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3M™ Performance Paper Label Material 7000

Product Description

3M™ Performance Paper Label Material provides excellent resistance to flagging on small diameter vials. These label materials utilize 3M™ High Precision Acrylic Adhesive 320, which provides firmness and strength on a variety of surfaces including high surface energy (HSE) and low surface energy (LSE) plastics, as well as, metals.

Product Features

- Facestock is ideal for traditional forms of press printing and write-on variable information.
- Designed to survive autoclaving, ETO and gamma sterilization while adhered to most surfaces.
- Meets many pharmaceutical industry or manufacturer specifications.
- 3M™ Performance Paper Label Material 7000 utilizes a 43# Densified Kraft liner that help improve application accuracy due to excellent liner release consistency.
- Ideal for application rates up to 250 containers per minute.



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	
Facestock	60# High Gloss Kromekote™	
Facestock Thickness	0.102 mm	4.0 mil
Adhesive	320 Acrylic	
Adhesive Thickness	0.023 mm	0.9 mil
Liner	43# Densified Kraft	
Liner Thickness	0.064 mm	2.5 mil
Adhesive Coat Weight	1.24 to 1.65 g/in ²	

Convertability

The high tenacity of 3M™ Specialty Acrylic Adhesive 320 is specifically designed to be compatible with flexographic and thermal transfer technologies. Its aggressive tack properties, while desirable for the end use application, may require extra care during processing. Please refer to the die cutting/converting section of this data page or the "Guide to Converting and Handling Label Products" technical bulletin for additional information.

Note

Calipers are nominal values

Typical Performance Characteristics

Property	Values		Method	Notes
Service Temperature Range	-40 to 121 °C	-40 to 250 °F		
Minimum Application Temperature	10 °C	50 °F		
Liner Release Range	5 to 55 g/2 in		TLMI	180° removal, 300 in/min

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Typical Performance Characteristics (continued)

Property	Values		Method	Notes
Note	*The adhesion to the substrate is higher than the internal strength of the paper resulting in delamination or paper tear upon removal.			

180° Peel Adhesion		Dwell/Cure Time	Substrate
*Delaminated N/cm		10 min @ Room Temperature	Stainless Steel
*Delaminated		10 min @ Room Temperature	Polystyrene
7.8 N/cm	71 oz/in	10 min @ Room Temperature	Polypropylene (PP)
*Delaminated N/cm		10 min @ Room Temperature	Glass
7.7 N/cm	70 oz/in	10 min @ Room Temperature	High Density Polyethylene (HDPE)
7.0 N/cm	64 oz/in	10 min @ Room Temperature	Low Density Polyethylene (LDPE)
*Delaminated N/cm		72 hr @ Room Temperature	Stainless Steel
*Delaminated		72 hr @ Room Temperature	Polystyrene
*Delaminated N/cm		72 hr @ Room Temperature	Polypropylene (PP)
*Delaminated N/cm		72 hr @ Room Temperature	Glass
8.0 N/cm	73 oz/in	72 hr @ Room Temperature	High Density Polyethylene (HDPE)
7.7 N/cm	70 oz/in	72 hr @ Room Temperature	Low Density Polyethylene (LDPE)
*Delaminated N/cm		24 hr @ 90°F(32°C) at 90% Relative Humidity	Stainless Steel
*Delaminated		24 hr @ 90°F(32°C) at 90% Relative Humidity	Polystyrene
8.9 N/cm	81 oz/in	24 hr @ 90°F(32°C) at 90% Relative Humidity	Polypropylene (PP)
*Delaminated N/cm		24 hr @ 90°F(32°C) at 90% Relative Humidity	Glass
8.0 N/cm	73 oz/in	24 hr @ 90°F(32°C) at 90% Relative Humidity	High Density Polyethylene (HDPE)
6.7 N/cm	61 oz/in	24 hr @ 90°F(32°C) at 90% Relative Humidity	Low Density Polyethylene (LDPE)

Property: 180° Peel Adhesion

Method: ASTM D3330

notes: 12in/min (305 mm/min), 1in wide sample

Typical Performance Characteristics (continued)

90° Peel Adhesion		Dwell/Cure Time	Substrate
*Delaminated N/cm		10 min @ Room Temperature	Stainless Steel
*Delaminated		10 min @ Room Temperature	Polystyrene
2.3 N/cm	21 oz/in	10 min @ Room Temperature	Polypropylene (PP)
*Delaminated N/cm		10 min @ Room Temperature	Glass
3.3 N/cm	30 oz/in	10 min @ Room Temperature	High Density Polyethylene (HDPE)
2.1 N/cm	19 oz/in	10 min @ Room Temperature	Low Density Polyethylene (LDPE)
*Delaminated N/cm		72 hr @ Room Temperature	Stainless Steel
*Delaminated		72 hr @ Room Temperature	Polystyrene
*Delaminated N/cm		72 hr @ Room Temperature	Polypropylene (PP)
*Delaminated N/cm		72 hr @ Room Temperature	Glass
2.8 N/cm	26 oz/in	72 hr @ Room Temperature	High Density Polyethylene (HDPE)
1.5 N/cm	14 oz/in	72 hr @ Room Temperature	Low Density Polyethylene (LDPE)
*Delaminated N/cm		24 hr @ 90°F(32°C) at 90% Relative Humidity	Stainless Steel
*Delaminated		24 hr @ 90°F(32°C) at 90% Relative Humidity	Polystyrene
*Delaminated N/cm		24 hr @ 90°F(32°C) at 90% Relative Humidity	Polypropylene (PP)
*Delaminated N/cm		24 hr @ 90°F(32°C) at 90% Relative Humidity	Glass
*Delaminated N/cm		24 hr @ 90°F(32°C) at 90% Relative Humidity	High Density Polyethylene (HDPE)
1.5 N/cm	14 oz/in	24 hr @ 90°F(32°C) at 90% Relative Humidity	Low Density Polyethylene (LDPE)

Property: 90° Peel Adhesion

Method: ASTM D3330

notes: 12in/min (305 mm/min), 1in wide sample

Available Sizes

Packaging

To minimize the effects of humidity, the product should be stored in plastic bags. Low density polyethylene (2 - 4 mils) can help prevent humidity penetration and stabilize the moisture content.

Typical Environmental Performance

Chemical Resistance (180° Peel)	Test Condition
Delamination	Isopropyl Alcohol
Delamination	Detergent (1% ALCONOX®)
Delamination	Water

Property: Chemical Resistance (180° Peel)

Method: ASTM D3330

notes: The properties defined are based on 4-hour immersions at room temperature (72°F/22°C) unless otherwise noted. Samples were applied to stainless steel panels 24 hours prior to immersion and were evaluated one hour after removal from the solution for peel adhesion. Adhesion measured at 180° peel angle (ASTM D 3330) at 12 inches/minute. Note: The adhesion to the substrate is higher than the internal strength of the paper resulting in delamination upon removal.

Accelerated Aging		Notes
0.025 N/cm	6.6 g/in	180° Removal of Liner from Facestock at 90 in/min
Delamination N/cm		180° Peel Adhesion from Stainless Steel at 12 in/min

Property: Accelerated Aging

Method: ASTM D3611

Test Condition : 96 hr @ 150°F (65°C) and 80% relative humidity

Sterilization Process

Specifically designed for excellent flagging resistance on small diameter glass vials following steam autoclave, gamma or ethylene oxide sterilization.

Temperature Resistance

250°F (121°C) for 24 hours: slight yellowing

-40°F (-40°C) for 24 hours: no significant visual change

Handling/Application Information

Application Ideas

- Pharmaceutical labeling.
- Barcode labels and rating plates.
- Property identification and asset labeling.

Application Techniques

- For maximum bond strength, surface should be thoroughly cleaned and dried. A typical cleaning solvent is heptane or isopropyl alcohol. Note: Follow the manufacturer’s precautions and directions for use when using solvents.
- For best bonding conditions, application surface should be at room temperature or higher. Low temperature surfaces, below 40°F (5°C), cause the adhesive to become firm and will not allow the adhesive to flow and develop intimate contact with the substrate.
- Higher initial bonds can be achieved through increased rubdown pressure. Use a rubber roller with maximum hand pressure for best results.

*Note: When using solvents, read and follow the manufacturer’s precautions and directions for use.

Printing

Facestock is press printable with traditional flexographic process and thermal transfer printable with high-quality thermal transfer ribbons. Whenever printing for the first time, with a different ink system or on a new machine, we strongly recommend carrying out proofing trials to validate ink adhesion and durability prior to a full production run.

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Converting

Rotary die cutting is recommended. Fanfolding labels is not recommended. Small labels should be evaluated carefully. Winding tensions should be kept at a minimum to prevent the adhesive from oozing.

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.
Kromekote is a trademark of SMART Papers.
ALCONOX is a registered trademark of Alconox, Inc.

References

Property	Values
3m.com Product Page	https://multimedia.3m.com/mws/media/1214990/performance-paper-label-materials.pdf
Safety Data Sheet (SDS)	https://www.3m.com/3M/en_US/company-us/SDS-search/results/?gsaAction=msdsSRA&msdsLocale=en_US&co=ptn&q=7000

Family Group

	7000	7000FP	7002	7002FP	7000FL	7011FP	7014	7014FL	7014FP	7011
Facestock	60# High Gloss Kromekote™	60# High Gloss Kromekote™	56# Bright White Coated Paper	56# Bright White High Gloss Paper	60# High Gloss Kromekote™	35# Coated White Litho Tamper Indicating Paper	40# Coated White Litho Paper	40# Coated White Litho Paper	40# Coated White Litho Paper	35# Coated White Litho Tamper Indicating Paper
Facestock Thickness (mm)	0.102	0.102	0.071	0.071	0.102	0.064	0.048	0.048	0.048	0.064
Adhesive	320 Acrylic	320 Acrylic	320 Acrylic	320 Acrylic	320 Acrylic	320 Acrylic	320 Acrylic	320 Acrylic	320 Acrylic	320 Acrylic
Adhesive Thickness (mm)	0.023	0.023	0.023	0.023	0.023	0.023	0.023	0.023	0.023	0.023
Liner	43# Densified Kraft	55# Densified Kraft	43# Densified Kraft	55# Densified Kraft	Polyester Film	55# Densified Kraft	43# Densified Kraft	Polyester Film	55# Densified Kraft	43# Densified Kraft
Liner Thickness (mm)	0.064	0.081	0.064	0.081	0.038	0.081	0.064	0.038	0.081	0.064

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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