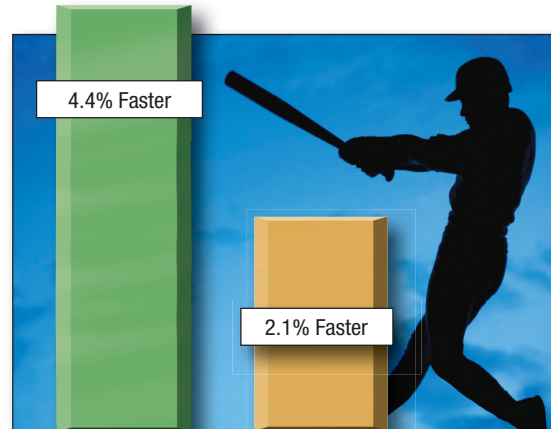
Impressive, practical results in university and other testing



28

In one University of Minnesota study, driving distance increased for golfers with 3M™ Gripping Material on their gloves, taking each competitor 10-feet closer to par. In another study with NCAA Division II varsity baseball players, bat speed increased 4.4% for players using batting gloves made with 3M™ Gripping Material. In going for the home run, fly ball distance increased 16.6 feet when material was also added to the bat grip.

At the University of Wisconsin, a two-part system in dry conditions more than doubled friction compared to a leather glove on a rubber grip. Friction tripled in wet conditions, and was 70x higher in oily conditions.



29

3M™ Gripping Material glove on 3M™ Gripping Material grip versus leather glove/leather grip

Leather glove on 3M™ Gripping Material grip versus leather glove/leather grip

Purchase trial bag(s) for your application testing

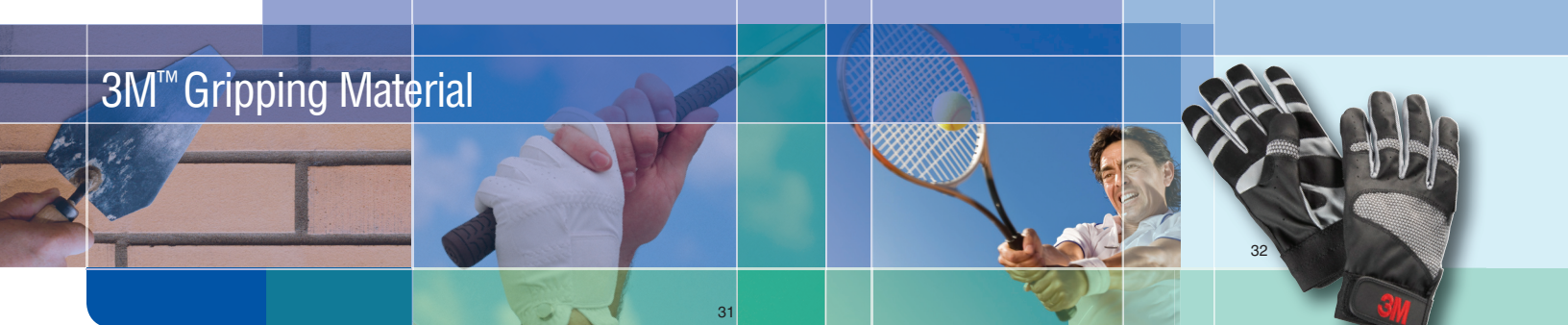
Before investing in production quantities, you can purchase any adhesive-backed materials as rolls or sheets for testing in your application.

- Two 1" x 15' rolls per bag or
- Six 6" x 7" sheets per bag



30

3M™ Gripping Material



Product	Color	Durability 1-10 Low-High	Friction 1-10 Low-High		Tactility 1-10 Soft-Firm	Thickness mils (mm) without liner	Weight oz/yd² (g/m²) without liner	Temp. Use Range °F (°C)	Chemical Resistance 1-10 Low-High	UV Resistance 1-10 Low-High	Size	Trial Bags
			Mated	Unmated								
Adhesive-backed: 3M pressure sensitive acrylic for bonding to high and low surface energy materials												
GM400	Black	10	10	3	10	33 (0.8)	12.9 (440)	-40 to 160° (-40 to 71)	10	10	1" x 72 yds. 24" x 72 yds.	TB400
GM614	Grey	1	7	10	1				3	5		TB614
GM631	Grey	5	8	9	4				5	5		TB631
GM641	Black	8	9	7	6				7	5		TB641
GM731	Clear	10	10	3	10				10	7		TB731
Plain-backed: washable nylon knit with moderate stretch for sew-on applications												
GM110	Black	10	10	3	10	33 (0.8)	10.7 (366)	-40 to 160° (-40 to 71)	10	10	24" x as requested	N/A
GM613	Grey	1	7	10	1				3	5		
GM630	Grey	5	8	9	4				5	5		
GM640	Black	8	9	7	6				7	5		

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

Get a grip with a 3M TSR (Technical Service Request)

3M™ Gripping Materials are available in black, grey or clear rolls and as custom molded grips. Custom colors are available for qualifying quantities. A 3M TSR representative will help you determine what works best for your specific application. Contact your 3M Sales Representative for additional information.

Product 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. Given the variety of factors that can affect the use and performance of a 3M product, user is solely responsible for evaluating the 3M product and determining whether it is fit for a particular purpose and suitable for user's method of application. **Warranty, Limited Remedy, and Disclaimer:** Unless an additional warranty is specifically stated on the applicable 3M product packaging or product literature, 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 OR FITNESS FOR A PARTICULAR PURPOSE OR ANY IMPLIED WARRANTY OR CONDITION ARISING OUT OF A COURSE OF DEALING, CUSTOM OR USAGE OF TRADE. If the 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 where prohibited by law, 3M will not be liable for any loss or damage arising from the 3M product, whether direct, indirect, special, incidental or consequential, regardless of the legal theory asserted, including warranty, contract, negligence or strict liability.



Industrial Adhesives and Tapes Division

3M Center, Building 225-3S-06
St. Paul, MN 55144-1000
800-362-3550 . 877-369-2923 (Fax)
www.3M.com/gripping

3M is a trademark of 3M Company.

Printed in U.S.A
© 3M 2011
70-0709-4065-8