



Water Contact Indicator Tape

5557

Technical Data

December, 2004

Product Description


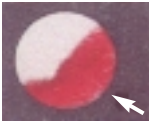

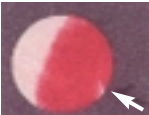
3M™ Water Contact Indicator Tape 5557 is a 10.2 mil thick printable, self-adhesive product that shows area specific, long lasting indication when contacted by water. When liquid comes in contact with the product, the **color RAPIDLY changes from white to red**. This product is designed to withstand heat and humidity aging without giving water indication and it will continue to show indication even after prolonged submersion in water. The construction is readily die cuttable, making small custom shapes easy to produce. The adhesive is a high performance acrylic protected by a silicone coated film release liner.

Product Construction

Backing	Top Film	Adhesive	Color	Standard Roll Length
Paper	Polyester	Acrylic	White	12 in. x 180 yd.

Typical Physical Properties

Note: The following technical information and data is based on limited 3M testing conditions and should not be used for specification purposes.

	ASTM Test Method
Adhesion to Stainless Steel: (90° Peel Adhesion, 12 in./min. peel rate, 72 hr. Dwell)	82 oz./in. width (88 N/100 mm) D-3330
Adhesion to Polycarbonate: (90° Peel Adhesion, 12 in./min. peel rate, 72 hr. Dwell)	47 oz./in. width (52 N/100 mm) D-3330
Tape Thickness:	10.2 mils (0.259 mm) D-3652
Release Liner Thickness:	2.0 mils (0.051 mm) D-3652
Humidity Resistance:*	
Control, t = 0 days	
Control, t = 0 days Indicator w/1 drop H ₂ O for one minute at arrow.	
7 days @ 55°C, 95% R.H.	
7 days @ 55°C, 95% R.H. indicated w/1 drop H ₂ O for one minute at arrow.	

*Tape is applied to polycarbonate panel and hung vertically in heat/humidity chamber.

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General

- Tape may be die cut using rotary die cutting process.
- Substrate should be smooth, clean, dry and oil-free to insure good wet-out and adequate adhesion.
- Adhesive should not be applied at temperatures < 50°F (10°C) [best if room temperature or higher].
- Maximum roll length depends upon width.
- Maximum roll width = 12 in. (304.8 mm)
- Temperature resistance is -40°C to 65°C for days or weeks and up to 121°C for minutes or hours.

Application Ideas

- Use as a water contact indicator in handheld or portable electronic devices such as cell phones, PDA's, pagers, MP3 players, game players, CD players, cordless phones, two-way radios, laptops, digital or film cameras, video cameras, etc.
- Other applications where positive indication of water or aqueous solution contact is desired.

Features

Features	Benefits
Film top layer	Printable by thermal transfer, flexographic, and screen printing methods. Can be used for identification. Top coated film for improved ink receptivity. Provides protection from soiling and moisture during handling. Indication remains after prolonged immersion.
Paper backing	Highly absorbent, quickly transports water to show indications. Does not falsely indicate water contact in high humidity environments. Performance not degraded by past high humidity exposures. Rotary die cuttable. Can readily form a variety of labels.
Acrylic adhesive	Excellent UV, chemical, temperature resistance. Very high bond strength to most surfaces including low surface energy plastics such as polypropylene and powder coatings.
2.0 mil film liner	Excellent die cuttability.

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Underwriters
Laboratories Inc.



3M™ Water Contact Indicator Tape 5557 material is Recognized by Underwriters Laboratories Inc. Representative samples of this component have been evaluated by UL and meet applicable UL requirements.

The UL recognition information per UL-969 “Marking and Labeling Systems” and file MH-16411 can be verified on-line at the Underwriters Laboratories Inc. Web Site. To view the verification information follow the path below:

“www.ul.com”

“[Certifications](#)”

“[Keyword Search](#)”

“5557”

3M Company comes up on the top of the search list

“[Link to File](#)”

“[PGJ12.MH16411](#)”

For 5557 per UL-969 the following entries apply:

“3M Brand 5557” unprinted label stock and printer/ink combination 6.”

Affixed to porcelain, aluminum, stainless steel, polyurethane powder paint, smooth acrylic powder paint, epoxy powder paint (smooth and textured), polyester powder paint (smooth and textured), alkyd paint, galvanized steel, nylon, polypropylene, polyphenylene oxide, polycarbonate, high density polyethylene (HDPE), acrylonitrile butadiene styrene (ABS) and high impact polystyrene, maximum temperature 60°C (140°F), minimum temperature -20°C (-4°F); polystyrene and low density polyethylene (LDPE), maximum temperature 40°C (104°F), minimum temperature -20°C (-4°F). Suitable where exposed to indoor dry location use.

3M Brand 5557 unprinted label stock and printer/ink combination 6.

“6) Armor “AXR-7”, “AXR-7+”, Dasco “DR-74”, “DR-84”, Great Ribbon “SDR”, limak “SP-330”, Intermec “053258-2”, “054048-4”, NCR “Matrix Resin”, “PaceSetter”, “Ultra V”, Ricoh “B110C”, “B110CX”, Sato “Premier 1”, Sony “4070”, “Signature Series™ Resin”, UBI “HR03”, “HR04” thermal transfer ink with thermal transfer printing equipment.”

Storage

Store under normal conditions of 60° to 80°F (16° to 27°C) and 40 to 60% R.H. in the original carton.

Shelf Life

To obtain best performance, use this product within 18 months from date of manufacture.

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Regulatory Information

This product does not require Toxic Substance Control Act (TSCA) listing.

For Additional Information

To request additional product information or to arrange for sales assistance, call toll free 1-800-251-8634. Address correspondence to: 3M Electronics Markets Materials Division, Building 21-1W-10, 900 Bush Avenue, St. Paul, MN 55144-1000. Our fax number is 651-733-9175. In Canada, phone: 1-800-364-3577. In Puerto Rico, phone: 1-787-750-3000. In Mexico, phone: 52-70-04-00.

Product Use

All statements, technical information and recommendations contained in this document are based upon tests or experience that 3M believes are reliable. However, many factors beyond 3M's control can affect the use and performance of a 3M product in a particular application, including the conditions under which the product is used and the time and environmental conditions in which the product is expected to perform. Since these factors are uniquely within the user's knowledge and control, it is essential that the user evaluate the 3M product to determine whether it is fit for a particular purpose and suitable for the user's method of application.

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