

# ENVIRONMENTAL INDICATORS



ShockWatch Environmental Indicators monitor temperature during shipping and storage, indicating whether goods have been subjected to unacceptable temperatures.

**ColdMark™/Mini ColdMark™:** These devices indicate exposure to temperatures below a predetermined threshold by changing from clear to red.

**HeatWatch™:** This device indicates exposure to extreme temperatures above a specified threshold by changing from pink to red.

**WarmMark™/WarmMark™ Duo/WarmMark™ Long Run:** These devices monitor whether a product has been exposed to temperatures above a predetermined threshold. A red dye is released onto a blotter to clearly indicate the duration of the exposure.



Use Environmental Indicators on:

- Vaccines and pharmaceuticals
- Photographic chemicals and supplies
- Electronic components and products
- Frozen, refrigerated, and fresh food
- Live plants and animals
- Blood/plasma products
- Chemicals
- Adhesives
- And much more

## ■ Benefits

- Reduces product damage and loss incurred during transportation and storage
- Provides psychological reinforcement to ensure optimal temperature conditions are adhered to
- Provides indisputable evidence of exposure to unacceptable temperature conditions
- Alleviates safety concerns surrounding bacterial growth, infection, and contamination while shipment is in transit
- Ensures compliance with health standards
- Ensures quality of the product throughout transportation cycle
- Identifies potential unacceptable product quality before delivery to end-user
- Alerts recipient to inspect contents before acceptance
- Ensures chain of accountability in storage and transportation
- Protects against/reduces warranty claims
- Identifies trouble spots in storage and transportation
- Increases customer satisfaction and provides a visible marketing edge

# ENVIRONMENTAL INDICATORS

## ■ Features

- Available in a wide variety of temperature thresholds
- Visible deterrent to mishandling
- Irreversible indicator — once activated, there is a permanent record of exposure
- Easily identify potential product spoilage from exposure to extreme temperatures
- Tamper-proof designs prevent concealment of activation/response without obvious evidence of interference
- Easy to install with removal of adhesive backing (for WarmMark products, arming requires removal of tab)
- Allows for a variety of placement options

## ■ ColdMark/Mini ColdMark Specifications

### Activation Temperature Level

+26°F/-3°C, +32°F/0°C (ColdMark)  
+41°F/+5°C, +50°F/+10°C  
(Mini ColdMark)

### Activation Temperature Exposure Time Period

30 minutes

### Size

3.3"/83.82mm x 0.8"/20.32mm x  
0.4"/10.16mm (ColdMark)  
1.0"/25.40mm x 0.2"/5.08mm x  
0.2"/5.08mm (Mini ColdMark)

### Adhesive

Pressure-sensitive

### Storage Condition

Store unused product above activation temperature up to +110°F/+43°C

### Shelf Life

1 year from date of sale

## ■ HeatWatch Specifications

### Activation Temperature Level

+115°F/+46°C to +320°F/+160°C

### Activation Temperature Exposure Time Period

Varies per activation temperature level based on exposure to a constant temperature of 2°C above the activation temperature

### Size

1.5"/38.10mm x 1.5"/38.10mm

### Material

Metallic polyester film

### Adhesive

1 mil Flexcon acrylic L-23

### Storage Condition

Unused product must be stored in an environment with temperature below the activation temperature for optimal shelf life

### Shelf Life

2 years from date of sale

## ■ WarmMark/WarmMark Duo/ WarmMark Long Run Specifications

### Response Temperature Range

0°F/-18°C to +99°F/+37°C  
(WarmMark\*)  
+50°F/+10°C and +93°F/+34°C  
(WarmMark Duo)  
+50°F/+10°C to +77°F/+25°C  
(WarmMark Long Run\*)

### Response Temperature Exposure Time Period

30 mins to 48 hours (WarmMark)  
*(Non-standard tags are available for longer exposure times)*  
Up to 3 days, 8 days, 14 days  
(WarmMark Duo)  
Up to 7 days response temperature of tag (WarmMark Long Run)

### Size

0.8"/20.32mm x 1.8"/45.72mm x  
0.1"/2.54mm (WarmMark)  
0.4"/10.16mm x 3.9"/99.06mm x  
0.1"/2.54mm  
(WarmMark Duo/ WarmMark Long Run)

### Adhesive

Pressure-sensitive

### Storage Condition

Unused product must be stored in an environment with temperatures below the response temperature for optimal shelf life

### Shelf Life

1 year from date of sale

\*Specific activation temperatures apply

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# SHOCKWATCH®

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