

November, 2011

3M™ Double Coated Tape 9690

Product Description

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		Notes
Total Tape Thickness without liner	0.14 mm	5.5 mil	
Faceside Adhesive Thickness	0.071 mm	2.8 mil	Faceside adhesive is on the interior of the roll, exposed when unwound and liner removed.
Backside Adhesive Thickness	0.058 mm	2.3 mil	Backside adhesive is on the exterior of the roll, exposed when liner is removed.
Carrier Thickness	0.013 mm	0.5 mil	
Adhesive Carrier	Clear PET (Polyester)		
Liner	83# Polycoated Kraft, "3M" print		
Liner Thickness	0.16 mm	6.2 mil	
Liner Color	Tan		

Typical Performance Characteristics

90° Peel Adhesion		Dwell/Cure Time	Substrate	Backing
6.0 N/cm	55 oz/in	72 hr @ Room Temperature	ABS	Aluminum Foil
5.5 N/cm	50 oz/in	72 hr @ Room Temperature	Polycarbonate (PC)	Aluminum Foil
5.5 N/cm	50 oz/in	72 hr @ Room Temperature	Polyester (PET)	Aluminum Foil
4.9 N/cm	45 oz/in	15 min @ Room Temperature	Stainless Steel	
12.6 N/cm	115 oz/in	72 hr @ Room Temperature	Stainless Steel	
12.6 N/cm	115 oz/in	Ultimate (72 hr, 158°F)	Stainless Steel	

Property: 90° Peel Adhesion
Method: ASTM D3330

Relative High Temperature Operating Ranges		Test Condition
149 °C	300 °F	Short Term (minutes, hours)
93 °C	200 °F	Long Term (days, weeks)

Property: Relative High Temperature Operating Ranges

Typical Performance Characteristics (continued)

Property	Values		Method	Test Condition	Notes	Dwell/Cure Time	Substrate	Backing
Static Shear	1500 min		ASTM D3654	1000 g @ Room Temperature	0.5 in ² sample size			
Static Shear	500 min		ASTM D3654	500 g @ 70°C (158°F)	0.5 in ² sample size			
180° Peel Adhesion	13.7 N/cm	125 oz/in	ASTM D3330			72 hr @ Room Temperature	Stainless Steel	Aluminum Foil

Available Sizes

Property	Values	
Note	Subject to minimum order requirements	
Minimum Available Width	12.7 mm	1/2 in
Maximum Available Width	1372 mm	54 in
Normal Slitting Tolerance	± 0.8 mm	± 1/32 in
Core Size (ID)	76.2 mm	3.0 in

Maximum Length		Width
164 m	180 yd	1/2 in to 63/64 in
329 m	360 yd	1 in to 54 in

Property: Maximum Length

Electrical and Thermal Properties

Property	Values
Breakdown Voltage	5700 V
Dielectric Strength	1025 V/mil

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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.

Handling/Application Information

Application Ideas

- 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

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.

Information

Technical Information: The technical information, guidance, and other statements contained in this document or otherwise provided by 3M are based upon records, tests, or experience that 3M believes to be reliable, but the accuracy, completeness, and representative nature of such information is not guaranteed. Such information is intended for people with knowledge and technical skills sufficient to assess and apply their own informed judgment to the information. No license under any 3M or third party intellectual property rights is granted or implied with this information.

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Trademarks

3M is a trademark of 3M Company.

References

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

	9690	9690B	9609
Relative High Temperature Operating Ranges (°C) Test Condition: Short Term (minutes, hours)	149	149	149
Relative High Temperature Operating Ranges (°C) Test Condition: Long Term (days, weeks)	93	93	93
Total Tape Thickness without liner (mm)	0.14	0.14	0.23

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Family Group (continued)

	9690	9690B	9609
Faceside Adhesive Thickness (mm)	0.071	0.071	0.089
Backside Adhesive Thickness (mm)	0.058	0.058	0.089
Carrier Thickness (mm)	0.013	0.013	0.051
Adhesive Carrier	Clear PET (Polyester)	Black PET (Polyester)	Clear PET (Polyester)
Liner	83# Polycoated Kraft, "3M" print	83# Polycoated Kraft, "3M" print	83# Polycoated Kraft, no print
Liner Thickness (mm)	0.16	0.16	0.16
Liner Color	Tan	Tan	Tan

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.

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

