Technical Data Sheet

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.

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
Adhesive Type	Rubber	
Adhesive Carrier	Polyester Film	
Liner	74# Kraft	
Liner Thickness	0.103 mm	
Liner Print	None	
Total Tape Thickness (mil)	3.5 mil	View
Test Method: ASTM D3652		

Total Tape Thickness (mm)	0.09 mm	View

Test Method: ASTM D3652

Liner Thickness	4.1 mil	
Relative Adhesion (HSE)	High	
Relative Adhesion (LSE)	Medium	

Typical Performance Characteristics

Property	Values	Additional Information
180° Peel Adhesion	14.2 N/cm	View

Test Method: ASTM D3330

Dwell/Cure Time: 72.0
Dwell Time Units: hr
Temp C: 23C
Temp F: 72F
Environmental Condition: 50%RH
Substrate: Polypropylene (PP)

Notes: 12 in/min (300 mm/min)

180° Peel Adhesion	130 oz/in	View

Test Method: ASTM D3330

Dwell/Cure Time: 72.0
Dwell Time Units: hr
Temp C: 23C
Temp F: 72F
Environmental Condition: 50%RH
Substrate: Polypropylene (PP)

Notes: 12 in/min (300 mm/min)

180° Peel Adhesion	15.2 N/cm	View

Test Method: ASTM D3330

Dwell/Cure Time: 72.0
Dwell Time Units: hr
Temp C: 23C
Temp F: 72F
Environmental Condition: 50%RH
Substrate: Stainless Steel

Notes: 12 in/min (300 mm/min)

180° Peel Adhesion	139 oz/in	View

Test Method: ASTM D3330

Dwell/Cure Time: 72.0
Dwell Time Units: hr
Temp C: 23C

Temp F: 72F
Environmental Condition: 50%RH
Substrate: Stainless Steel

Notes: 12 in/min (300 mm/min)

180° Peel Adhesion	5.3 N/cm	View

Test Method: ASTM D3330

Dwell/Cure Time: 72.0
Dwell Time Units: hr
Temp C: 23C
Temp F: 72F
Environmental Condition: 50%RH
Substrate: Neoprene Rubber
Backing: 2 mil PET

Notes: 12 in/min (300 mm/min)

180° Peel Adhesion	48 oz/in	View

Test Method: ASTM D3330

Dwell/Cure Time: 72.0
Dwell Time Units: hr
Temp C: 23C
Temp F: 72F
Environmental Condition: 50%RH
Substrate: Neoprene Rubber
Backing: 2 mil PET

Notes: 12 in/min (300 mm/min)

180° Peel Adhesion	6.1 N/cm	View

Test Method: ASTM D3330

Dwell/Cure Time: 72.0
Dwell Time Units: hr
Temp C: 70C
Temp F: 158F
Environmental Condition: 50%RH
Substrate: Neoprene Rubber
Backing: 2 mil PET

Notes: 12 in/min (300 mm/min)

180° Peel Adhesion	56 oz/in	View

Test Method: ASTM D3330

Dwell/Cure Time: 72.0
Dwell Time Units: hr
Temp C: 70C
Temp F: 158F
Environmental Condition: 50%RH
Substrate: Neoprene Rubber
Backing: 2 mil PET

Notes: 12 in/min (300 mm/min)

Short Term Temperature Resistance	150 °F	View

Test Condition: Short Term (minutes, hour)

Short Term Temperature Resistance	65 °C	View

Test Condition: Short Term (minutes, hour)

Long Term Temp C

49 °C		View
Test Condition: Long Term (day, weeks)		
Long Term Temp F	120 °F	View
Test Condition: Long Term (day, weeks)		
Static Shear	10000 min	View
Test Method: ASTM D3654 Dwell/Cure Time: 60.0 Dwell Time Units: min Test Condition: 1000 g @ Room Temperature Notes: 1" x 1" Overlap		
Static Shear	2500 min	View
Test Method: ASTM D3654 Dwell/Cure Time: 60.0 Dwell Time Units: min Test Condition: 250 g @ 70°C (158°F) high temperature shears Notes: 1" x 1" Overlap		
Solvent Resistance	Medium	

Typical 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.

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.

Automotive Disclaimer

Select Automotive Applications: This product is an industrial product and has not been designed or tested for use in certain automotive applications, such as automotive electric powertrain battery or high voltage applications, which may require the product to be manufactured in a IATF certified facility, meet a Ppk of 1.33 for all properties, undergo an automotive production part approval process (PPAP), or fully adhere to automotive design or quality system requirements (e.g., IATF 16949 or VDA 6.3). Customer assumes all responsibility and risk if customer chooses to use this product in these applications.

Bottom Matter

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Handling/Application Information

Application Examples

- 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 withPlasticized Vinyl or plasticized rubber surfaces. Plasticizers will soften the rubber adhesive.

References

Property	Values
3m.com Product Page	https://www.3m.com/3M/en_US/p/d/b40070421/
Safety Data Sheet SDS	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.

Information

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