



# Technical Data Sheet

## 3M™ Thermal Transfer Acrylate Label Material 3921



[Product Details](#)

### Product Description

3M™ Thermal Transfer Acrylate Label Material 3921 consists of a non-topcoated acrylate facestock designed for thermal transfer printing and withstand high temperatures and resist chemicals such as those found in the fabrication of printed circuit boards (PCBs).

### Product Features

- UL Recognized file MH16411
- Matte white facestock for print contrast and easy readability of barcodes and variable information.
- Acrylic based film for dimensional stability at high temperatures.
- 3M™ Acrylic Adhesive 150 will not degrade when exposed to standard printed circuit board assembly conditions.
- 55# densified kraft liner assures consistent die cutting.

### 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  | #150 Acrylic                   |
| Facestock      | Matte White Cast Acrylate Film |

| Attribute Name      | Value               |
|---------------------|---------------------|
| Adhesive Thickness  | 0.025 mm (1 mil)    |
| Facestock Thickness | 0.051 mm (2 mil)    |
| Liner               | 55# Densified Kraft |
| Liner Thickness     | 0.076 mm (3 mil)    |

### Typical Performance Characteristics

#### 180° Peel Adhesion

Temperature: 23 °C (73 °F)

Dwell Time: 72 h

Test Method: ASTM D3330

| Substrate          | Value                            |
|--------------------|----------------------------------|
| Epoxy PC Board     | Facestock tore <sup>1</sup>      |
| Polycarbonate (PC) | 6.3 N/cm (58 oz/in) <sup>1</sup> |
| Polypropylene (PP) | 5.6 N/cm (51 oz/in) <sup>1</sup> |
| Stainless Steel    | 5.8 N/cm (53 oz/in) <sup>1</sup> |

<sup>1</sup> 304 mm/min (12 in/min)

| Attribute Name | Value                       |
|----------------|-----------------------------|
| Note           | Calipers are nominal values |

## **Typical Environmental Characteristics**

### **Humidity Resistance**

24 hours at 100°F (38°C) and 100% relative humidity: no significant change in appearance or adhesion

### **Temperature Resistance**

530°F (277°C) for 30 seconds: no significant visual change

500°F (260°C) for 7 minutes: slight browning

-40°F (-40°C) for 24 hours: no significant visual change

## **Processing**

**Printing:** Facestock is designed for thermal transfer printing. Call 3M Customer Service at 1-800-422-8116 for additional information.

**Recommended Ribbons:** The following ribbons can be used but may require higher burn temperatures:

**Armor:** AXR7+, AXR7

**Sony:** TR4070

Die-cutting: Rotary die cutting is recommended.

**Dispensing:** Hand dispensing is recommended.

**Packaging:** Finished labels should be stored in plastic bags.

## **Handling/Application Information**

### **Application Examples**

- Printed circuit board tracking labels that see the following conditions:
- Solder re-flow.
- Top and/or bottom side wave solder.
- Most cleaning processes and chemicals.
- Labeling on parts exposed to high temperatures.

### **Application Techniques**

For maximum bond strength, the surface should be clean and dry. Typical cleaning solvents are heptane and isopropyl alcohol.\*

For best bonding conditions, application surface should be at room temperature or higher. Low temperature surfaces, below 50°F (10°C), can cause the adhesive to become so firm that it will not develop maximum contact with the substrate. Higher initial bonds can be achieved through increased rubdown pressure.

\*When using solvents, read and follow the manufacturer's precautions and directions for use.

## **Industry Specifications**

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**

**Technical Information:** The technical information, guidance, and other statements contained in this document or otherwise provided by 3M are based upon records, tests, or experience that 3M believes to be reliable, but the accuracy, completeness, and representative nature of such information is not guaranteed. Such information is intended for people with knowledge and technical skills sufficient to assess and apply their own informed judgment to the information. No license under any 3M or third party intellectual property rights is granted or implied with this information.

**Product Selection and Use:** Many factors beyond 3M's control and uniquely within user's knowledge and control can affect the use and performance of a 3M product in a particular application. As a result, customer is solely responsible for evaluating the product and determining whether it is appropriate and suitable for customer's application, including conducting a workplace hazard assessment and reviewing all applicable regulations and standards (e.g.,

OSHA, ANSI, etc.). Failure to properly evaluate, select, and use a 3M product and appropriate safety products, or to meet all applicable safety regulations, may result in injury, sickness, death, and/or harm to property.

**Warranty, Limited Remedy, and Disclaimer:** Unless a different warranty is specifically stated on the applicable 3M product packaging or product literature (in which case such warranty governs), 3M warrants that each 3M product meets the applicable 3M product specification at the time 3M ships the product. 3M MAKES NO OTHER WARRANTIES OR CONDITIONS, EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, ANY IMPLIED WARRANTY OR CONDITION OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, OR ARISING OUT OF A COURSE OF DEALING, CUSTOM, OR USAGE OF TRADE. If a 3M product does not conform to this warranty, then the sole and exclusive remedy is, at 3M's option, replacement of the 3M product or refund of the purchase price.

**Limitation of Liability:** Except for the limited remedy stated above, and except to the extent prohibited by law, 3M will not be liable for any loss or damage arising from or related to the 3M product, whether direct, indirect, special, incidental, or consequential (including, but not limited to, lost profits or business opportunity), regardless of the legal or equitable theory asserted, including, but not limited to, warranty, contract, negligence, or strict liability.

**Disclaimer:** 3M industrial and occupational products are intended, labeled, and packaged for sale to trained industrial and occupational customers for workplace use. Unless specifically stated otherwise on the applicable product packaging or literature, these products are not intended, labeled, or packaged for sale to or use by consumers (e.g., for home, personal, primary or secondary school, recreational/sporting, or other uses not described in the applicable product packaging or literature), and must be selected and used in compliance with applicable health and safety regulations and standards (e.g., U.S. OSHA, ANSI), as well as all product literature, user instructions, warnings, and limitations, and the user must take any action required under any recall, field action or other product use notice. Misuse of 3M industrial and occupational products may result in injury, sickness, or death. For help with product selection and use, consult your on-site safety professional, industrial hygienist, or other subject matter expert. For additional product information, visit [www.3M.com](http://www.3M.com).

## **ISO Statement**

This product was manufactured under a 3M quality system registered to ISO 9001 standards.

3M™ Industrial Adhesives and Tapes Division  
3M Center, St. Paul, MN 55144-1000  
[3M.com/iatd](http://3M.com/iatd)

3M is a trademark of 3M Company.  
PSC QUICKCHECK is a registered trademark of PSC.  
Alconox is a registered trademark of Alconox, Inc.  
409 is a registered trademark of Clorox.  
©3M 2024 (9/24)