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English-US

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Technical Data Sheet

3M™ Tamper-Indicating Label Material 7937

Product Details

Product Description

3M™ Tamper-Indicating Label Material 7937 is a durable, high performance material that offers thermal stability, moisture resistance and chemical resistance. This material utilizes 3M™ Adhesive 300, which has quick tack and also bonds well to a variety of surfaces including LSE plastics.

Product Features

•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).

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	#300 “Hi-Strength” Acrylic
Facestock	Matte White Polyester TC
Conformability	Semi-rigid, suitable for flat or slightly curved surfaces.
Destruct Pattern	VOID
Adhesive Coat Weight	1.21 — 1.49 g/100 in^2

Attribute Name	Value
Adhesive Thickness	0.02 mm (0.8 mil)
Facestock Thickness	0.06 mm (2.5 mil)
Liner	90# Polycoated Kraft
Liner Thickness	0.17 mm (6.7 mil)

Typical Performance Characteristics

Temperature: 23 °C (73 °F)

Attribute Name	Test Method	Value
Liner Release	TLMI	10 — 60 g/2 in [1]

[1] 180° removal, 300 in/min

Attribute Name	Value
Note	Calipers are nominal values

Typical Environmental Characteristics

Environmental Resistance

The properties defined are based on the adhesion of the label material to a 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 MEK - 1 hr at room temperature Freon® TF - 1 hr at room temperature NaCl Solution - 72 hrs at room temperatureWater 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.

Processing

Incoming Label Materials: Every slit roll has been tested for the presence of “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.

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.

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

Printing

3M™ Tamper Indicating Label Material 7937 is topcoated to accept most offset and silk screen printing inks. This product is 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.

Handling/Application Information

Directions for Use

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
ABS
Polypropylene
Painted Metal
Polyester
HDPE
Nylon
Glass
Polycarbonate
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.*Note: When using solvents, extinguish all ignition sources, and follow the manufacturer's precautions and directions for use.

Application Examples

- Non-transferable labels for automotive, appliance and electronics industries.
- Tamper-indicating labels and seals for over-the-counter drugs and other packaging applications.

Industry Specifications

UL Recognized (Files MH11410)

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.

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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