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Technical Data | August 2019

3M™ Water Contact Indicator Tape 5559

Product Description

3M™ Water Contact Indicator Tape 5559 is an ultra-thin 5.0 mil (127 micron) thick tape that changes color rapidly from white to red upon contact with water. It is designed to withstand heat and humidity aging without giving water indications. The top surface is press printable by laser and ink jet devices.

Key Features

- Highly absorbent
- Quickly transport water to show FAST indication
- Does not falsely indicate water contact in high humidity exposures
- Performance not degraded by high humidity exposure
- Easily die cuttable with rotary die cutting process
- Very high bond strength acrylic adhesive, bonds to most surfaces
- Thin construction, no film top layer

Product Construction/Material Description

Absorbent indicator layer
High performance acrylic adhesive
PET release liner (remove)

Note: The following technical information and data should be considered representative or typical only and should not be used for specification purposes.

3M™ Water Contact Indicator Tape 5559	
Property	**Value**
Color	White (top)/Red (bottom)
Adhesive	Acrylic
Backing	Paper
Thickness	5 mils (0.127 mm)
Standard Roll Length	180 yards

Applications

- Use in water contact indicator in handheld or portable electronic devices.
- Smart phones, tablets laptop computers and keyboards.
- Wearable electronic devices,
- Gaming and MP3 player
- Two-way radios
- Digital cameras
- Li-MH Batteries and chargers
- Ultra-thin caliper, 5.0 mils total, is suitable for application with tight design tolerances

Application Techniques

- Tape maybe die cut using rotary die cutting process

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- Substrate should be smooth, clean, dry and oil-free to ensure good wet-out and adequate adhesion.
- Adhesive should not be applied at temperature lower than 10°C (50°F)
- Temperature resistance is -40 to 65°C for days /weeks or 121°C for minutes to hours.

Typical Physical Properties and Performance Characteristics

Note: The following technical information and data should be considered representative or typical only and should not be used for specification purposes. Final product specifications and testing methods will be outlined in the products Certificate of Analysis (COA) that is shipped with the commercialized product.

3M™ Water Contact Indicator Tape 5559		
Property	**Method***	**Value**
Adhesion to Stainless Steel: 90° Peel Adhesion, 5 mm/sec peel rate, (12/inch/min), 15 min dwell time	ASTM D-3330	0.31 N/mm (28 oz/in)
Adhesion to Stainless Steel: 90° Peel Adhesion, 5 mm/sec peel rate, 72-hr dwell time	ASTM D-3330	0.37 N/mm (34 oz/in)
Adhesion to Polycarbonate: 90° Peel Adhesion, 5 mm/sec peel rate, 72-hr dwell time	ASTM D-3330	0.39 N/mm (35 oz/in)
Tape Thickness	ASTM D-3652	0.127 mm (5.0mil)
Release liner Thickness	ASTM D-3652	0.051 mm (2.0mil)

*Methods listed as ASTM are tested in accordance with the ASTM method noted

Indication Properties

Note: The following technical information and data should be considered representative or typical only and should not be used for specification purposes. The adhesion data was generated using a 2 mil polyester film as a supplemental backing.



t = 0 sec. t = 5 sec. t = 60 sec.

1 drop of water placed at edge of 1/2" diameter circle @ t = 0 sec.

Storage and Shelf Life

The shelf life of 3M™ Water Contact Indicator Tape 5559 is 18 months from the date of manufacture when stored in the original packaging materials and stored at 21°C (70°F) and 50% relative humidity.

Certificate of Analysis (COA)

The 3M Certificate of Analysis (COA) for this product is established when the product is commercially available from 3M. The commercially available product will have a COA specification established. The COA contains the 3M specifications and test methods for the products performance limits that the product will be supplied against. The 3M product is supplied to 3M COA test specifications and the COA test methods. Contact your local 3M representative for this product's COA.

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This technical data sheet may contain preliminary data and may not match the COA specification limits and/or test methods that may be used for COA purposes.

Final product specifications and testing methods will be outlined in the products Certificate of Analysis (COA) that is shipped with the commercialized product.

Safety Data Sheet: Consult Safety Data Sheet before use.

Regulatory: For regulatory information about this product, contact your 3M representative.

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