



# Technical Data Sheet

## 3M™ Screen Printable Vinyl Performance Durable Label Material 7045



Additional Info

### **Product Description**

3M™ Screen Printable Vinyl Performance Durable Label Material 7045 is a durable, high performance material that offers durability and moisture resistance. This vinyl label stock utilizes 3M™ Adhesive P1400 which is a high performance tackified acrylic designed for use in demanding environments, including outdoor applications.

### **Product Features**

- UL recognized (File MH11410). See the UL listings for details.
- Adhesive offers UV resistance and adhesion to a wide variety of substrates, including polyolefins.
- Liner provides easy sheet processing and is designed for the ultimate in layflat. The backside of this liner is not printable.

### **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	P1400 Perm.
Facestock	Soft White Vinyl NTC
Adhesive Coat Weight	1.6 — 1.96 g/100 in <sup>2</sup>

Attribute Name	Value
Adhesive Thickness	0.023 mm (0.9 mil)
Facestock Thickness	0.081 mm (3.2 mil)
Liner	90# Polycytd. bleached kraft sheet polyethylene coated on two sides
Liner Thickness	0.18 mm (7 mil)

Attribute Name	Value
Convertability	3M™ Outdoor Acrylic Adhesive P1400 is specifically designed to be compatible with a variety of print methods and end use applications. Adhesive processing issues are not anticipated when proper roll tensions, handling and storage conditions are used. Please refer to the die cutting/convertng section of this data page or the “Guide to Converting and Handling Label Products” technical bulletin for additional information.

## Construction Tested

Adhesion properties determined per TLMI Method using 1.0 mil polyester with 1.0 mil of adhesive on a polished stainless steel panel.

## Typical Performance Characteristics

### 180° Peel Adhesion

Temperature: 23 °C (73 °F)

Test Method: TLMI

Substrate	Value
High Density Polyethylene (HDPE)	2.62 N/cm (24 oz/in) <sup>1</sup>
Polycarbonate (PC)	6.12 N/cm (56 oz/in) <sup>1</sup>
Polypropylene (PP)	5.28 N/cm (48 oz/in) <sup>1</sup>
Stainless Steel	7 N/cm <sup>1</sup>

<sup>1</sup> 300 mm/min (12 in/min)

Test Method: TLMI

Attribute Name	Temperature	Value
Liner Release	23 °C (73 °F)	3 – 39 g/cm (15 – 200 g/2 in) <sup>1</sup>
Shear Adhesion		4 h <sup>2</sup>
Loop Tack		3.16 N/cm (28 oz/in) <sup>3</sup>

<sup>1</sup> 180° removal, 300 in/min

<sup>2</sup> 0.25 in<sup>2</sup> x 500g

<sup>3</sup> 300 mm/min (12 in/min)

Attribute Name	Value
Application Temperature	5 – 49 °C (40 – 120 °F)
Long Term Temperature Resistance	60 °C (140 °F) <sup>1</sup>
Minimum Long Term Temperature Resistance	-29 °C (-20 °F) <sup>1</sup>

<sup>1</sup> Long Term (day, weeks)

Attribute Name	Value
Note	Calipers are nominal values

## Printing

- A non-topcoated print surface designed for use with solvent screen ink systems.

### Solvent Screen Inks:

3M™ Screen Printing UV Ink Series 9800

Nazdar's 7700 and System 2

Sericol's Polyplast PY, GVYL, VYL, TMI and Techmark

Please be aware that our current production specifications for these materials are primarily qualified for printers who use flexographic, screen printing, and thermal transfer printing processes. 3M has neither done profile work with these products for printing by digital inkjet processes, nor engaged in any lot variation studies, nor taken any special measures in manufacturing or handling of these products with the intent of recommending these products for printing by digital inkjet methods.

## Converting

Die cut with steel rule or flatbed dies. The 90# lay-flat liner also allows kiss cutting and back splitting. The converter can cut through the vinyl facstock without cutting through the liner. Sheet label materials are not recommended for rotary die cutting and stripping operations.

## **Handling/Application Information**

### **Application Examples**

- Nameplates and product ID labels.
- Rating plates.
- Property identification and asset labeling.
- Warning, instruction, and service labels for durable goods, equipment/machinery and lawn and garden.

### **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 40°F (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.

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

## **Industry Specifications**

UL Recognized (File MH11410)

## **Durability Statement**

Based on 720 hours Xenon arc test exposure, these materials are expected to have up to two year outdoor durability.

## **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**

<b>Attribute Name</b>	<b>Value</b>
Packaging	Finished labels should be stored in plastic bags.

## **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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