



7813EH - 3M TT5 MS PET 75-300E-90WG

Thermal Transfer Polyester Label Material

Product Data Sheet

Issued	:	May 2003
Supersedes	:	None

Physical Properties

Not for specification purposes
(Calipers are nominal values)

Facestock	80 Micron Matte Silver polyester
Adhesive	20 micron #300 E Acrylic
Liner	77 micron, 90 g/m ² White Densified Glassine
Shelf Life	24 months from date of manufacture of product when properly stored at 22°C and 50% relative humidity.

Features:

- TT5 Matte topcoat provides a smooth matte surface, giving excellent thermal transfer images at reduced burn temperature settings, resin ribbons are recommended for optimum durability. The matte coating is extremely resistant to degradation from scuffing, chemicals, moisture, and wide temperature fluctuations. The topcoat also provides improved ink anchorage for traditional forms of press printing.
- 300E adhesive bonds well to a wide variety of substrates including metals, high surface energy (HSE) plastics and low surface energy (LSE) plastics. It is ideal for applications requiring high initial adhesion especially to LSE plastic surfaces.
- 90 g/m² densified glassine liner assures consistent die cutting.
- UL and cUL approved as 7813E (File No. MH18072)

Application Ideas:

- Barcode labels and rating plates.
- Property identification and asset labelling.
- Warning, instruction, and service labels for durable goods.
- Nameplates for durable, electronic and sporting goods.

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Performance Characteristics

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Adhesion	90°Peel Adhesion, Test procedure FTM 2			
	Initial (20 Minute Dwell/RT)		Ultimate Adhesion 72 Hours Dwell at Maximum UL Temperature rating	
	N/10mm	Oz/In	N/10mm	Oz/In
Aluminium	4.2	38	5.6	50
Stainless Steel	4.5	41	5.6	50
Phenolic	4.3	39	5.4	48
ABS	4.6	41	5.5	50
Polycarbonate	5.0	45	5.3	48
Polystyrene	4.7	42	5.1	46
Polypropylene	4.4	40	4.7	42
HD Polyethylene	3.0	27	3.6	32
LD Polyethylene	3.5	32	3.4	31
Powder Coating	3.0	27	5.2	47

Surface	Conditioned for 3 Days at - 40°C	
	90° Peel	
	N/10mm	Oz/In
Aluminium	4.3	39
Stainless Steel	4.9	44
Phenolic	4.7	42
ABS	5.2	47
Polycarbonate	5.0	45
Polystyrene	5.0	45
Polypropylene	4.8	43
HD Polyethylene	3.5	32
LD Polyethylene	5.0	45
Powder Coating	4.0	36

Liner Release	FTM 3 180° Removal of Liner from Facestock		
	Rate of Removal	N/10mm	Gms/50mm Width
	2.3 m / min	0.025	13

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Performance Characteristics Contd...

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Environmental Performance	The properties defined are based on four hour immersions at room temperature 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).			
Chemical Resistance	Adhesion to Stainless Steel		Appearance	Edge Penetration
Chemical	N/10mm	Oz/In	Visual	Millimetres
Heptane	3.8	34	No change	5
Petrol	3.2	29	No change	4
Diesel	4.8	43	No change	1
SAE 15W40 Engine Oil	5.5	50	No change	0
Dot 4 Brake Fluid	5.6	50	No change	0
Screen Wash	7.0	63	No change	0
IPA	5.3	48	No change	1
Toluene	3.1	28	No change	5
MEK	3.2	29	No change	5
Lemsolve	5.0	45	No change	2
Teepol Detergent	3.6	32	No change	0
PH 4	7.0	63	No change	0
PH 10	6.6	59	No change	0
409 Solution	6.4	58	No change	0

Temperature Resistance	149°C for 24 hours:	no significant visual change 0.7% MD shrinkage 0.9% CD shrinkage
	-40°C for 3 days:	no significant visual change
Humidity Resistance	24 hours at 38°C and 100% relative humidity	no significant changes in appearance or adhesion

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Agency Listing Information

Thermal Transfer Printing:

UL and cUL approved as 7810E with the following ribbons

Armor: AXR 8; AXR 600
 Ricoh™: B110CX; B120EC
 Sony™: TR5070; TR4570
 Astromed: R5, RY
 Kurz: 501

Processing

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.

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.

Packaging:

Finished labels should be stored in plastic bags.

Special Considerations

For maximum bond strength, the surface should be clean and dry. Typical cleaning solvents are heptane and isopropyl alcohol.

NOTE: 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 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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Values presented have been determined by standard test methods and are average values not to be used for specification purposes. Our recommendations on the use of our products are based on tests believed to be reliable but we would ask that you conduct your own tests to determine their suitability for your applications. This is because 3M cannot accept any responsibility or liability direct or consequential for loss or damage caused as a result of our recommendations.

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