The ReadySense Passive Moisture Sensor is the perfect tag for detecting moisture exposure and penetration in plastic, wood and other non-metal surfaces.

ReadySense passive moisture sensing tags are wireless, battery-free sensor tags that eliminate maintenance and can be placed in almost any environment.

The core of the technology is the integrated circuit that detects environmental changes. Each moisture sensing tag detects moisture changes by the difference in impedance of the RF waves when the tag is energized by a reader. Software then displays, logs, and performs various calculations to provide useful analysis about the object being sensed.

Supplying a read range of 18-20 feet, ReadySense tags provide incredible read distances. Available in both a paper and polyester base construction, our ReadySense tags can be customized to serve a disposable or multi-use type of application.

Because these moisture sensor tags are simple and inexpensive, they open up a broad range of new uses beyond existing sensor applications.

With the ability to access quality-related data using large numbers of wireless, maintenance-free moisture sensors, important decisions that improve process and protect people and equipment can be made pro-actively and with confidence.

Key Product Features

- Detect and monitor moisture exposure on plastic, wood and other non-metal surfaces
- Flexible, battery-free design with excellent read range
- More economical than current active and semi passive moisture sensing tags
- Cost-effective option for high-volume or disposable sensing applications
- Digital printing provides for greater print capability with additional barcode or human readable information

Applications

- Moisture monitoring
- Rain monitoring
- Moisture content
- Building & roofing materials
- Bulk materials
- Corrosion prevention
- Food and grain monitoring

Not sure what product you need?

Call Our Trained Experts

641-423-9460

*Read range differs by environment and reader type
Material:
Polyester: .002” thick polyester label adhered to sensor inlay; approximately .017” total product thickness. Other constructions available upon request.

Label Copy: The label copy may include block type, stylized type, logos or other designs. All copy, block type, stylized type, logos, designs, and barcode are subsurface printed.

Colors: Standard colors include black, red, yellow, green and blue. Due to contrast needed for the barcode scanner, all bar codes are black.

Serialization: Barcode and human-readable equivalent are produced using the latest high-resolution digital technology available, which provides excellent clarity and ease scanning. Code 39 is the standard symbology with a range of 2.7 to 9.4 CPI (characters per inch). Optional linear and 2D symbologies available.

Programming: The barcode and human readable can be programmed into the RFID inlay as long as the information is in decimal or hexadecimal (A-F, 0-9) format. Metalcraft custom encodes your information to EPC and user memory banks. If desired, we can encode information that differs from the barcode and human readable.

Sensor Programming: Custom programming is available to meet application specific sensing requirements.

Frequency: Custom designed UHF inlay using a Magnus S2 Sensor IC optimized for use at 860-960 MHZ.

Standard Sizes: 4 ¼” x ¾”, 4” x 1¼”

Standard Adhesive: Pressure-sensitive acrylic (MC778), .002” thick supported by a liner. Very high peel strength that provides excellent resistance to heat and chemicals. Withstands temperatures from -40°F to 400°F (intermittent). Shelf life of 24 months when stored at 72°F (22°C) and 50% relative humidity.

Shipment: Production times vary, contact Metalcraft for more information.

Test Description

These tests were conducted for a limited period of time in strict laboratory conditions. In order to achieve maximum satisfaction we highly recommend that any customer considering use of this product test the labels in the environment in which they will be used.

Chemical soak test - The ReadySense moisture tags were attached to a sheet of glass submerged in various chemicals. Observations were made at the following intervals: 2 hours, 24 hours, 48 hours. A Motorola handheld RFID reader as well as a handheld barcode reader were used to test the samples.

<table>
<thead>
<tr>
<th>Length of Immersion</th>
<th>Water</th>
<th>Glass Cleaner</th>
<th>Bathroom Cleaner</th>
<th>Isopropyl Alcohol 99%</th>
<th>Acetone</th>
<th>NaOH pH 12.0</th>
<th>HNO3 pH 1.0</th>
<th>HCl pH 1.0</th>
<th>Brake Fluid</th>
</tr>
</thead>
<tbody>
<tr>
<td>24 Hours</td>
<td>N.E.</td>
<td>N.E.</td>
<td>N.E.</td>
<td>N.E.</td>
<td>DL, NR</td>
<td>N.E.</td>
<td>N.E.</td>
<td>N.E.</td>
<td>N.E.</td>
</tr>
</tbody>
</table>

N.E. = No Effect, DL = Tag Delaminated, NR = Tag No Read

Read range test - Tag has a read range of 18-20* ft. using Motorola AR400 reader at 24 dbm (1/4 of maximum reader power)

High-temperature resistance test - These tags were attached to a sheet of glass at raised temperatures for 15 minutes. Tags were then removed from the oven and tested for readability immediately.

<table>
<thead>
<tr>
<th>Temperature</th>
<th>RFID read test (after sample cooled to room temp.)</th>
<th>Appearance of tags</th>
</tr>
</thead>
<tbody>
<tr>
<td>200°F</td>
<td>Reads well</td>
<td>No change</td>
</tr>
<tr>
<td>300°F</td>
<td>Reads well</td>
<td>No change</td>
</tr>
<tr>
<td>400°F</td>
<td>Reads well</td>
<td>Tag Distorted</td>
</tr>
<tr>
<td>500°F</td>
<td>Reads well</td>
<td>Tag Destroyed</td>
</tr>
</tbody>
</table>

Low-temperature resistance test - The tags were attached to a sheet of glass and exposed to -40°F for 24 hours. Tags were then checked for readability with an Alien ALH-9000 handheld RFID reader. All samples were readable while at temperature just prior to removal from freezer. No tag construction defects were observed and adhesive still had a strong bond while in the freezer.