

ENVIRONMENTAL INDICATORS



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

ColdMark®: This device indicates exposure to temperatures below a predetermined threshold by changing from clear to violet.

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.

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



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 handlers adhere to optimal temperature conditions
- 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

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■ 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

The ShockWatch Program

Maximize the effectiveness of your environmental indicators with a range of companion tools. The ShockWatch Program includes companion labels, inset cards, and caution tape, which inform carriers and recipients that your goods require specific thermal conditions.



■ ColdMark Specifications

Activation Temperature Levels
26°F/-3°C, 32°F/0°C,
(NEW) 36°F/2°C,
41°F/5°C, 50°F/10°C

Activation Temperature Exposure Time Period
30 minutes

Size
3.3"/83.82mm x 0.8"/20.32mm x
0.4"/10.16mm

Adhesive
Pressure-sensitive

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

Expiration Date
3 years from date of manufacture

■ HeatWatch Specifications

Activation Temperature Levels
115°F/46°C, 122°F/50°C
127°F/53°C, 140°F/60°C
149°F/65°C, 158°F/70°C
192°F/89°C, 273°F/134°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

Expiration Date
2 years from date of manufacture

■ WarmMark/WarmMark Duo/ WarmMark Long Run Specifications

Activation Temperature Levels
0°F/-18°C, 32°F/0°C, 41°F/5°C,
46°F/8°C, 50°F/10°C, 68°F/20°C,
77°F/25°C, 86°F/30°C, 99°F/37°C
(WarmMark)
50°F/10°C, 93°F/34°C
(WarmMark Duo)
50°F/10°C, 88°F/31°C
(WarmMark Long Run*)

Activation Temperature Exposure Time Period
30 mins to 48 hours (WarmMark)*
30 mins for 93°F/34°C
Up to 3 days, 8 days, 14 days
for 50°F/10°C
(WarmMark Duo)
Up to 7 days
(WarmMark Long Run)

Size
0.8"/20.32mm x 1.8"/45.72mm x
0.1"/2.54mm (WarmMark)
0.8"/20.32mm 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

Expiration Date
2 years from date of manufacture

*Specific activation temperatures apply

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