



Technical Data Sheet

3M™ Dot Matrix Printable Polyimide Label Material 7811

Product Description

3M™ Dot Matrix Printable Polyimide Label Material 7811 is a polyimide film product that offers ultra-high temperature performance. This label product utilizes 3M™ Adhesive 100, that can withstand up to 450°F (232°C) short-term heat resistance, has solvent resistance, and exhibits low outgassing characteristics.

Product Features

- Matte white dot matrix topcoat for easy readability of variable information.
- Adhesive 100 will not degrade when exposed to a wide variety of harsh processing conditions.
- 50# densified kraft liner assures consistent die cutting.
- UL Recognized file MH16411

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

Attribute Name	Value
Adhesive Type	100 Acrylic
Facestock	Polyimide Film and Matte White Thermal Transfer Printable Topcoat

Attribute Name	Value
Adhesive Thickness	0.051 mm (2 mil)
Facestock Thickness	Polyimide Film: 0.051 Matte White Thermal Transfer Printable Topcoat: 0.025 mm (Polyimide Film: 2.0 Matte White Thermal Transfer Printable Topcoat: 1.0 mil)
Liner	50# Densified Kraft
Liner Thickness	0.076 mm (3.2 mil)

Typical Performance Characteristics

180° Peel Adhesion

Temperature: 22 °C (72 °F)

Dwell Time: 72 h

Test Method: ASTM D3330

Substrate	Value
Epoxy PC Board	6.8 N/cm (62 oz/in) ¹
Polycarbonate (PC)	6.3 N/cm (58 oz/in) ¹
Stainless Steel	5.8 N/cm (53 oz/in) ¹

¹ 12 in/min (300 mm/min)

Attribute Name	Value
Note	Calipers are nominal values

Typical Environmental Characteristics

Humidity Resistance

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

Temperature Resistance

530°F (277°C) for 30 seconds: no significant visual change

500°F (260°C) for 7 minutes: slight browning

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

Processing

Printing:

Facestock is topcoated for dot matrix printing. Because a firm topcoat is needed for high temperature resistance, the print is susceptible to smudging. After printing the 3M™ Dot Matrix Printable Polyimide Label Material 7811, avoid hand contact with the printed surface. For best results, use gloves for hand application.

The following dot matrix ribbon is recommended for use with this material.

- GLC-79™ from Mid-City Columbia Inc., 800-462-2236 or 800-996-4646.

Call 3M Customer Service at 1-800-223-7474 for additional information.

Die Cutting:

Rotary die cutting is recommended.

Dispensing:

Hand dispensing is recommended.

Packaging:

Finished labels should be stored in plastic bags.

Handling/Application Information

Application Examples

- Printed circuit board tracking labels that see the following conditions:
 - Solder reflow;
 - Top and/or bottom side wave solder;
 - Most cleaning processes and chemicals;
- Labeling on parts exposed to high temperatures.

Application Techniques

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

For best bonding conditions, application surface should be at room temperature or higher. Low temperature surfaces, below 50°F (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.

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

Industry Specifications

UL Recognized, File PGJ12.MH16411, Printing Materials - Component, ANSI/UL 969

Storage and Shelf Life

Store under normal conditions of 16° to 27°C (60° to 80°F) and 40 to 60% relative humidity in the original packaging, out of direct sunlight. For best performance, use this product within 24 months from date of manufacture.

Information

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ISO Statement

This product was manufactured under a 3M quality system registered to ISO 9001 standards.

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