

# ShockWatch Impact Indicator

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## ShockWatch® Impact Indicator Label for Packaging

ShockWatch impact indicators for packaging deter mishandling and reduce damage-related costs by indicating when fragile products have been exposed to a potentially damaging impact during transit and storage.

### Features

- Tamper-proof design prevents concealment of activation without obvious evidence of interference
- Compliance and field tested for use in multiple manufacturing, shipping and storage environments
- Highly visible “red alert” to indicate mishandling
- Easy-to-use adhesive backing requires no tools or assembly
- Available in a wide range of impact sensitivities

### Ideal Applications

- Automotive components
- Electronics
- Commercial appliances
- Semiconductor wafers and components
- Computer hard drives
- Lab equipment
- Glass products



## A low-cost, highly accurate solution to identify and correct gaps in the supply chain

ShockWatch Labels are tamperproof, mechanically activated devices that turn bright red to indicate mishandling. When used in conjunction with companion tools, they are a high visibility deterrent to product mishandling in the supply chain. In the event of mishandling, ShockWatch labels provide tamperproof evidence and can be used to document chain of accountability from the first mile to the last.

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A single-use indicator, over 7 million ShockWatch labels are used each year to detect if mishandling has occurred, then alerts the recipient to inspect contents. ShockWatch impact indicator labels are specifically designed to help shippers identify and correct gaps in their supply chain. They are easily incorporated into standard operating procedures to maximize product margins:

## Ties damage incidents to the chain of accountability

Often, carriers and manufacturers alike are required to absorb damage costs even if they may be the incorrect party. Disputing these claims comes down to the determination of damage responsibility with supporting empirical data. The only way to monitor a shipment for both defects and delivery is to utilize a program that both educates all involved parties, and supports the accurate match and merge process for determining accountability. A combination of product and packaging indicators, recorders and training programs allows customers to significantly minimize loss and assign the proper accountability that will, in the end, reduce across-the-board loss and increase customer satisfaction.

## Provides a visual deterrent to improper handling

There is no question about it. People and companies are in a hurry. Shippers and carriers alike are often evaluated on volume produced and do not recognize revenue until product has been shipped. This method, however, results in faster methods of processing deliveries, reduced packaging material and minimal drop testing performed. In the end, it is the customer who has to determine if the product has arrived meeting their expectations. The best return-on-investment is a monitoring program based on some level of deterrence. This is where education and the ShockWatch packaging indicators come into play. ShockWatch monitoring programs have a psychological effect on employees and shippers alike and results in fragile, sensitive, or calibrated goods receiving extra care in transit.



## Confirms effectiveness of packaging in real-world applications

Drop-testing is typical for designing impact-tolerant product packaging, replicating abuse and for accelerated life cycle testing, but by clamping a package to a table and impacting it against the ground you don't allow the package to execute its natural dynamics during impact. ShockWatch impact indicators mounted to packaging (or products) allow for standardized test protocols to be developed that replicate the true abuse a shipment will experience in the field. With 360° of impact sensitivity and multiple G levels available, customers can replicate the real-world testing required for "free drops" because the package can move naturally during impact.



## Lowers production line yield losses

Line yield losses results from physical damage of wafers, components and manufacturing electronics due to mishandling and equipment component failure during the manufacturing and internal handling process. ShockWatch products have been used for 35 years to detect mishandling, excessive vibration, or other process irregularity that can all contribute to costly defects. By adding the ShockWatch label to your packaging containers and ShockWatch Clip impact indicators to the products themselves, customers have proven their ability to reduce the time and resources required for in-process inspection and metrology.



## Multiple sensitivities available for user-determined detection thresholds

The ShockWatch Label is available in five sensitivities, as indicated by the five different colors — simply match the sensitivity of the label to the level of impact the product and packaging can withstand. Activation indicates an impact beyond the predetermined level.

ShockWatch labels are designed to protect products up to 50 cubic feet in volume and weighing up to 1,000 pounds. Other indicators and recorders are available from ShockWatch for additional sensitivities and monitoring requirements.

## Key Specifications

Size	3.8"/96.52mm x 3.8"/96.52mm
Sensitivity	Available from 10 to 100G
Adhesive	Acrylic
Responsiveness	Sensitive to impacts on 360° axis
Operation	2 years from date of sale, when stored at standard temperature and pressure (20°, 1 ATM)

## Companion Tools

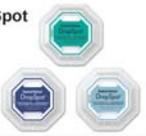


When used in conjunction with companion tools, ShockWatch labels are a deterrent to product mishandling during the transport process as they determine when a sensitive device may have been dropped or bumped within a facility, on a dock or by material handling equipment such as a forklift.

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## A scalable portfolio of solutions for packages and containers

Labels	DropSpot	MAG 2000	g-View	ShockLog
				
Near 360° Response	Planar (2D) Response	Planar (2D) Response	Three dimensional response	
Single use	Single use	Resettable with key	Reusable recorder	
	Field armable	Field armable	iButton start	Software or iButton start
Indicates single impact			Records 100 impact events/axis	Records up to 870 impact events and over 260k time slots
Indicates impact only			Records impact & internal temperature	Records impact & internal temperature w/ accessories to measure temp, humidity, pressure, tilt, roll, GPS
No battery required			Up to 6 month battery life	Up to 18 month battery life
No software			Simple setup & report software	Complete analysis software



## Partner with the Experts

ShockWatch is a global leader in the innovation and optimization of logistics and cold chain risk mitigation through environmental event detection. In addition to providing leading-edge solutions, ShockWatch consultants are subject matter experts that excel in partnership. They are available to support training and execution of your risk reduction program:

- Ensure proper implementation and effective long-term usage of ShockWatch systems
- Optimize your hardware investment for healthy ROI
- Maximize understanding of conditions that affect products during transit and in operation
- Enhance your existing logistics, loss management and quality programs with a variety of tools. These may include companion labels, alert stickers, caution tape, supporting documentation and ongoing support

Contact your representative for more details on how to build a program around your monitoring needs.

## About ShockWatch

As the global leader in the innovation and optimization of logistics and cold chain risk management systems, ShockWatch provides solutions that currently enable over 3000 customers and some 200 partners in 62 countries to detect mishandling that causes product damage and spoilage during transport and storage. The robust ShockWatch product portfolio includes impact, tilt, temperature, vibration, and humidity detection systems and is widely used in the energy, transportation, aerospace, defense, food, pharmaceutical, medical device, and manufacturing sectors.

Founded in 1976 and based in Dallas, Texas, ShockWatch is a subsidiary of MRI, Inc., which is also the parent of DPC and DataSpan. MRI's international client base includes two-thirds of the Fortune 100 and more than half of the Fortune 1000 companies.

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