



76712 3M TT3 MS PET 36-450E-90WG

Thermal Transfer Polyester Label Material

Issued	:	April 2006
Supersedes	:	March 2006

Physical Properties

Not for specification purposes
(Calipers are nominal values)

Facestock	42 Micron Matte Silver polyester
Adhesive	20 micron #450 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 between 22°C and 50% relative humidity.

Features:

- TT3 Matte topcoat provides the advantages of matte coating combined with a surface that is smooth enough for thermal transfer printing. High abrasion resistance combined with excellent chemical resistance of the thermal transfer image. Resin ribbons are recommended for optimum durability. The topcoat also provides improved ink anchorage for traditional forms of press printing
- 450 E is utility acrylic suitable for high volume indoor electrical and electronic bar code and rating plate labelling. Resists oozing and provides high strength on a variety of surfaces including high surface energy (HSE) plastics and metals.
- 77 g/m² densified glassine liner assures consistent die cutting.
- UL recognized for indoor use (File Number MH18072)

Application Ideas:

- Barcode labels and rating plates.
- Carton labelling in high volume electronic applications
- Warning, instruction, and service labels for durable goods.
- Nameplates for durable, electronic and sporting goods.

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**Performance
 Characteristics**
 Not for specification purposes

	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	4.3	28	4.3	58
Stainless Steel	3.6	32	5.6	51
Phenolic	3.0	27	4.8	44
ABS	3.8	35	4.0	36
Polycarbonate	3.4	30	3.4	31
Polystyrene	4.1	37	2.7	25
Polypropylene	2.5	23	2.2	20
HD Polyethylene	1.7	16	2.7	25
LD Polyethylene	1.7	16	0.8	7

	Conditioned for 3 Days at - 40°C	
Surface	180° Peel (FTM 1)	
	N/10mm	Oz/In
Aluminium	5.5	50
Stainless Steel	6.8	62
Phenolic	5.0	46
ABS	4.9	45
Polycarbonate	4.9	45
Polystyrene	5.0	46
Polypropylene	4.2	38
HD Polyethylene	2.3	21
LD Polyethylene	2.8	25

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**Performance
 Characteristics Contd.**
 Not for specification purposes

Adhesion	180°Peel Adhesion, Test procedure FTM 1			
	Initial (20 Minute Dwell/RT)		Ultimate Adhesion 72 Hours Dwell at Maximum UL Temperature rating	
	N/10mm	Oz/In	N/10mm	Oz/In
Aluminium	3.5	32	6.6	59
Stainless Steel	3.9	35	8.6	78
Phenolic	3.7	34	6.9	63
ABS	4.5	41	4.5	41
Polycarbonate	5.3	48	5.1	47
Polystyrene	5.0	46	4.8	44
Polypropylene	3.5	32	3.8	35
HD Polyethylene	1.9	17	2.3	21
LD Polyethylene	1.9	17	1.5	14

	Conditioned for 3 Days at - 40°C	
Surface	90° Peel	
	N/10mm	Oz/In
Aluminium	2.8	25
Stainless Steel	5.9	54
Phenolic	4.0	36
ABS	4.6	42
Polycarbonate	3.3	42
Polystyrene	4.5	41
Polypropylene	1.1	10
HD Polyethylene	2.0	18
LD Polyethylene	1.3	12

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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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	% Change	Visual	Millimetres
Isopropyl Alcohol	5.9	54	92	No change	0
Detergent (1% Alconox®*) When dried	6.4	58	100	No change	0
Engine Oil (10W30) @ 250°F (121°C)	6.4	58	100	No change	0
Water for 48 hours when dried	6.4	58	100	No change	0
pH 4	7.4	67	115	No change	0
PH10	7.1	64	111	No change	0
Toluene	3.2	29	50	Topcoat Damaged	7.0
Acetone	3.9	36	61	Topcoat Damaged	5.0
Brake Fluid	6.4	58	100	No change	0
Gasoline	3.5	32	55	No change	6.0
Diesel Fuel	6.2	56	96	No change	1.0
Naphtha	4.6	42	72	No change	4.0
Hydraulic Fluid	6.6	59	103	No change	0

Temperature Resistance	70°C for 24 hours:	no significant visual change
	-20°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

Agency Listing Information

Thermal Transfer Printing:

UL recognized for indoor use with the following thermal transfer ribbons

Armor: AXR-7+; AXR-8, AXR600
 Ricoh™: B110CX, B110CR, B120EC
 Sony™: TR 5070, TR4570
 Astromed: R5, RY
 Kurz: K501
 Zebra: 4800, 5095, 5100

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 10°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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Tapes & Adhesives Group

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3M United Kingdom PLC
 3M Centre
 Cain Road,
 Bracknell, Berkshire,
 RG12 8HT

Product Information :
 Tel 0870 60 800 50
 Fax 0870 60 700 99

3M Ireland
 3M House, Adelphi Centre,
 Upper Georges Street,
 Dun Laoghaire, Co. Dublin,
 Ireland

Customer Service :
 Tel (01) 280 3555
 Fax (01) 280 3509