



## Technical Data Sheet

### 3M™ Screen Printable Polyester Performance Durable Label Material with Structured Adhesive 7220SA



[Product Details](#)

#### **Product Description**

3M™ Screen Printable Polyester Performance Durable Label Materials with Structured Adhesive are durable, high performance materials that offer thermal stability and moisture resistance. These topcoated polyester label stocks utilize 3M™ Adhesive 350, which is designed to permanently bond to high and low surface energy plastics, textured and contoured surfaces, powder coatings, and slightly oily metals.

With unique microchannels throughout the structured adhesive, air flows freely from between the adhesive and substrate. Hand applied labels go on smoothly and stay that way. Even when labels are used on injection-molded plastic parts, bubbles that form from plastic outgassing can be smoothed to regain a neat appearance for the graphic.

#### **Product Features**

- Most universal adhesive for label materials.
- Adhesive offers chemical resistance and holding strength, even at high temperatures.
- Liner provides easy sheet processing and is designed for the ultimate in layflat. The backside of this liner is not printable.
- Structured adhesive designed to allow air to flow from between adhesive and substrates so that hand applied labels go on smoothly and stay that way.
- UL Recognized file MH16411, CSA Group Certified file 99316

#### **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	350
Facestock	White Polyester Gloss TC
Adhesive Coat Weight	1.66 — 2.04 g/100 in <sup>2</sup>

Attribute Name	Value
Adhesive Thickness	0.028 mm (1.1 mil)
Facestock Thickness	0.05 mm (2 mil)
Liner	90# Embossed Polycoated bleached kraft sheet polyethylene coated on two sides
Liner Thickness	0.2 mm (7.8 mil)

Attribute Name	Value
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Attribute Name	Value
Convertability	In order to capture the superior performance properties of 3M™ High Holding Acrylic Adhesive 350, thicker calipers are utilized for LSE or textured substrates. Its higher caliper, while desirable for the end use applications, may require extra care during processing. 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.

## **Construction Tested**

Adhesion properties determined per TLMI Method using 2.0 mil polyester with 1.1 mil of adhesive on a polished stainless steel panel or on the substrates listed in the table below.

## **Typical Performance Characteristics**

### **180° Peel Adhesion**

Temperature: 23 °C (73 °F)

Test Method: TLMI

Substrate	Value
High Density Polyethylene (HDPE)	4.2 N/cm (38.4 oz/in) <sup>1</sup>
Polycarbonate (PC)	5.42 N/cm (49.6 oz/in) <sup>1</sup>
Polypropylene (PP)	5.42 N/cm (49.6 oz/in) <sup>1</sup>
Stainless Steel	6.65 N/cm (60.8 oz/in) <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)	2 — 21.6 <sup>1</sup>
Shear Adhesion		>100 h <sup>2</sup>

<sup>1</sup> 180° removal, 300 in/min

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

Attribute Name	Value
Minimum Application Temperature	10 °C (50 °F)
Long Term Temperature Resistance	150 °C (302 °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**

High gloss general purpose topcoating is designed for use with UV, solvent and water-based screen inks. Topcoating will also accept flexo, ion deposition, off set, letter press, hot stamp, and thermal transfer printing. The converter should verify that their ink systems are compatible with the topcoating on the polyester film by testing beforehand. Ink systems recommended for testing are listed below.

### **UV Screen Inks:**Solvent Screen Inks:

ANI Printing Inks (formerly Nazdar's Akzo Nobel) Uvoscreen II 7700 and System 2  
Environmental UV III Screen Pro Sericol's Polypast PY, GVYL, VYL, TMI and Techmark  
Nazdar 1600

Sericol's Uviflex, 021 UV, UV and PEL

Water-based Screen Inks: Water-based Flexo Inks:  
Nazdar 2700 ANI Printing Inks Hydro Film 4000 Series  
Arcar Ultra Film Series 5 Inks

## **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 polyester facestock without cutting through the liner. Care should be taken to process this liner through rotary die cutting and stripping operations. If finished labels are applied to substrate by use of application machinery, thorough testing should be completed for compatibility with equipment.

## **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 outdoor power equipment for 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 PGJ12.MH16411, Printing Materials - Component, ANSI/UL 969  
CSA Group Certified, File 99316, Class 7922, Adhesive-Type Labels - Label Stock, CSA-C22.2 No. 0.15-15 Update No. 1  
CSA Group Certified, File 99316, Class 7924, Adhesive-Type Labels - Electronic Printing Technologies, CSA-C22.2 No. 0.15-15 Update No. 1

## **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 12 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**

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

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