



# 7868E 3M TT2 GW PET50-350E/20-65WG

## Thermal Transfer Polyester Label Material

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### Product Data Sheet

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Issued : June 2004  
Supersedes : June 2003

#### Physical Properties

Not for specification purposes  
(Calipers are nominal values)

<b>Facestock</b>	53 micron Gloss Radiant White polyester
<b>Adhesive</b>	20 micron #350 E Acrylic
<b>Liner</b>	56 micron, 62 g/m <sup>2</sup> White Densified Glassine
<b>Shelf Life</b>	24 months from date of manufacture of product when properly stored between 22°C and 50% relative humidity.

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#### Features:

- Facestock is topcoated for thermal transfer printing. Resin ribbons are recommended for optimum durability. The topcoat also provides improved ink anchorage for traditional forms of press printing.
- 350 E 3M's most universal labelstock adhesive, excellent adhesion, even on low surface energy substrates combined with excellent temperature and chemical resistance.
- 62 g/m<sup>2</sup> densified glassine liner assures consistent die cutting.
- UL and cUL approved (File Number MH18072)

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#### Application Ideas:

- Barcode labels and rating plates.
  - Property identification and asset labelling in harsh environments.
  - 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

Adhesion	90°Peel Adhesion, Test procedure FTM 2			
	Initial (20 Minute Dwell/RT)		Ultimate Adhesion 72 Hours Dwell at 23	
	N/10mm	Oz/In	N/10mm	Oz/In
Aluminium	3.7	33	5.9	53
Stainless Steel	4.4	40	6.6	59
Phenolic	3.7	34	5.8	52
ABS	4.0	36	5.4	49
Polycarbonate	4.1	37	5.2	47
Polystyrene	3.9	34	4.8	43
Polypropylene	3.8	35	4.8	43
HD Polyethylene	2.3	21	3.0	27
LD Polyethylene	2.8	25	2.8	22
Powder Coating	2.9	27	5.6	50

Surface	Conditioned for 3 Days at - 40°C	
	90° Peel	
	N/10mm	Oz/In
Aluminium	4.6	42
Stainless Steel	4.9	44
Phenolic	4.6	42
ABS	4.8	43
Polycarbonate	4.5	41
Polystyrene	4.0	37
Polypropylene	4.0	37
HD Polyethylene	2.8	25
LD Polyethylene	3.8	34
Powder Coating	3.5	32

**Performance  
 Characteristics Contd.**

<b>Temperature Resistance</b>	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
<b>Humidity Resistance</b>	24 hours at 38°C and 100% relative humidity	no significant changes in appearance or adhesion

<b>Environmental Performance</b>	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 180° peel angle (ASTM D3330) at 305 mm/min.			
<b>Chemical Resistance</b>	<b>Adhesion to Stainless Steel</b>		<b>Appearance</b>	<b>Edge Penetration</b>
<b>Chemical</b>	<b>N/10mm</b>	<b>Oz/In</b>	<b>Visual</b>	<b>Millimetres</b>
Isopropyl Alcohol	7.8	71	No change	0.5
Detergent (1% Alconox®*)	9.0	82	No change	1.6
Engine Oil (10W30) @ 250°F (121°C)	9.0	82	No change	1.4
Water for 48 hours	9.1	83	No change	1.2
pH 4 (acid)	8.4	77	No change	5.0
PH10 (Alkali)	8.4	77	No change	5.0
409™ Cleaning solution	9.2	84	No change	3.0
Toluene	4.2	38	No change	5.0
Acetone	5.8	53	No change	5.0
Brake Fluid	10.2	93	No change	0.6
Gasoline	5.2	48	No change	5.0
Diesel Fuel	8.8	80	No change	1.0
Mineral Spirits	7.6	69	No change	3.0
Hydraulic Fluid	9.6	88	No change	0.0

## Agency Listing Information

### Thermal Transfer Printing:

UL and cUL approved with the following thermal transfer ribbons

Armor: AXR-8, AXR 600, AXR7+  
Ricoh™: B120EC, B110CR  
Sony™: TR4570  
Zebra: 4800, 5095, 5100

Also UL approved with the following ribbons

Ricoh: B110CX  
Astromed: RY, R5  
Kurz: K501  
Sony: TR5070

## 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.

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## 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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## 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