



Shockwatch Clips and Tubes

Program Implementation Guide



SHOCKWATCH®
DAMAGE PREVENTION. WE'RE ON IT.

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Introduction to Shockwatch Clips and Tubes



The Shockwatch program encourages all handling personnel to be more careful, helps to reduce damage, pinpoints rough handling areas and is a Win-Win for the shipper, carrier and consignee.

Shockwatch Clips, together with this simple implementation program, will allow you to monitor rough handling and reduce product damage when handled and transported.

Shockwatch® Clips

- Provides immediate proof of rough handling
- Is an impact sensor that adheres directly to your products
- Comes in a range of different sensitivities to cover a variety of applications
- Is a sensor that turns from white to red when an excessive impact occurs
- Is a visual deterrent to mishandling

What is a Shockwatch Clip or Tube and how does it work?

WHAT IS A SHOCKWATCH CLIP or TUBE

The SHOCKWATCH CLIP is a “state-of-the-art” impact detection device. Shockwatch is NOT a damage detector! It is a simple non-mechanical device designed to activate (turn red) when a specified level of shock or impact occurs. The device has no moveable parts and is completely self-contained. Specifically, the sealed glass tube has a small amount of proprietary red liquid at one end (the end you can’t see) and a white coating at the other end (the part showing on the label).

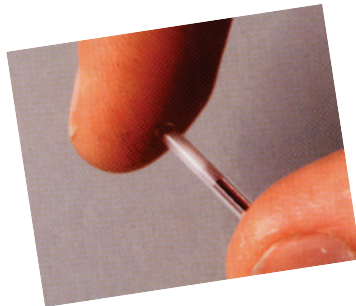


HOW DOES THE SHOCKWATCH CLIP OR TUBE WORK

The red liquid is held in place by the surface tension of the liquid itself – much like a drop of water on a highly waxed surface. Based on several factors in the process of manufacture, the amount of “force” necessary to disturb the surface tension can be controlled and predicted. Once that happens, the red liquid dissipates into the white coating, thus turning the label “RED”. Normal handling and vibration will NOT activate Shockwatch.



IMPORTANT: The SHOCKWATCH SENSOR is designed to take on the weight and mass properties of the object to which it’s attached. It will react differently if simply held in your hand freely before attachment. Once attached it measures impact as registered on the object itself. When the sensor turns RED it is an indication of rough handling and potential damage to the contents.



The sensor now becomes:

- A “MEANS” OF DEFINING “FRAGILE” for handlers
- A “FRAGILE” warning that cannot be ignored
- A “PREVENTION TOOL” to eliminate abusive handling
- A “DOCUMENTATION TOOL” to assist in timely claims
- A “MARKETING TOOL” advertising “Quality” and a “We Care More” attitude

How do I know which Clip or Tube to use?

HOW DO I KNOW WHICH CLIP TO USE

To select the proper activation levels, the following needs to be considered:

- Determine if shock specifications exist for the product to be monitored. Most complex electro-mechanical products such as hard drives, avionics, analysis instruments, etc. have been through extensive testing to establish shock damage boundary data. When this information is available, the selection process is quite simple. Select the clip type and sensitivity from the Product Selection Guide.
- If shock specifications do not exist, there are two possible options:
 - Use the Product Selection Guide right based upon the manufacturer's knowledge of the product fragility.
 - Perform an impact / drop test.
Use a ShockWatch Multi-G to aid in the testing effort.

Clip Type	When To Use	Sensitivities Available (in G's, all at 50 milliseconds)
Single Ended (CX#)	Product is sensitive to impacts from all directions perpendicular to the axis of the device (planar)	10, 15, 25, 37.5, 50, 75, 100
Double Ended (CXX#)	Product is sensitive to impacts from any direction (omni-directional)	10, 15, 25, 37.5, 50, 75, 100
Tube Only	Embedding within electronics or product housing	10, 15, 25, 37.5, 50, 75, 100
Multi-G	Drop testing	One unit available with 25G - 50G - 75G

Product Selection Guide

Product Name	Sensitivity	Activation Height	Examples
CX85 and CXX85	10g	Activates at 2" to 4" drops on hard surfaces	<ul style="list-style-type: none"> Avionics Instrumentation Removable hard drives Electronics Medical products
CX75 and CXX75	15g	Activates at 2" to 4" drops on hard surfaces	<ul style="list-style-type: none"> Avionics Instrumentation Removable hard drives non-operating spec of 37 g's at 11 ms Electronic Medical products Military
CX65 and CXX65	25g	Activates at 4" to 8" drops on hard surfaces. Most commonly used clip.	<ul style="list-style-type: none"> Avionics Instrumentation Removable hard drives, non-operating spec of 50g's at 11 m.s. Electronic Medical Audio Visual / Broadcast Equipment Military Devices
CX55 and CXX55	37.5g		<ul style="list-style-type: none"> Avionics Non-removable hard drive with a non-operating spec of 60g @11ms Broadcast/Audio Visual Equipment Field Test Equipment
CX47 and CXX47	50g	Activates at 8" to 18" on hard surface drops	<ul style="list-style-type: none"> Broadcast / Audio Visual Equipment Removable hard drives- non-operating spec of 80 g's at 11 m.s Electronic – computer related Avionics Field test equipment Non-removable hard drive with a non-operating spec of 75 g@11msg
CX35 and CXX35	75g	Activation trends at 19" to 24"	<ul style="list-style-type: none"> Avionics Broadcast / Visual Equipment Electronic – computer related Field test equipment Hand held computers Removable hard drives – non-operating spec of 80g's at 11ms Walkie/talkie and portable phone products
CX30 and CXX30	100g	Activation trends at 24" to 40" Activation 30" to 48"	<ul style="list-style-type: none"> Field test equipment Hand held computers Walkie/talkie and portable phones
CX25 and CXX 25	150g	Activation 30" to 48"	<ul style="list-style-type: none"> Portable electronic equipment
Multi-G Clips	25g – 50g – 75g	Activates at three different levels	<ul style="list-style-type: none"> In house drop testing Large air ride van, oversees shipments where they want to correlate handling trends Products where there is an indecision of which label/clip to use

All Shockwatch Clips (G Levels) are rated at 50 milliseconds

We recommend that you speak to a Shockwatch Representative before placing an order.

How can the clips and tubes be used?

Lost Calibration

Products such as measurement equipment, gyroscopes, weaponry, or medical devices require precise calibration in order to operate properly. Impacts can result in misalignment of critical components.

ShockWatch clips indicate if an impact has been experienced that could potentially result in misalignment and the need for recalibration.

Warranty Abuse

Most companies offer a warranty period during which non-functioning products are repaired at no cost to the end-user. Service calls involve labor costs of making repairs and overseeing administrative processes, spare parts costs, and the cost associated with unhappy customers.

In order to monitor for mishandling, ShockWatch clip products or ShockWatch tubes can be integrated into the product design or mounted on the product. These devices are excellent tools to improve customer handling and reduce warranty costs associated with mishandling.

Note: One ShockWatch clip customer warranty policy now states: "Any unit from which the ShockWatch clip has been removed will have its warranty automatically voided. Any unit returned for warranty repair with a red ShockWatch indicator and internal damage will be repaired at the customer's expense."

Where should the Clip or Tube be placed?

WHERE SHOULD THE CLIP BE PLACED ON A PRODUCT

- Shockwatch Clips should be placed on the most rigid part of the equipment (non-flexible material) nearest the most sensitive parts.
- Shockwatch Clip should be mounted level with the surface of the container (horizontally)

WHERE SHOULD THE TUBE BE PLACED ON A PRODUCT

- Shockwatch Tubes should be embedded with electronics or product housing

How do I implement the Shockwatch Program?

IMPLEMENTATION PLAN

Implementation of this damage prevention program provides psychological reinforcement of proper handling procedures and changes the behaviour of material handlers.

It provides a highly visible deterrent to mishandling throughout the supply chain. This program is most successful with the collaboration of your people, carriers, and customers.

ACTION STEPS

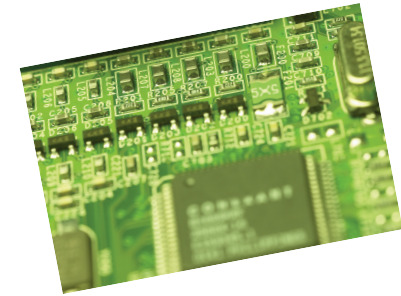
- educate your people (shipping, warehousing, and packaging departments)
- educate your carriers
- educate your customers
- Introduce the program and monitor the results (may include a structured trial)

SHOCKWATCH CLIP PLACEMENT RULES OF THUMB

- Shockwatch Clips should be placed on the most rigid part of the equipment (non-flexible material) nearest the most sensitive parts.
- Shockwatch Clip should be mounted level with the surface of the container (horizontally)

SHOCKWATCH TUBE PLACEMENT RULES OF THUMB

- Shockwatch Tubes should be embedded with electronics or product housing



Inform Customer and Carriers

SAMPLE CUSTOMER/CARRIER LETTERS

Use the sample letters shown below to inform your customers and carrier/s that you are using Shockwatch Clips to reduce handling and in transit damage. Amend these documents to include the procedures involved when receiving or moving shipments.

These sample letters are available for download from our website www.shockwatch.com.au (see the impact indicators webpage)

SAMPLE CUSTOMER LETTER

(Company Name)
(Company address)

Dear Customer:

In an effort to reduce in handling and in transit damage and safeguard our shipments, **(Company Name)** is adopting the use of the Shockwatch Clip products. For your protection and ours, please institute the following procedures to afford us the maximum benefit from the Shockwatch program.

Procedures for Receiving Shipment:

- Please do not refuse to accept shipment.
- An activated (RED) indicator on the clip does not mean that damage has occurred. It only indicates that the product received an impact or was handled above a normally anticipated level. Only an inspection can determine if any damage has occurred.
- If the indicator on the clip is RED, please make a notation to that effect on the bill of lading or delivery receipt or document.
- Examine contents immediately for possible damage.

If damage is discovered, inform carrier immediately (within **XX*** days) and follow normal procedure for a carrier inspection and filing of a concealed damage claim.

The Shockwatch program is our way of protecting your interest in receiving quality product and protecting our goods from the time they leave our facility until they reach the final destination. It is our way of telling you that we care about you, our customer.

Thank you.

SAMPLE CARRIER LETTER

(Company Name)
(Company Address)

Dear Carrier:

In an effort to reduce in transit damage and safeguard our shipments, **(Company Name)** is adopting the use of the Shockwatch Clip products. Instructions on the units are self-explanatory, however, for your protection and ours, please institute the following procedures to afford us the maximum benefit from the Shockwatch program.

Procedure:

- Please do not refuse to accept or handle any shipment
- An activated (RED) indicator on the clip only means that the product was subjected to rougher handling than we prefer.
- If the indicator on the clip is RED, please make a notation to that effect on the bill of lading or the transfer document, noting date/time, label color and signature of individual observing the activated label.
- Continue the movement of the carton(s) on to the specified consignee.

The Shockwatch program encourages your personnel to be more careful, reducing damage, pinpointing trouble spots in intermodal situations, and protects you, the carrier, from false accusations by negligent shippers. Your cooperation will be appreciated.

Thank you.

Contact Us

If you wish to discuss your requirements further please do not hesitate to contact us.

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