



## Technical Data Sheet

### 3M™ Destructible Polyurethane Label Material 3812



[Product Details](#)

#### Product Description

3M™ Destructible Polyurethane Label Material 3812 is designed as a non-removable label material. The facestock is a destructible, non-shrink, opaque, white polyurethane film. Once applied with sufficient pressure and dwell time, one piece removal is not possible on most surfaces.

#### Product Features

- UL Recognized files MH11410 and MH16411

#### 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  | 350                             |
| Facestock      | Destructible White Polyurethane |

| Attribute Name       | Test Method | Value                              |
|----------------------|-------------|------------------------------------|
| Total Tape Thickness | ASTM D3652  | 0.025 mm (1 mil)                   |
| Facestock Thickness  |             | 0.04 mm (1.6 mil)                  |
| Liner                |             | 90 g/m <sup>2</sup> glassine paper |
| Liner Thickness      |             | 0.075 mm (3 mil)                   |

#### Typical Performance Characteristics

##### 180° Peel Adhesion

Temperature: 23 °C (73 °F)

| Dwell Time | Substrate                | Value             |
|------------|--------------------------|-------------------|
| 20 min     | Acrylic (PMMA)           | Destructible N/cm |
| 20 min     | AFERA Steel              | Destructible N/cm |
| 20 min     | Aluminum                 | Destructible N/cm |
| 20 min     | Polycarbonate (PC)       | Destructible N/cm |
| 20 min     | Polyester (PET)          | Destructible N/cm |
| 20 min     | Polyethylene (PE)        | 3.1 N/cm          |
| 20 min     | Polyvinyl chloride (PVC) | 2.75 N/cm         |
| 24 h       | ABS                      | Destructible N/cm |
| 24 h       | Acrylic (PMMA)           | Destructible N/cm |
| 24 h       | AFERA Steel              | Destructible N/cm |
| 24 h       | Aluminum                 | Destructible N/cm |
| 24 h       | Polycarbonate (PC)       | Destructible N/cm |
| 24 h       | Polyester (PET)          | Destructible N/cm |
| 24 h       | Polyethylene (PE)        | 3.9 N/cm          |

| Dwell Time | Substrate                | Value             |
|------------|--------------------------|-------------------|
| 24 h       | Polypropylene (PP)       | Destructible N/cm |
| 24 h       | Polyvinyl chloride (PVC) | Destructible N/cm |
| 24 h       | Stainless Steel          | Destructible N/cm |

| Attribute Name                           | Value                        |
|--|------------------------------|
| Short Term Temperature Resistance        | 150 °C (300 °F) <sup>1</sup> |
| Long Term Temperature Resistance         | 120 °C (248 °F) <sup>2</sup> |
| Minimum Long Term Temperature Resistance | -40 °C (-40 °F) <sup>2</sup> |

<sup>1</sup> Short Term (minutes, hour)

<sup>2</sup> Long Term (day, weeks)

| Attribute Name                 | Temperature     | Value              |
|--------------------------------|-----------------|--------------------|
| Elongation at Yield (Down Web) |                 | 5 %                |
| Shrinking Resistance           | 120 °C (248 °F) | 7 days - no effect |

## Typical Environmental Performance

### 180° Peel Adhesion

| Dwell Time | Environmental Condition                    | Value          |
|------------|--|----------------|
| 5 min      | Immersion in Toluene for 5 min             | No Change N/cm |
| 5 min      | Immersion in Ethanol for 5 min             | No Change N/cm |
| 10 min     | Immersion in Xylene for 10 min             | No Change N/cm |
| 8 h        | Immersion in 30% Sulfuric Acid for 8 hr    | No Change N/cm |
| 8 h        | Immersion in 10% Caustic Soda for 8 hr     | No Change N/cm |
| 8 h        | Immersion in 200 °F Water( 95 °C) for 8 hr | No Change N/cm |
| 24 h       | Immersion in Motor Oil for 24 hr           | No Change N/cm |
| 24 h       | Immersion in Diesel Fuel for 24 hr         | No Change N/cm |
| 24 h       | Immersion in Detergent for 24 hr           | No Change N/cm |
| 24 h       | Immersion in Antifreeze Solution for 24 hr | No Change N/cm |

## Printing

3M™ Destructible Polyurethane Label Material 3812 is suggested for screen printing processes using appropriate inks. Sheet screen printing must be evaluated depending on size and actual conditions.

The following inks were found to have good results but should be evaluated on a case by case basis for harsh conditions.

**Flexo:**Water Based – Akzo Nobel:Hydrofilm,Hydrokett, Thermokett TC,  
**Aarberg:**Series 53-1

**Flexo:**UV – Akzo Nobel:Flexocure after corona treatment  
**Aarberg:**Series 39-2  
**Sun Chemical :**Bargoflex UV Inks 67,75

**Letter Press:**UV – Aarberg: Series 32-2, 41-2 inks after corona treatment

Thermal Transfer

Printers Ribbons

Zebra Z 90,91,130,140 ICS-CC 4099-1, Zebra 5175, Ricoh B 110A, Armor AXR 7 + (Iimak SH 36), Armor AXR8  
Datamax Prodigy Plus ICS-CC 4099-1,Ricoh B 110A, Armor AXR 7 + (Iimak SH 36), Armor AXR8  
TEC B 602, B 402, B 65, B 30 ICS-CC 4099-1, Ricoh B 110A, Armor AXR 7 + (Iimak SH 36), Armor AXR8  
Sato 8400,8450 ICS-CC 4099-1, Ricoh B 110A, Armor AXR 7 + (Iimak SH 36), Armor AXR8

New Printer/ribbon combinations should be evaluated with lowest print speed and highest burn temperature and changed accordingly.

## **Converting**

3M™ Destructible Polyurethane Label Material 3812 features a smooth, hard, caliper controlled liner with good kiss cutting characteristics. Weed stripping is recommended using a 25 mm idler. For better handling, we recommend label formats with rounded corners, length of label in machine direction, minimum 3 mm between labels and minimum 10 mm liner-supported waste matrix sidebars.

## **Handling/Application Information**

### **Application Examples**

- Tamper evident label material for theft/fraud prevention
- Non-vinyl material can be laser die cut

## **Industry Specifications**

UL Recognized, File PGGU2.MH11410, Marking & Labeling System Materials - Component, ANSI/UL 969  
UL Recognized, File PGJ12.MH16411, Printing Materials - Component, ANSI/UL 969

## **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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