



# Technical Data Sheet

## 3M™ Gripping Material GM640



[Product Details](#)

### Product Description

3M™ Gripping Materials utilizes 3M's proprietary micro-replication technology to create a high-friction surface, which can enhance grip and reduce slippage. The plain-backed versions have a nylon knit backing that provides stretch in the cross-web direction

### 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
- Durable nylon fabric backing
- 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

### 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 Method	Test Condition	Value
Color			Black
Stiffness - Flexural Rigidity	ASTM D1388	Cross Direction	22.2 μjoule/m
Stiffness - Flexural Rigidity	ASTM D1388	Machine Direction	47.3 μjoule/m
Shore A Hardness	ASTM D2240		40
Weight			420 g/m <sup>2</sup> (12.4 oz/yd <sup>2</sup> )
Thickness			0.99 mm (39 mil)

### Typical Performance Characteristics

Attribute Name	Test Method	Test Condition	Value
Elongation at Break	ASTM D882	Machine Direction	86 %
Elongation at Break	ASTM D882	Cross Direction	192 %
Tensile Strength	ASTM D5035	Machine Direction	86.4 N/cm (49 lb/in)
Tensile Strength	ASTM D5035	Cross Direction	54.6 N/cm (31 lb/in)

Attribute Name	Test Method	Test Condition	Value
Tear Resistance	ASTM D5734	Machine Direction	6.3 N (1.4 lb)
Abrasion Resistance	ASTM D3389	Wear through	2,500 revolutions <sup>1</sup>
Abrasion Resistance		Wear rate	0.19 mg/revolution <sup>2</sup>
Coefficient of Friction	ASTM D1894	Grip to Grip System - Dry / Wet	2.0/1.7 <sup>3</sup>
Coefficient of Friction	ASTM D1894	Grip to Synthetic Classic Leather - Dry / Wet	1.5/1.1 <sup>4</sup>

<sup>1</sup> H18, 500g

- <sup>2</sup> Weight loss rate at 1000 revolutions
- <sup>3</sup> COF of 3M™ Gripping Material to itself.
- <sup>4</sup> Synthetic Nassimi Classic Faux Leather (Vinyl)

## **Converting**

The plain-backed 3M™ Gripping Material products 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 material. 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.

## **Handling/Application Information**

### **Application Examples**

If needed, the 3M™ Gripping Material can be bonded in place prior to sewing to prevent it from moving during the sewing process. 3M™ 6035PC or 6038PC Pressure Sensitive Adhesives work well for this purpose. Consult the Technical Data Sheets for these products for additional information.

**Please Note:** Use of adhesive may make it slightly harder to sew due to the adhesive sticking to the needle. When possible, place adhesive in areas where it will not come in contact with the sewing needle.

### **Application Techniques**

Provided below are the recommended sewing conditions for the plain-backed 3M™ Gripping Materials.

**Sewing Machine Foot:** Use a walking leather type foot

**Needle Size & Type:** The needle used will be dependent on the type of material the 3M™ Gripping Material will be attached to. Some needle types that have been successfully used in the past include a DP-11 needle with a round tip and a special left angle pointed tip needle.

**Thread:** Bulked continuous filament nylon 6 for the needle thread and looper thread.

The 3M™ Gripping Materials should be attached to the body fabric prior to other sewing operations. Attach using a “half pique” seam with a stitch length of 9 to 11 stitches per inch sewn using a double row of stitches with a double type needle to maintain a row distance of 1.5mm.

It is important that the entire surface of the 3M™ Gripping Material be in contact with the substrate. Minimum tension should be used to avoid stretching and distortion of the product.

## **Maintenance**

Can be hand washed with mild detergent in cool to warm water. Surface contamination, such as lint or other debris, can be easily removed with Scotch® Tape, Scotch® Lint Roller, Scotch® Lint Sheets, or other lint removing mechanisms.

**Important:** Test each application following the appropriate care instructions required for the finished product. The actual life of the 3M™ Gripping Material depends on the cleaning method and wear conditions.

- Do not iron
- Do not bleach
- Do not use in a dryer
- Do not dry clean

## **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 18 months from date of manufacture.

## **Available Sizes**

<b>Attribute Name</b>	<b>Value</b>
Standard Roll Length	32.9, 65.8 m (36, 72 yd)
Standard Width	61 cm (24 in)

## **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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