



Screen Printable Tamper Indicating Sheet Polyester Label Materials

7935 • 7937

Technical Data

November, 2007

Product Description

3M™ Screen Printable Tamper Indicating Sheet Polyester Label Materials 7935 and 7937 are durable, high performance materials that offer excellent thermal stability, moisture resistance and chemical resistance. These materials utilize 3M™ Adhesive 300, which has excellent quick tack and also bonds well to a variety of surfaces including LSE plastics.

Construction

(Calipers are nominal values.)

Product	Facestock	Adhesive	Liner	Destruct Pattern
3M Label Material 7935	.002 in. White Polyester Gloss TC (51 microns)	300 Acrylic 0.8 mil (20 microns)	90# Polycyd. 6.7 mil bleached kraft sheet polyethylene coated on two sides. (170 microns)	"Void"
3M Label Material 7937	.0025 in. White Polyester Matte TC (63 microns)	300 Acrylic 0.8 mil (20 microns)	90# Polycyd. 6.7 mil bleached kraft sheet polyethylene coated on two sides. (170 microns)	

Features

- Facestock for 3M screen printable tamper indicating sheet polyester label material 7935 is topcoated for improved ink anchorage. Variable information can be added by the end-user as the material is thermal transfer printable.
- Facestock for 3M screen printable tamper indicating sheet polyester label material 7937 is topcoated for dot matrix impact printing with select ribbons. See the Print section for additional details.
- 3M adhesive 300 bonds well to a wide variety of substrates including metals, high surface energy (HSE) plastics and low surface energy (LSE) plastics. It is ideal for applications requiring high initial adhesion especially to LSE plastic surfaces.
- Liner provides easy sheet processing and is designed for layflat. The backside of the liner is not printable.
- UL recognized (File MH11410) and CSA accepted (File 99316). See the UL and CSA listings for details.

Application Ideas

- Non-transferable labels for automatic, appliance and electronic industries.
- Tamper-indicating labels and seals for industries such as over-the-counter drugs, food and beverage.

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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.

Adhesive Coat Weight	1.08 to 1.62 g/100 in ²	TM-2279
Release Range	5 to 35 g/2 in.	TLMI Method, 180° removal, 300 in./min.
Service Temperature	-40°F to 250°F (-40°C to 121°C) See Environmental section	
Minimum Application Temperature	50°F (5°C)	
Convertability	3M™ High Strength Acrylic Adhesive 300 is designed to be compatible with a variety of print methods and end use applications. Due to the quick flowing aggressive nature of this adhesive, care should be taken when converting labels for thermal transfer applications. Please refer to the the die cutting/converting section of this data page or the “Guide to Converting and Handling Label Products” technical bulletin for additional information.	

Typical Peel Adhesion Properties

Assume all surfaces to which these label materials will be applied are contaminated – metals may be oily or dusty; plastics may be coated with mold release agents, dirt, etc. Any surface contaminant will adversely affect adhesion and the destruct message; therefore, it must be removed prior to application by wiping with a solvent. Consult the manufacturer’s Material Safety Data Sheet for proper handling and storage of solvents.

Adheres to the following clean surfaces:

Stainless Steel	Painted Metals	Nylon
ABS	Polyester	Glass
Polypropylene	HDPE	Polycarbonate

Note: No specific peel values have been provided due to the “void” feature embedded in the label. The “void” feature will cause peel values to vary. Please test to determine suitability in a particular application.

Conformability: Semi-rigid, suitable for flat or slightly curved surfaces.

Environmental Performance

Note: The following tests are intended as a guide to product performance. Application testing is recommended using actual substrates, expected dwell times, and actual conditioning for best determination of product suitability.

The properties defined are based on the adhesion of the label material to a stainless steel test surface.

Chemical Resistance	Gasoline	1 hour at room temperature
	Auto Oil	72 hours at 120°F (49°C)
	Weak Alkali	4 hours at room temperature
	Weak Acid	4 hours at room temperature
	MEK	1 hour at room temperature
	Freon® TF	1 hour at room temperature
	NaCl Solution	72 hours at room temperature
Water Resistance:	Withstands exposure to water at room temperature for 72 hours.	
Humidity Resistance:	Withstands exposure to 90°F (32°C) and 90% RH for 168 hours.	

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Application Techniques	Determining Suitability	<p>The tamper-indicating mechanism (i.e. the “void” message both on the facestock and on the substrate) depends upon adequate adhesion of the label to the substrate. A sufficient bond may not develop on all surfaces due to low surface energy (e.g. Teflon®), contaminated or textured surfaces. Therefore, it is important to determine the suitability of the product in the intended application by carefully pretesting.</p> <p>The primary function of the products is to effect a non-transferrable (non-reusable) label or seal by causing the “void” message to appear on the facestock when removal from the substrate is attempted. As a result of the primary function, a “void” message is also transferred to the substrate. This message transferred to substrate can be removed by hand rubbing or by solvent wiping.</p>
	Dispensing	<p>Care should be taken not to disturb the tamper-indicating feature by pre-destructing the “void” message when manually removing the label from the liner. Slowly remove the liner from the label at a 90° angle.</p>
	Surface Preparation	<p>Wet the application surface with a mild solvent such as isopropyl alcohol (rubbing alcohol) or heptane and wipe thoroughly. Dry the surface with a lint free cloth before the solvent evaporates from the surface.</p>
	Application Pressure	<p>Sufficient application pressure is required to develop adhesion to assure “void” message appears both on facestock and substrate upon removal or upon attempted removal through tampering. Higher initial bonds can be achieved through increased application pressure such as firm hand or squeegee pressure.</p>
	Minimum Dwell Time	<p>24 hours at room temperature or 72°F (22°C) before testing.</p>
	Note:	<p>Our tamper-indicating product line is designed to indicate tampering by destructing when an attempt is made to remove the label. Since no tamper indicating feature is 100% tamper proof, careful consideration must be taken when designing labels or seals. When the consequences of tampering could be severe, such as injury or loss of human life or significant monetary loss, these products are not recommended as the sole means of package or product tamper indication. In these instances, additional methods of combination with the labels should be considered so that the tamper-indicating features are commensurate with the requirements of the application.</p>

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Printing

3M™ Screen Printable Tamper Indicating Sheet Polyester Label Materials 7935 and 7937 are topcoated to accept most offset and silk screen printing inks. These products are designed for processing on flat bed and web bed presses.

Caution should be exercised to avoid covering the surface of the label with opaque graphics to the extent that the “void” message is hidden, and the effectiveness of the label or seal is lessened.

If using 3M screen printable tamper indicating sheet polyester label material 7937 in a dot matrix impact print application, please use recommended ribbons:

- CGL-79 from Mid City Columbia
- Ranger 288 from Herbert Dehinton & Co.

Die Cutting / Converting

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

Remember to note that the compact “void” message permits manufacturer of labels as small as 1/2" x 1-1/4" (13 mm x 32 mm).

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 two years from date of manufacture.

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Product Use

All statements, technical information and recommendations contained in this document are based upon tests or experience that 3M believes are reliable. However, many factors beyond 3M's control can affect the use and performance of a 3M product in a particular application, including the conditions under which the product is used and the time and environmental conditions in which the product is expected to perform. Since these factors are uniquely within the user's knowledge and control, it is essential that the user evaluate the 3M product to determine whether it is fit for a particular purpose and suitable for the user's method of application.

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ISO 9001:2000

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