

June, 2009

## 3M™ General Purpose Double-Coated Tape 9816M

### Product Description

3M™ General Purpose Double-Coated Tape 9816M provides a balance of peel and shear properties with good heat resistance. Immediate bond utilizing only normal nip pressure when laminated to most open cell urethane and closed cell urethane foams.

It bonds well to polyester, polyester urethane, polyethylene, polystyrene, vinyl foams and most rubbers. General purpose, high tack, rubber-based adhesive.

### Product Features

- Extremely high-bond strength to most surfaces.
- Excellent versatility for lamination to foam material.
- Excellent dimensional stability with polyester carrier.
- Densified Kraft liner for rotary die-cutting.
- Good rotary die-cutting characteristics from the super calendared kraft liner.
- Use where high heat or UV resistance is not required.



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## 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
Total Tape Thickness without liner	3.5 mil
Adhesive Carrier	Polyester Film
Liner	74# Kraft
Relative Adhesion (HSE)	High
Relative Adhesion (LSE)	Medium

## Typical Performance Characteristics

Relative High Temperature Operating Ranges		Test Condition
65 °C	150 °F	Short Term (minutes, hours)
49 °C	120 °F	Long Term (days, weeks)

Property: Relative High Temperature Operating Ranges

180° Peel Adhesion		Dwell/Cure Time	Substrate
15.2 N/cm	139 oz/in	72 hr @ Room Temperature	Stainless Steel
14.2 N/cm	130 oz/in	72 hr @ Room Temperature	Polypropylene (PP)
5.3 N/cm	48 oz/in	72 hr @ Room Temperature	Neoprene Rubber
6.1 N/cm	56 oz/in	72 hr @ 158°F(70°C)	Neoprene Rubber

Property: 180° Peel Adhesion  
 Method: ASTM D3330  
 Backing: Polyester Film  
 notes: 12 in/min (305 mm/min)

Property	Values	Method	Dwell/Cure Time	Test Condition	Notes
Static Shear	10,000 min	ASTM D3654	60 min	1000 g @ Room Temperature	1" x 1" Overlap
Static Shear	2,500 min	ASTM D3654	60 min	250 g @ 70°C (158°F) high temperature shears	1" x 1" Overlap
Solvent Resistance	Medium				

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## Environmental Performance

Properties defined are based on the adhesion of impervious faceplate materials to a stainless steel test surface.

Bond Build Up: The adhesive bond increases as a function of time and temperature.

Heat Resistance: 3M tape 9816L,M,H 150°F (65°C)

3M tape 9817L,M,H Acrylic-220°F (105°C) Rubber-175° (80°C)

Low Temp. Resistance: 40°F (4.4°C).

## Processing

Die-cutting: Good die-cuttability. Lubricate dies with vanishing oil or similar low lubricants for improved processing.

Roll Laminating: Use rubber over steel roll set up with moderate application pressure. Make adhesive to substrate contact at nip area only.

## Handling/Application Information

### Application Ideas

- General purpose foam or rubber laminating (60 in).
- General purpose lamination of fabricated parts.

### Application Techniques

For maximum bond strength, surface should be thoroughly cleaned and dried. A typical cleaning solvent is heptane or isopropyl alcohol. When using cleaning solvents, vanishing oils, or lubricants, consult the manufacturer's Material Safety

Data Sheet for proper handling and storage instructions.

Bond strength may be improved with firm application pressure and moderate heat causing adhesive to flow and develop intimate contact with bonding surface.

This adhesive is good for most indoor applications and can be used for outdoor applications if the adhesive is not directly exposed to the environment.

The temperature resistance is somewhat lower than our typical acrylics. Therefore, temperatures above 150°F (65°C) should be avoided.

Avoid contact with plasticized vinyl or plasticized rubber surfaces. Plasticizers will soften the rubber adhesive.

## Storage and Shelf Life

Store at room temperature conditions of 72°F (22°C) and 50% relative humidity.

If stored under proper conditions, product retains its performance and properties for 24 months from date of manufacture.

## Trademarks

3M is a trademark of 3M Company.

## Family Group

	9816L	9816M	9816H	9817L	9817M	9817H
Relative High Temperature Operating Ranges (°C) Test Condition: Short Term (minutes, hours)	65	65	65	Acrylic: 105	Acrylic: 105	Acrylic: 105
Relative High Temperature Operating Ranges (°C) Test Condition: Long Term (days, weeks)	49	49	49	Acrylic: 80	Acrylic: 80	Acrylic: 80
Adhesive Carrier	Polyester Film	Polyester Film	Polyester Film	Polyester Film	Polyester Film	Polyester Film
Liner	60# Kraft	74# Kraft	14 pt board	60# Kraft	74# Kraft	14 pt board

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## References

1. 3m.com Product Page  
Url: [http://www.3m.com/3M/en\\_US/company-us/all-3m-products/~//3M-Double-Coated-Tape-9816M?N=5002385+3291148972&rt=rud](http://www.3m.com/3M/en_US/company-us/all-3m-products/~//3M-Double-Coated-Tape-9816M?N=5002385+3291148972&rt=rud)
2. Safety Data Sheet  
Url: [https://www.3m.com/3M/en\\_US/company-us/SDS-search/results/?gsaAction=msdsSRA&msdsLocale=en\\_US&co=ptn&q=9816M](https://www.3m.com/3M/en_US/company-us/SDS-search/results/?gsaAction=msdsSRA&msdsLocale=en_US&co=ptn&q=9816M)

## ISO Statement

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

## 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.

## 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. 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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