December, 2006

3M™ Thermal Transfer Polyester with TT3 Matte Topcoating Label Material 7246

Product Description

3M™ Thermal Transfer Polyester Label Materials offer supreme image durability in harsh environments. The polyester label stock utilizes 3M™ Adhesive 350, which is designed to permanently bond to high and low surface energy plastics, textured and contoured surfaces, powder coatings and slightly oily metals.

Product Features

- TT3 matte topcoat provides image protection for most applications without a protective overlaminate.
- Topcoat offers high abrasion resistance combined with excellent chemical resistance including brake fluid.
- 3M™ Adhesive 350 is the most universal adhesive for labels, including low surface energy substrates.
- 1.8 mil adhesive coat weight for excellent adhesion to textured surfaces.
- Adhesive offers excellent chemical resistance and holding strength, even at high temperatures.
- Liner assures consistent die cutting.
- UL recognized (File MH 16411). See UL listings for details.

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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	
Facestock	White Polyester with Matte TT3 Topcoating	
Facestock Thickness	0.056 mm	2.2 mil
Adhesive	350 Acrylic	
Adhesive Thickness	0.046 mm	1.8 mil
Liner	40# White Densified Glassine	
Liner Thickness	0.056 mm	2.2 mil

Note

Calipers are nominal values

Typical Performance Characteristics

90° Peel Adhesion		Dwell/Cure Time	Substrate
6.9 N/cm	62 oz/in	20 min @ Room Temperature	Aluminum
7.4 N/cm	67 oz/in	20 min @ Room Temperature	Stainless Steel
6.8 N/cm	61 oz/in	20 min @ Room Temperature	Phenolic
6.9 N/cm	62 oz/in	20 min @ Room Temperature	ABS
7.1 N/cm	64 oz/in	20 min @ Room Temperature	Polycarbonate (PC)
6.9 N/cm	62 oz/in	20 min @ Room Temperature	Polystyrene
5.4 N/cm	49 oz/in	20 min @ Room Temperature	Polypropylene (PP)
4.1 N/cm	37 oz/in	20 min @ Room Temperature	High Density Polyethylene (HDPE)
5.4 N/cm	49 oz/in	20 min @ Room Temperature	Low Density Polyethylene (HDPE)
6.3 N/cm	57 oz/in	20 min @ Room Temperature	Powder Coating
9.4 N/cm	85 oz/in	Ultimate Adhesion 72 hr @ Room Temperature	Aluminum
11.0 N/cm	99 oz/in	Ultimate Adhesion 72 hr @ Room Temperature	Stainless Steel
8.5 N/cm	77 oz/in	Ultimate Adhesion 72 hr @ Room Temperature	Phenolic

Table continued on next page

Typical Performance Characteristics (continued)

90° Peel Adhesion		Dwell/Cure Time	Substrate
8.9 N/cm	80 oz/in	Ultimate Adhesion 72 hr @ Room Temperature	ABS
8.2 N/cm	74 oz/in	Ultimate Adhesion 72 hr @ Room Temperature	Polycarbonate (PC)
7.5 N/cm	68 oz/in	Ultimate Adhesion 72 hr @ Room Temperature	Polystyrene
7.3 N/cm	66 oz/in	Ultimate Adhesion 72 hr @ Room Temperature	Polypropylene (PP)
5.1 N/cm	46 oz/in	Ultimate Adhesion 72 hr @ Room Temperature	High Density Polyethylene (HDPE)
5.8 N/cm	52 oz/in	Ultimate Adhesion 72 hr @ Room Temperature	Low Density Polyethylene (HDPE)
9.2 N/cm	83 oz/in	Ultimate Adhesion 72 hr @ Room Temperature	Powder Coating
6.3 N/cm	57 oz/in	72 hr @ -40°F(-40°C)	Aluminum
8.0 N/cm	72 oz/in	72 hr @ -40°F(-40°C)	Stainless Steel
6.8 N/cm	61 oz/in	72 hr @ -40°F(-40°C)	Phenolic
7.5 N/cm	68 oz/in	72 hr @ -40°F(-40°C)	ABS
7.4 N/cm	67 oz/in	72 hr @ -40°F(-40°C)	Polycarbonate (PC)
7.5 N/cm	68 oz/in	72 hr @ -40°F(-40°C)	Polystyrene
6.4 N/cm	58 oz/in	72 hr @ -40°F(-40°C)	Polypropylene (PP)
4.0 N/cm	36 oz/in	72 hr @ -40°F(-40°C)	High Density Polyethylene (HDPE)
5.1 N/cm	46 oz/in	72 hr @ -40°F(-40°C)	Low Density Polyethylene (HDPE)
7.7 N/cm	69 oz/in	72 hr @ -40°F(-40°C)	Powder Coating

Property: 90° Peel Adhesion
Method: FTM 2

Typical Environmental Performance

Chemical and Environmental Exposure

The properties defined are based on four 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 90° peel angle (FTM 2) at 305 mm/min

Typical Environmental Performance (continued)

	Adhesion to Stainless Steel		Appearance	Edge Penetration
Chemical	N/10mm	Oz/In	Visual	Millimeters
Heptane	8.2	74	No change	3
Petrol	6.0	54	No change	3
Diesel	6.1	55	No change	1
SAE 15W40 Engine Oil	7.4	67	No change	0
Dot 4 Brake Fluid	7.8	70	No change	1
Screen Wash	7.1	64	No change	0
IPA	6.8	61	No change	1
Toluene	5.2	47	No change	4
MEK	5.4	49	No change	4
Lemsolve	6.2	56	No change	2
Teepol Detergent	7.4	67	No change	0
PH 4	6.6	59	No change	0
PH 10	7.2	65	No change	0
409® Formula	6.6	59	No change	0

Humidity Resistance

24 hours at 100°F (38°C) and 100% relative humidity: no significant changes in appearance or adhesion

Temperature Resistance

300°F (149°C) for 24 hours: no significant visual change
0.4% MD shrinkage
0.6% CD shrinkage
-40°F (-40°C) for 3 days: no significant visual change

Processing

Die Cutting:
Rotary die cutting is recommended. Fanfolding of labels is not recommended. Small labels should be evaluated carefully. Winding tensions should be kept at a minimum to help prevent the adhesive from oozing. Please refer to Technical Service Bulletin Guide to converting 3M™ Label Materials with 3M™ Adhesive 350.
Packaging:
Finished labels should be stored in plastic bags.

Handling/Application Information

Application Ideas

- Automotive under hood applications for barcode labels and rating plates.
- Property identification and asset labeling in harsh environments like automotive and electronic assembly.
- Warning, instruction, and service labels for durable goods.

Application Techniques

For maximum bond strength, the surface should be clean and dry. Typical cleaning solvents are heptane and isopropyl alcohol.*
*When using solvents, read and follow the manufacturer's precautions and directions for use.
For best bonding conditions, application surface should be at room temperature or higher. Low temperature surfaces, below 41°F (5°C), can cause the adhesive to become so firm that it will not develop maximum contact with the substrate. Higher initial bonds can be achieved through increased rubdown pressure.

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Printing

Facestock is topcoated for improved ink receptivity and is designed for thermal transfer printing. It is printable by all standard roll-processing methods including flexography, hot stamp, letterpress, and screen-printing.
Thermal Transfer Printing:
The following thermal transfer ribbons are recommended for 3M™ Thermal Transfer Polyester Label Materials. Please contact your Application Development Specialist for application specific suggestions.
Ricoh: B110 CR
Ricoh: B110C
Iimak: SP330
ITW: B324

Storage and Shelf Life

Store 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.

Industry Specifications

UL Recognized (File MH 16411)

Trademarks

3M is a trademark of 3M Company.
409 is a registered trademark of Clorox.

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=7246

Family Group

	7246	7247
Facestock	White Polyester with Matte TT3 Topcoating	Matte Silver Polyester with Matte TT3 Topcoating
Facestock Thickness (mm)	0.056	0.056
Adhesive	350 Acrylic	350 Acrylic
Adhesive Thickness (mm)	0.046	0.046
Liner	40# White Densified Glassine	40# White Densified Glassine
Liner Thickness (mm)	0.056	0.056

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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