SNAPSHOOT
ENGINEERED FOR A SAFER TOMORROW

현장을 이해하고, 필요한 솔루션을 연결합니다.

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제품 제안부터 공급·시공·설치·교육까지



COMPANY INFORMATION

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TECHNICAL DOCUMENTS

인증서 · 데이터시트 · 기술자료

제품의 규격과 성능, 인증 및 적용 조건을 확인하기 위한 자료입니다.

ABOUT SNAPSHOOT

제품 공급을 넘어, 현장에 맞는 해결책으로

스냅슛은 산업현장의 작업 환경과 요구 조건을 바탕으로
적합한 제품과 시스템을 제안합니다. 현장 실사를 통해 설치 조건을 확인하고,
공급부터 시공·설치 및 사용 교육까지 필요한 과정을 함께합니다.

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문서 라이브러리 바로가기 →
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English-US

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Technical Data Sheet

3M™ Thermal Transfer Polyimide Label Material 7812

Product Details

Regulatory Info/SDS

Product Description

3M™ Thermal Transfer Polyimide Label Material 7812 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 thermal transfer topcoat for easy readability of barcodes and variable information.
• Adhesive will not degrade when exposed to a wide variety of harsh processing conditions. This adhesive also offers shear strength even at elevated temperatures.
• 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 Kraft Thermal Transfer Printable Topcoat
Die-Cutting	Rotary die-cutting is recommended.

Attribute Name	Value
Adhesive Thickness	0.051 mm (2 mil)
Facestock Thickness	Polyimide Film: 0.051 Matte White Kraft Thermal Transfer Printable Topcoat: 0.025 mm (Polyimide Film: 2.0 Matte White Kraft Thermal Transfer Printable Topcoat: 1.1 mil)
Liner	50# Densified Kraft
Liner Thickness	0.076 mm (3.2 mil)

Attribute Name	Value

Attribute Name	Value
Convertability	The shear strength of 3M™ Acrylic Adhesive 100 is the choice for high temperature applications such as printed circuit boards. Specifically designed to be compatible with thermal transfer technologies. Adhesive processing issues are not anticipated when proper roll tensions, handling and storage conditions are used. Please refer to the die cutting section of this data page or the “Guide to Converting and Handling Label Products” technical bulletin for additional information.

Typical Performance Characteristics

180° Peel Adhesion

Temperature: 23 °C (73 °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] 304 mm/min (12 in/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

Printing

Facestock is topcoated and is designed for thermal transfer printing.

• Recommended Ribbons
Ricoh; D110A
Union Chemicar; US300

The following ribbons can be used but may require higher burn temperatures:
Sony; 5070
Mid City Columbia; CGL-80HE Dai
Nippon; R510

Printed Label Performance:
Samples were printed with a Ricoh D110A resin ribbon on Zebra 170xi printer at a rate of 2 in./min. and a burn setting of 22. Labels were printed with a 3:1 ratio barcode with 6 mil X-dimension. Printed labels were exposed to the listed conditions, which are representative of PCB assembly conditions. After chemical exposure, labels were rinsed with tap water, dried and examined.

Condition Printed Contrast Signal (PCS) Read Rate
3M™ Label Material 7812 Control 97 100
530°F, 30 sec. 97 100
500°F, 7 min. 94 100

IPA 75%, 106°F, 15 min. 97 100
IPA 100%, RT 2 min. 97 100
Deionized Water, 140°F, 5 min. 97 100
Alconox® 10%, 135°F, 2 min. 97 100
D-Limonene RT, 2 min. 97 100
Monoethanolamine, 135°F, 2 min. 97 100
BIOACT® EC-7R, 77°F, 10 min. 92 100
BIOACT® EC-15, 77°F, 10 min. 92 100
Wave Solder 95 100

The Print Contrast Signal, PCS, was determined using a PSC QUICKCHECK™ 850, with a 0.003" aperture, 660 nm wavelength. The read rate was determined using a PSC laser diode scanner, model 4100. Wave soldering was performed on an Electrovert Co., Microline 250 wave solder machine. Preheat temperature was 250°F (121°C), solder temperature was 470°F (243°C), line speed was 2 ft./min. Boards were pre-sprayed with a Kester Solder Co. 923 flux.

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 PGJI2.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.

Available Sizes

Attribute Name	Value
Packaging	Finished labels should be stored in plastic bags.

Information

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ISO Statement

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