

October, 2007

# 3M™ Tamper-Indicating Label Material 7381/7866

## Product Description

3M™ Tamper-Indicating Label Material 7381/7866 is designed to provide a “void” message in the facestock when removal is attempted. 3M label material 7381/7866 utilizes 3M™ Adhesive 300, which bonds well to a wide variety of substrates including high and low surface energy plastics.



## Product Features

- The compact format of the “void” message permits manufacture of small labels (1/2" x 1-1/4").
- Adhesive provides high bond to most surfaces.
- Durable polyester facestock withstands harsh environments.
- 55# densified kraft liner assures consistent die cutting.
- UL recognized in files MH11410 and MH16411. See the UL and CSA listing for details.

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### 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

Property	Values	
Destruct Pattern	"VOID"	
Facestock	Gloss White Polyester TC	
Facestock Thickness	0.05 mm	2.0 mil
Adhesive	#300 "Hi-Strength" Acrylic	
Adhesive Thickness	0.025 mm	1.0 mil
Liner	55# Densified Kraft	
Liner Thickness	0.08 mm	3.2 mil
Conformability	Semi-rigid, suitable for flat or slightly curved surfaces.	

### Note

Calipers are nominal values

### Typical Performance Characteristics

Property	Values		Dwell/Cure Time	Test Condition
180° Liner Release	0.096 N/cm	25 g/in	24 hr @ Room Temperature	90 in/min

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### Environmental Performance

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 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.

## 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.

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## Handling/Application Information

### Application Ideas

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

### 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.

### Storage and Shelf Life

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

If stored under proper conditions, product retains its performance and properties for 24 months from date of manufacture.

### Industry Specifications

UL Recognized (Files MH11410 and MH16411)

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## Information

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### References

#### Safety Data Sheet (SDS)

[https://www.3m.com/3M/en\\_US/company-us/SDS-search/results/?gsaAction=msdsSRA&msdsLocale=en\\_US&co=ptn&q=7381/7866](https://www.3m.com/3M/en_US/company-us/SDS-search/results/?gsaAction=msdsSRA&msdsLocale=en_US&co=ptn&q=7381/7866)

### ISO Statement

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



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