



Screen Printable Extended Life Vinyl Performance Label Products with Structured Adhesive

7051SA

Technical Data

April, 2009

Product Description 3M™ Screen Printable Extended Life Vinyl Performance Label Products with Structured Adhesive 7051SA is a high performance material that offers good conformability and moisture resistance. This vinyl label stock utilizes 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.

Construction	Facestock	Adhesive	Liner
	.0038 in. Soft White EL Vinyl NTC	350 1.1 mils	90# Embossed Polycoated 7.8 mil bleached kraft sheet polyethylene coated on two sides

(Calipers are nominal values)

Durability Statement Based on 2000 hours Xenon arc test exposure, these materials are expected to have up to five year outdoor durability.

- Features**
- Outstanding durability. Designed for use up to five years outdoors.
 - Most universal adhesive for label applications.
 - Adhesive offers excellent 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.
 - Meets EU RoHS Directive (e.g.) means that the product or part does not contain any of the following substances in excess of the following maximum concentration values in any homogeneous material, unless the substance is in an application that is exempt under RoHS: (a) 0.1% (by weight) for lead, mercury, hexavalent chromium polybrominated biphenyls or polybrominated diphenyl ethers; or (b) 0.01% (by weight) for cadmium. Unless otherwise stated by 3M in writing, this information represents 3M's knowledge and belief based on information provided by third party suppliers to 3M.
 - UL Pending.

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Application Ideas

- 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.

Typical Physical Properties

Note: The following technical information and data should be considered representative or typical only and should not be used for specification purposes.

Adhesion properties determined per TLMI Method using 3.8 mil calendered vinyl with 1.1 mil of adhesive on a polished stainless steel panel on the substrates listed in the table below.

Peel Adhesion to		
Stainless Steel	4.4 lbs./in. (770 N/m)	TLMI Method, 180° Peel, 12"/min., 1" wide sample
HDPE	3.1 lbs./in. (542 N/m)	TLMI Method, 180° Peel, 12"/min., 1" wide sample
Polypropylene	3.8 lbs./in. (665 N/m)	TLMI Method, 180° Peel, 12"/min., 1" wide sample
Polycarbonate	3.8 lbs./in. (665 N/m)	TLMI Method, 180° Peel, 12"/min., 1" wide sample
Shear	> 100 hours	TLMI Method, 0.25 in ² x 500g
Adhesive Coat Weight	1.70 to 2.00 g/100 in ²	TM-2279
Release Range	10 to 140 g/2 in.	TLMI Method, 180° removal, 300 in./min.
Service Temperature	-20°F to 140°F (-29°C to 60°C)	
Minimum Application Temperature	50°F (10°C)	
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.	

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.

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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.

**Die Cutting /
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 facestock without cutting through the liner. Sheet label materials are not recommended for rotary die cutting and stripping operations. 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.

Packaging

Finished labels should be stored in plastic bags.

Storage

Store at room temperature conditions of 72°F (22°C) and 50% relative humidity.

Shelf Life

If stored under proper conditions, product retains its performance and properties for one year from date of manufacture.

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Technical Information

The technical information, recommendations and other statements contained in this document are based upon tests or experience that 3M believes are reliable, but the accuracy or completeness of such information is not guaranteed.

Product Use

Many factors beyond 3M's control and uniquely within user's knowledge and control can affect the use and performance of a 3M product in a particular application. Given the variety of factors that can affect the use and performance of a 3M product, user is solely responsible for evaluating the 3M product and determining whether it is fit for a particular purpose and suitable for user's method of application.

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ISO 9001:2000

This Industrial Adhesives and Tapes Division product was manufactured under a 3M quality system registered to ISO 9001:2000 standards.



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