Technical Data Sheet

3M™ Double Coated Tape 9690

Product Description

Finite Element Analysis (FEA) data is available for this product at: **3m.com/FEA**

3M™ Double Coated Tapes with 3M™ Laminating Adhesive 300MP feature a thin polyester film for dimensional stability and improved handling with ease of die cutting and laminating. 3M adhesive 300MP offers excellent adhesion to many plastics and good shear strength and provides exceptional temperature and chemical resistance that withstands tough application environments.

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	Acrylic	
Adhesive Carrier	Clear PET (Polyester)	
Liner Color	Tan	View
Test Name: Primary		
Liner	83# Polycoated Kraft Paper (PCK)	
Liner Thickness	0.16 mm	
Liner Print	None	
Adhesive Thickness	0.058 mm	View
Test Name: Backside		

Notes: The caliper listed is based on a calculation from manufacturing controlled adhesive coat weight. While past data pages have listed nominal thicknesses of 1 and 2 mils, the coat weight (and theoretical caliper) has not changed.

Carrier Thickness	0.013 mm	

Total Tape Thickness (mil)	5.5 mil	View

Test Method: ASTM D3652

Total Tape Thickness (mm)	0.14 mm	View

Test Method: ASTM D3652

Adhesive Thickness	2.3 mil	View

Test Name: Backside

Notes: Backside adhesive is on the exterior of the roll, exposed when liner is removed.

Adhesive Thickness	0.071 mm	View

Test Name: Faceside

Notes: Faceside adhesive is on the interior of the roll, exposed when unwound and liner removed.

Adhesive Thickness	2.8 mil	View

Test Name: Faceside

Notes: Faceside adhesive is on the interior of the roll, exposed when unwound and liner removed.

Carrier Thickness	0.5 mil

Liner Thickness	6.2 mil

Typical Performance Characteristics

Property	Values	Additional Information
90° Peel Adhesion	115 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: Stainless Steel
Backing: 2 mil Aluminum Foil

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

90° Peel Adhesion	6 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: ABS
Backing: 2 mil Aluminum Foil

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

90° Peel Adhesion	55 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: ABS
Backing: 2 mil Aluminum Foil

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

90° Peel Adhesion	5.5 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: Polycarbonate (PC)
Backing: 2 mil Aluminum Foil

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

90° Peel Adhesion	50 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: Polycarbonate (PC)
Backing: 2 mil Aluminum Foil

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

90° Peel Adhesion	5.5 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: Polyester (PET)
Backing: Aluminum Foil

90° Peel Adhesion	50 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: Polyester (PET)

Backing: Aluminum Foil

90° Peel Adhesion Stainless Steel	115 oz/in	View

Test Method: ASTM D3330

Test Name: 90° Peel Adhesion
Dwell/Cure Time: 72.0
Dwell Time Units: hr
Temp C: 23C
Temp F: 72F
Environmental Condition: 50%RH
Substrate: Stainless Steel
Backing: 2 mil PET

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

90° Peel Adhesion Stainless Steel	4.9 N/cm	View

Test Method: ASTM D3330

Test Name: 90° Peel Adhesion
Dwell/Cure Time: 15.0
Dwell Time Units: min
Temp C: 23C
Temp F: 72F
Environmental Condition: 50%RH
Substrate: Stainless Steel
Backing: 2 mil PET

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

90° Peel Adhesion Stainless Steel	45 oz/in	View

Test Method: ASTM D3330

Test Name: 90° Peel Adhesion
Dwell/Cure Time: 15.0
Dwell Time Units: min
Temp C: 23C
Temp F: 72F
Environmental Condition: 50%RH
Substrate: Stainless Steel
Backing: 2 mil PET

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

90° Peel Adhesion Stainless Steel	12.6 N/cm	View

Notes: 12 in/min (300 mm/min) ASTM D3330 72 hour dwell on Stainless Steel at 23°C (72°F) and 50% RH Backing: 2 mil Polyester

90° Peel Adhesion	12.6 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: Stainless Steel

180° Peel Adhesion	13.7 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
Backing: Aluminum Foil

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

180° Peel Adhesion	125 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
Backing: Aluminum Foil

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

Short Term Temperature Resistance	250 °F	View

Test Condition: Short Term (minutes, hour)

Short Term Temperature Resistance	121 °C	View

Test Condition: Short Term (minutes, hour)

Long Term Temp C	93 °C	View

Test Condition: Long Term (day, weeks)

Long Term Temp F	200 °F	View

Test Condition: Long Term (day, weeks)

Static Shear	1500 min	View

Test Method: ASTM D3654

Test Condition: 1000 g @ Room Temperature

Notes: 0.5 in² sample size

Static Shear	500 min	View

Test Method: ASTM D3654

Test Condition: 500 g @ 70°C (158°F)

Notes: 0.5 in² sample size

Available Sizes

Property	Values	Additional Information
Note	Subject to minimum order requirements	
Maximum Length	164 m	View

Width: 1/2 in to 63/64 in		
Maximum Length	180 yd	View
Width: 1/2 in to 63/64 in		
Maximum Length	329 m	View
Width: 1 in to 54 in		
Maximum Length	360 yd	View
Width: 1 in to 54 in		
Minimum Available Width	12.7 mm	
Minimum Available Width	1/2 in	
Maximum Available Width	1372 mm	
Maximum Available Width	54 in	
Normal Slitting Tolerance	± 0.8 mm	
Normal Slitting Tolerance	± 1/32 in	
Core Size (ID)	76.2 mm	
Core Size (ID)	3 in	

Electrical and Thermal Properties

Property	Values	Additional Information
Breakdown Voltage	5700 V	

Typical Environmental Performance

Humidity Resistance: High humidity has minimal effect on adhesive performance. No significant reduction in bond strength is observed after exposure for seven days at 90°F (32°C) and 90% relative humidity.
UV Resistance: When properly applied, nameplates and decorative trim parts are not adversely affected by exposure to direct sunlight.

Water Resistance: Immersion in water has no appreciable effect on the bond strength. After 100 hours at room temperature, the high bond strength is maintained.
Temperature Cycling Resistance: High bond strength is maintained after cycling four times through:
4 hours at 158°F (70°C)
4 hours at -20°F (-29°C)
4 hours at 73°F (22°C)
Chemical Resistance: When properly applied, nameplate and decorative trim parts will hold securely after exposure to numerous chemicals including oil, mild acids and alkalis.

Storage and Shelf Life

Store in original cartons at 70°F (21°C) and 50% relative humidity.
If stored under proper conditions, product retains its performance and properties for 24 months from date of manufacture.

Recognition/Certification

MSDS: 3M has not prepared a MSDS for this product which is not subject to the MSDS requirements of the Occupational Safety and Health Administration's Hazard Communication Standard, 29 C.F.R. 1910.1200(b)(6)(v). When used under reasonable conditions or in accordance with the 3M directions for use, the product should not present a health and safety hazard. However, use or processing of the product in a manner not in accordance with the directions for use may affect its performance and present potential health and safety hazards.
TSCA: This product is defined as an article under the Toxic Substances Control Act and therefore, it is exempt from inventory listing requirements.
RoHs Complaint/REACH Compliant: This product complies with the European Union's "Restriction of Hazardous Substances" (RoHs) initiative and with European REACH regulations 2002/95/EC and 2005/618/EC

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.

For Additional Information

To request additional product information or to arrange for sales assistance, call toll free 1-800-251-8634. Address correspondence to: 3M, Electronics Markets Materials Division, 3M Center, Building 225-3S-06, St. Paul, MN 55144- 1000. Our fax number is 651-778-4244 or 1-877-369-2923. In Canada, phone: 1-800-364-3577. In Puerto Rico, phone: 1-787-750-3000. In Mexico, phone: 52-70-04-00.

Bottom Matter

3M
Electronics Materials Solutions Division
3M Center, Building 224-3N-11
St. Paul, MN 55144-1000
1-800-251-8634 phone
651-778-4244 fax
www.3M.com/electronics

Trademarks

3M is a trademark of 3M Company.

Handling/Application Information

Application Examples

- Cellular phone lens attachment
- Foam Lamination
- Nameplates
- Appliques
- Decorate Trim
- Thermal and sound dampening applications in the electronics and appliance industry.

Application Techniques

Bond strength is dependent upon the amount of adhesive-to-surface contact developed. Firm application pressure and moderate heat, from 100°F (38°C) to 130°F (54°C), will assist the adhesive in developing intimate contact with the

bonding surface.

To obtain optimum adhesion, the bonding surfaces must be clean, dry and well unified. Some typical surface cleaning solvents are isopropyl alcohol or heptane.*

Ideal tape application temperature range is 70°F to 100°F (21°C to 38°C). Initial tape application to surfaces at temperatures below 50°F (10°C) is not recommended because the adhesive becomes too firm to adhere readily. However, once properly applied, low temperature holding is generally satisfactory.

*Note: Carefully read and follow the manufacturer's precautions and directions for use when working with solvents. These cleaning recommendations may not be compliant with the rules of certain Air Quality Management Districts in California; consult applicable rules before use.

Application Equipment

To apply adhesives in a wide web format, lamination equipment is required to ensure acceptable quality. To learn more about working with pressure-sensitive adhesives please refer to technical bulletin, Lamination Techniques for Converters of Laminating Adhesives (70-0704-1430-8).

For additional dispenser information, contact your local 3M sales representative, or the toll free 3M sales assistance number at 1-800-251-8634.

Directions for Use

Adding Liners to 3M™ Double Coated Tapes with 3M™ Laminating Adhesive 300MP

1. Rotary processing, tape only, on a densified (outside of #4994) kraft liner. In this process the tape waste will stay with the 83# PCK liner, leaving adhesive die-cuts dispensable from the #4994 (densified kraft) liner.

2. Current process limitations prevent the supply of 3M™ Laminating Adhesive 300MP on a DK liner

References

Property	Values
3m.com Product Page	https://www.3m.com/3M/en_US/p/d/b40072043/
Safety Data Sheet SDS	https://www.3m.com/3M/en_US/company-us/SDS-search/results/?gsaAction=msdsSRA&msdsLocale=en_US&co=ptn&q=9690

Family Group

Link Tags:

9690 9690B 9609

Products	Liner Color	Liner	Liner Thickness	Adhesive Thickness	Short Term Temperature Resistance	Long Term Temp C	Long Term Temp F	Adhesive Carrier	Carrier Thickness
9690	Tan	83# Polycoated Kraft Paper (PCK)	0.16 mm	0.071 mm	121 °C	93 °C	200 °F	N/A	N/A
9609	Tan	83# Polycoated Kraft, no print	0.16 mm	0.089 mm	149 °C	93 °C	N/A	Clear PET (Polyester)	0.051 mm
9690B	Tan	83# Polycoated Kraft, "3M" print	0.16 mm	0.071 mm	N/A	93 °C	200 °F	N/A	0.013 mm

Information

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