



# Tamper-Indicating Label Material for Dot-Matrix Impact Printing

7380

Technical Data

August, 2005

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## Features

- Designed to provide a “void” message in the facestock when removal is attempted.
- The compact format of the “void” message permits manufacture of small labels (1/2" x 1-1/4").
- 3M™ Adhesive 320 provides excellent flag resistance.
- Durable polyester facestock withstands harsh environments.
- 55# densified kraft liner assures consistent die cutting.
- Dot-matrix impact printable with select ribbons.

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## Construction

Facestock	Destruct Pattern	Adhesive	Liner
2.3 mil (58 microns) Matte White Polyester	“VOID”	1.0 mil (25 microns) #300 “Hi-Strength” Acrylic	3.2 mil (80 microns) 55# Densified Kraft

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## Application Ideas

- Non-transferable labels for use on business forms.
- Tamper-indicating labels and seals for over-the-counter drugs and other packaging applications.

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## Typical Physical Properties and Performance Characteristics

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

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.\*

### Adheres to the following clean surfaces:

Stainless Steel	Painted Metal	Nylon
ABS	Polyester	Glass
Polypropylene	HDPE	Polycarbonate

### Proper handling and storage:

**Clean Substrate:** 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.

**Application Pressure:** Sufficient application pressure and dwell time 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.

**Dwell Time:** 24 hours at room temperature or 72°F (22°C) before testing.

**Liner Release:** 180° peel angle

<u>Rate of Removal</u>	<u>Grams/Inch</u>	<u>N/100 mm</u>
90 inches/minute	25 max.	0.96

### Conformability:

Semi-rigid, substrate for flat or slightly curved surfaces.

\*When using solvents, extinguish all ignition sources, including pilot lights, and follow the manufacturer’s precautions and directions for use.

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## Environmental Performance

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

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

**Chemical Resistance:** Bond is secure when exposed to the following:

- Gasoline – 1 hr. at room temperature
- Auto Oil – 72 hrs. at 120°F (49°C)
- Weak Alkali – 4 hrs. at room temperature
- Weak Acid – 4 hrs. at room temperature
- Freon™ TF – 1 hr. at room temperature

**Water Resistance:** Withstands exposure to water at room temperature for 72 hours

**Temperature Resistance:** Withstands exposure from -40°F (-40°C) to 250°F (121°C)

**Humidity Resistance:** Withstands exposure to 90°F (32°C) and 90% RH for 168 hours

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## Processing

### **Incoming Label Materials:**

Every slit roll has been tested for the presence of the “void” message. The leading edge of every slit roll is tabbed with a 1-1/2" strip to simulate tampering, thereby indicating that the “void” message is functional on the leading edge of that roll.

### **Thermal Transfer Printing:**

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.

### Use recommended dot-matrix impact ribbons:

CGL-79 from Mid-City Columbia

Ranger 288 from Herbert DeHinton

### **Die Cutting:**

The compact “void” message permits manufacture of labels as small as 1/2" x 1-1/4" (13mm x 32mm).

It is recommended that the converter test for the presence of the “void” message on every roll of labels or seals as the converter processes them, to insure the product quality and consistency. This can be done by laminating a label or seal to an untreated polyester film test surface. The label or seal should be wiped down with a squeegee, allowed to dwell 10 minutes and then removed to observe the presence and functions of the “void” message on both the facestock and the substrate. It is also recommended that the converter test each lot of labels or seals on the actual application surface to assure the function of the “void” message.

### **Dispensing:**

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. It is recommended that the end user test samples for each roll of labels or seals received from the converter. This should be done by laminating a representative label or seal to the specific application surface to assure its function meets expectations. This test can be run after 10 minutes dwell. However, final judgement should be based on 72 hours dwell at room temperature prior to testing.

### **Application:**

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. The primary function of the products is to effect a non-transferable (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 solvent wiping.

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**Processing (continued)** 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 and seals. When the consequences of tampering could be severe, such as injury or loss of human life or significant monetary loss, these products aren't recommended as the sole means of package or product tamper indication. In these instances, additional methods in combination with the labels should be considered so that the tamper-indicating features are commensurate with the requirements of the application.

**Scanning:**

If bar code scanning, the suitability of the printed labels should be evaluated on the actual application substrate. On dark substrates, the label opacity may not be sufficient to provide accurate scanning, especially when using contact scanners.

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**Storage** Store at room temperature conditions of 72°F (22°C) and 50% R.H.

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**Shelf Life** Product retains its performance properties for at least two years from date of manufacture.

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**Certification/Recognition** **UL Recognized:** File numbers are MH16411 for 3M™ Label Material 7380 and MH11410 for 3M™ Label Material 7385. File details can be viewed on UL's website at [www.ul.com](http://www.ul.com) under Certifications. To locate information for other product numbers, choose the Keyword search option from the Certifications menu and type in the product number.

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