



# Gripping Material

GM110 • GM400

Technical Data

October, 2009

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## Product Description

3M™ Gripping Material GM110 and GM400 are based on 3M's proprietary micro-replicated technology. 3M gripping material GM110 consists of a high-friction surface with a nylon knit backing that provides stretch in the cross-web directions. It can be attached to other substrates by sewing. 3M gripping material GM110 is ideally suited for applications requiring stretch, such as athletic gloves. 3M gripping material GM400 consists of a high-friction surface with a thin flexible backing and acrylic pressure sensitive adhesive with liner. When used alone on a single surface, 3M gripping material provides a strong secure grip. When used as a two-part system, for example on a glove and a handlebar grip, strength is maximized. As firmly as 3M gripping material holds, it releases just as easily.

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## Converting and Application

### 3M™ Gripping Material GM110

3M™ Gripping Material GM110 plain back can be shear cut, die-cut, or converted by other applicable methods, and can be sewn to a wide variety of substrates using most commercially available equipment. Excessive thread tension may cause tearing or cutting of the product. Avoid direct contact with heated processing surfaces, in excess of 160°F (71°C), for prolonged periods of time.

### 3M™ Gripping Material GM400

3M™ Gripping Material GM400 with pressure sensitive adhesive can be shear cut, die-cut, or converted by other application methods. When used as a handle wrap, material should be spiral wrapped so edges are aligned next to each other with minimal gaps. The leading and ending edges of the wrap should be secured with end caps or tape designed for that purpose. 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.

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## Typical Physical Properties

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

Property		3M™ Gripping Material	
		GM110	GM400
		Typical Value	Typical Value
Product Type		Plain back	5 mil acrylic pressure sensitive adhesive
Weight - oz/yd <sup>2</sup> (g/m <sup>2</sup> )	without liner	10.7 (360)	12.9 (440)
	with liner	–	15.8 (535)
Thickness - mils (mm)	without liner	33 (0.8)	33 (0.8)
	with liner	–	37 (0.9)
Color		Black or Off-white	Black
Carrier Type		Nylon knit	Polyester mesh
Coefficient of Friction: <sup>1</sup> 3M microtribometer method <sup>2</sup> dry- kinetic coefficient of friction		2.7	3.0
wet - kinetic coefficient of friction		2.3	3.0
Abrasion Resistance: ASTM D3389 (H18, 500 g) wear through – revolutions weight loss rate <sup>3</sup> – mg/revolution		> 6000 0.05	> 6000 0.05
Puncture Resistance: modified ASTM D4833 - lb (N)		13.5 (60)	7.6 (34)
Colorfastness to UV: (AATCC grayscale) ASTM G-155 method 1, 1000 hours		4 (Black)	–
Tensile Strength: ASTM D5035 - lb/in (N/cm)	MD*	82 (140)	19 (33)
	CD*	22 (38)	18 (32)
Force Required to Stretch 20%: 5 cycle avg. @ 12"/min - lb/in (N/cm)		3.8 (6.7) 100% recovery	– –
Tear Resistance: ASTM D5734 - lb (N)	MD*	1.7 (8)	3.3 (15)
	CD*	–	4.4 (20)
Stiffness: ASTM D5732 - μlb.ft. (μN.m)	MD*	32 (44)	109 (119)
	CD*	–	140 (153)
Optimum Usable Temperature Range - °F (°C)**		-40 to 160 (-40 to 71)	-40 to 160 (-40 to 71)

<sup>1</sup> 3M™ Gripping Material GM110 vs. GM400.

<sup>2</sup> Contact area: 0.44 in<sup>2</sup> (2.8 cm<sup>2</sup>), contact pressure: 3 lb/in<sup>2</sup> (21 kPa)

<sup>3</sup> Weight loss rate at 4000 revolutions.

\*MD: machine direction, CD: cross direction.

\*\*Dependent upon process conditions and application.

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## Care and Maintenance Instructions

### 3M™ Gripping Material GM110

**Important:** Test each application according to appropriate care instructions required for the finished product. Actual life of the applied 3M gripping material depends on cleaning method and wear conditions. The following care label recommendations are made based on testing to 10 home wash and 3 dry-clean cycles.

**Wash:** Machine wash hot, 60°C (140°F)



**Bleach:** Do not bleach



**Dry:** Tumble dry, low heat



**Iron:** Do not iron



**Dry-clean:** Dry-clean normal cycle



Surface contamination – lint or other debris – can be easily removed with a Scotch® Lint Roller and Scotch® Lint Sheets, or other lint removing mechanisms.

### 3M™ Gripping Material GM400

3M™ Gripping Material GM400 can be rinsed off in cold water or wiped with a damp rag and can be air dried. Surface contamination – lint or other debris – can be easily removed with a Scotch® Lint Roller and Scotch® Lint Sheets, or other lint removing mechanisms.

**Wash:** Not Machine Washable



**Bleach:** Do not bleach



**Dry:** Do not tumble dry



**Dry:** Line or drip dry



**Iron:** Do not iron



**Dry-clean:** Do not dry-clean



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## Product Availability

3M™ Gripping Material GM110 and GM400 are available in the following widths and roll lengths on 3 inch cores:

	3M™ Gripping Material	
	GM110	GM400
Roll Width:	10.25 inches (26 cm)	1 inch (2.5 cm) 10.25 inches (26 cm)
Roll Length:	Variable	72 yds (65.8 m)

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## Technical Information

The technical information, recommendations and other statements contained in this document are based upon tests or experience that 3M believes are reliable, but the accuracy or completeness of such information is not guaranteed.

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## 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.

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Printed in U.S.A.  
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