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Last Revision Date: September, 2024

Supersedes: June, 2024

Technical Data Sheet

3M™ Thermal Transfer Polyester Label Material 7831

Product Details

Regulatory Info/SDS

Product Description

3M™ Thermal Transfer Polyester Label Materials are thin profile, gloss polyester label stocks that offer excellent durability and moisture resistance. These label materials utilize 3M™ Adhesive 400 which is designed to offer good peel strength to a variety of surfaces, as well as, excellent clarity and UV resistance.

Product 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.
• 3M adhesive 400 offers excellent low temperature performance and peel adhesion to a wide variety of substrates. It has excellent long term aging that resists yellowing.
• 55# densified kraft liner assures consistent die cutting.
• UL recognized (File MH11410) and CSA accepted (File 99316). See the UL and CSA listings for details.

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	400 Acrylic
Facestock	Clear Polyester Gloss TC
Adhesive Coat Weight	1.08 — 1.62 g/100 in²

Attribute Name	Value
Adhesive Thickness	0.02 mm (0.8 mil)
Facestock Thickness	0.025 mm (1 mil)
Liner	55# Densified kraft
Liner Thickness	0.081 mm (3.2 mil)

Attribute Name	Value
Convertability	Low temperature, high clarity 3M™ Acrylic Adhesive 400 is specifically designed to be compatible with a variety of print methods and overlaminate applications. When converting labels for thermal transfer applications, care should be taken with regard to proper roll tensions, handling and storage conditions. Please refer to the die cutting/converting 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
Polycarbonate (PC)	4.3 N/cm (39 oz/in) [1]
Polypropylene (PP)	3.2 N/cm (29 oz/in) [1]
Stainless Steel	4.5 N/cm (41 oz/in) [1]

[1] 304 mm/min (12 in/min)

Temperature: 23 °C (73 °F)

Attribute Name	Test Method	Value
Liner Release	TLMI	10 — 70 g/2 in [1]

[1] 180° removal, 300 in/min

Attribute Name	Value
Minimum Application Temperature	-12 °C (10 °F)
Long Term Temperature Resistance	121 °C (250 °F) [1]
Minimum Long Term Temperature Resistance	-51 °C (-60 °F) [1]

[1] Long Term (day, weeks)

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

300°F (149°C) for 24 hours: no significant visual change
-40°F (-40°C) for 10 days: no significant visual change

Printing

Facestock is topcoated for improved ink receptivity and is designed for thermal transfer printing. It is printable by standard roll processing methods including flexography, hot stamp, letterpress, and screen printing.

UL Recognized thermal transfer ribbons
Advent:301 Black; 303 Black; 501 Black; 501 Red; 501 Blue; 501 Green
Armor:AXR-7; AXR-7+; AXR-600
Astromed:R5
CP:5440 Red; 5640 Blue; 5940 Black
Dasco:DR-74; DR-84
Great Ribbon:SDR
ICS:ICS-CC-4099.1
Iimak:SH-36; SP-330; PrimeMark
Intermec:053258-2; 054048-4
Japan Pulp and Paper:JP Resin 1; JP Resin 2 Blue; JP Resin 2 Red (suitable for indoor use only); JP Resin 2 Green (suitable for indoor use only)
Kurz:K500; K501
Markem:716 (suitable for indoor use only)
Mid City Columbia:CGL-80; CGL-80HE
NCR: Matrix Resin; Matrix; PaceSetter; Promark II; Ultra V
Pelikan:T016
Ricoh:B110A; B110C; B110CX
Sato: Premier 1
Sony:4070; 4072; 4075; 4085; 5070; Signature Series Resin; Signature Series Wax

UBI:HR03; HR04
Zebra:5095; 5099; 5100; 5175

Converting

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.

Handling/Application Information

Application Examples

• Barcode labels and rating plates.
• Property identification and asset labeling.
• Warning, instruction, and service labels for durable goods.
• Nameplates and durable goods.

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 MH11410)
CSA Accepted (File 099316)

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

ISO Statement

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

3M™ Industrial Adhesives and Tapes Division
3M Center, St. Paul, MN 55144-1000
3M.com/iatd