

Secure.  
Tested.  
Certified.

We solve problems  
with confidence  
and creativity.



Monitoring Products for Dry Heat

**DRY**

Steam-Formaldehyde

**FORM**

Chlorine Dioxide

**CLO2**

Crosstex | Industrial is a division of Crosstex International, a Cantel Medical Company (NYSE:CMN). We are a leading global manufacturer of infection control and sterilization assurance products. We create high quality, innovative products, the majority of which are manufactured in the United States. Our broad range of products include the following key product lines: Biological Indicators, Chemical Indicators, Quality Control Test Suspensions, Sterilization Pouches and Tubes, Custom Indicator Labels, Face Masks and High Level Disinfectants.

Our global market segments include medical device, pharmaceutical, contract sterilizer, laboratory, food and beverage and biotechnology companies which we serve through a worldwide distribution network. With eleven manufacturing/distribution facilities around the world – eight in the United States and three internationally – Crosstex | Industrial services the global infection control community in an efficient and timely manner.

Crosstex’s infection control and sterilization assurance products are manufactured in FDA regulated facilities certified to ISO 13485:2012. Globally, Crosstex maintains a comprehensive list of accreditations and certifications.

**Sales, Service and R&D Office    Manufacturing Facilities**

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## Inoculated Carriers & Biological Indicators

Crosstex manufactures a comprehensive line of Inoculated Carriers and Biological Indicators (BIs) for use in monitoring Dry Heat sterilization processes. Our most popular inoculated carriers and biological indicators are packaged using state of the art equipment, which provides assurance that each glassine pouch contains a biological indicator.

- Convenient shelf packages of 100 units per box
- Products are accompanied by a Certificate of Analysis and are certified with population, purity, and resistance characteristics (*D* value, *z* value, survival and kill where applicable)

## Biological Indicators – ISO 11138-4 Compliant

Crosstex manufactures a biological indicator for Dry Heat sterilization which is compliant with ISO 11138-4. The BI consists of a 7 mm x 38 mm filter paper strip inoculated with *Bacillus atrophaeus* spores, packaged in a white glassine pouch. The configuration offers an increased *D* value at 160°C of not less than 2.0 minutes meeting the requirements for dry heat resistance as outlined in ISO 11138-4.

- Place BIs into the most difficult area of the sterilizer or device/article to be sterilized. In general, a minimum of 10 BIs are utilized in each cycle
- Packaging allows for easy placement in sterilizer or device/article and transfer post-exposure

## Biological Indicators – ISO 11138-4 Compliant

*Bacillus atrophaeus* Cell Line 9372

24 month shelf life

Crosstex Code	Population	Quantity
BG-106DH	10 <sup>6</sup>	100/box

## Traditional Spore Strips

Consist of inoculated filter paper, each 7 mm x 38 mm, individually packaged in easy-to-handle glassine pouches.

- The strips can be easily removed from the glassine pouch by tearing or peeling the pouch open for transfer to culture media or challenge device assembly
- Compliant with ISO 11138-1



## Traditional Spore Strips

*Bacillus atrophaeus* Cell Line 9372

24 month shelf life

Crosstex Code	Population	Quantity
BG-104	10 <sup>4</sup>	100/box
BG-105	10 <sup>5</sup>	100/box
BG-106	10 <sup>6</sup>	100/box

## Mini Spore Strips

Consist of inoculated filter paper, each 2 mm x 10 mm, packaged in a variety of options. The small size of the Mini Spore Strips allows them to fit into areas of a device where standard sized spore strips cannot be used, such as within a syringe barrel, inside tubing or under a cap.

- Crosstex Mini Spore Strips are available packaged in glassine envelopes of two sizes: a larger envelope 25 mm x 50 mm (STN-062) or a mini glassine envelope 25 mm x 25 mm (STN-062MG)
- The product is also available as an inoculated carrier in bulk (no glassine packaging - STN-062B)
- Compliant with ISO 11138-1



## Mini Spore Strips

*Bacillus atrophaeus* Cell Line 9372

30 month shelf life

Crosstex Code	Packaging	Population	Quantity
STN-062	Glassine envelopes	10 <sup>6</sup>	100/box
STN-062B	Bulk	10 <sup>6</sup>	100/box
STN-062MG	Mini glassine envelopes	10 <sup>6</sup>	100/box

# Biological Indicators for Dry Heat

## Spore Discs

Crosstex Spore Discs are available in two different sizes, 6 mm and 3 mm diameters. The discs are designed to be utilized as an inoculated carrier for placement directly into areas of a device which are the most difficult to sterilize.



- The Inoculated Carriers are packaged in easy-to-access and handle bulk packaging
- Crosstex Spore Discs will fit into small areas of a device where a standard-sized spore strip cannot be used, such as within a syringe barrel, inside tubing and vials or under a cap
- Compliant with ISO 11138-1



### Spore Discs

*Bacillus atrophaeus* Cell Line 9372

24 month shelf life (BG-106D) / 30 month shelf life (DN18-06)

Crosstex Code	Disc Diameter	Packaging	Population	Quantity
BG-106D	6 mm	Bulk	10 <sup>6</sup>	100/box
DN18-06	3 mm	Bulk	10 <sup>6</sup>	100/box

## Spore Threads

- Ideal for use in tubing, lumens and other devices/instruments where larger BIs and carriers cannot be utilized
- Compliant with ISO 11138-1

### Spore Threads

*Bacillus atrophaeus* Cell Line 9372

24 month shelf life

Crosstex Code	Description	Packaging	Population	Quantity
THN-06	Cotton Thread, 25 mm x 0.1 mm	Bulk	10 <sup>6</sup>	100/box
THN-06P	Cotton Thread, 25 mm x 0.1 mm	Glassine	10 <sup>6</sup>	100/box



## Prepared Culture Media

Crosstex Prepared Culture Media consists of an exclusively formulated Trypticase® Soy Broth (TSB) modified with pH indicator. A reduced incubation time of 48 hours for Dry Heat sterilization has been validated when Crosstex *Bacillus atrophaeus* Cell Line 9372 Biological Indicators are used in conjunction with Crosstex's Prepared Culture Media.

- Visually distinct results from green to yellow in a minimum of 48 hours
- 13 mm x 100 mm flat bottom tubes of Type I borosilicate glass with screw caps
- Each lot is accompanied by a Certificate of Analysis and is certified with growth promotion capabilities using *Bacillus atrophaeus* Cell Line 9372

### Prepared Culture Media

12 month shelf life

Crosstex Code	Volume	Quantity
GMBTB-100	5 mL	100 tubes/box



## Spore Suspensions

Crosstex manufactures Spore Suspensions utilized in Dry Heat sterilization processes. The Spore Suspensions are pure suspensions of spores with known resistance characteristics and a variety of population levels standardized per 0.1 mL. The Spore Suspensions allow for direct inoculation of products, typically to verify sterility of devices where a traditional biological indicator spore strip cannot be used. They can also be used for a variety of other microbiological tests including cleaning effectiveness studies, Bioburden percent recovery and Bacteriostasis/Fungistasis (BF) testing.

- Each vial contains 10 mL of suspension. Diluent contains 20% ethanol
- Pharmaceutical grade glass vials with screw cap and septum
- Spore Suspensions require storage under refrigerated conditions (2°C to 8°C)
- ISO 11138-1 Compliant



### Spore Suspensions

*Bacillus atrophaeus* Cell Line 9372  
24 month shelf life

Crosstex Code	Population per 0.1 mL
VBA-102	10 <sup>2</sup>
VBA-103	10 <sup>3</sup>
VBA-104	10 <sup>4</sup>
VBA-105	10 <sup>5</sup>
VBA-106	10 <sup>6</sup>
VBA-107	10 <sup>7</sup>
VBA-108	10 <sup>8</sup>









## Chemical Process Indicators



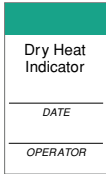
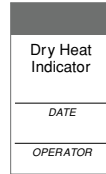
Crosstex Dry Heat Chemical Process Indicators (CPIs) meet the requirements of Crosstex's Quality System (ISO 13485) and have been validated per standard cycles outlined in ISO and USP for Depyrogenation processes. Our Chemical Process Indicators provide a fast and consistent visual check on items that were exposed to Dry Heat processes.

## Chemical Process Indicators

24 month shelf life

	Crosstex Code	Description	Indicators Per Roll	Unexposed	Exposed
	CPI-DH01	Circle Indicator Label 12.7 mm (Dry Heat) orange to brown ( $\leq 180^{\circ}\text{C}$ )	1,000		
	CPI-DP1	Circle Indicator Label 12.7 mm (Depyrogenation) High temperature or Depyrogenation - pink to violet/dark brown ( $\leq 250^{\circ}\text{C}$ )	500		

36 month shelf life

Crosstex Code	Description	Indicators Per Roll	Unexposed	Exposed
DIL -1000	Circle Indicator Label 19 mm	1,000		
DTL-125	Indicator Label with operator and date 19 mm x 32 mm	125		

## Chemical Indicator Strips

Crosstex Dry Heat Chemical Indicator Strips are innovative indicator strips which demonstrate exceptional performance and are customized for the most widely utilized Dry Heat processes. Crosstex evaluates the performance of every lot to ensure consistent and reliable performance. Each shipment includes a Certificate of Analysis for assurance of product quality and performance.

**Unexposed (DH-100)**

**DRY**

ISO 11140-1 Type 4

**Reference:**

Acceptable if indicating square is equal to or darker in color than reference arrow

**Exposed (DH-100)**

**DRY**

ISO 11140-1 Type 4

**Reference:**

Acceptable if indicating square is equal to or darker in color than reference arrow

**Unexposed (DIS-100)**

**DRY HEAT INDICATOR STRIP**

Indicator turns dark when processed.

Date: \_\_\_\_\_ Operator: \_\_\_\_\_

**Exposed (DIS-100)**

**DRY HEAT INDICATOR STRIP**

Indicator turns dark when processed.

Date: \_\_\_\_\_ Operator: \_\_\_\_\_

- Lead & latex free
- Irreversible color transition from orange to brown
- ISO 11140-1 Type 4 Compliant

- Provides a distinct color change from green to dark when processed
- Writable strip for record keeping
- ISO 11140-1 Type 1 Compliant

## Chemical Indicator Strips

36 month shelf life

Crosstex Code	Description	Dimensions	Quantity
DH-100	Chemical Indicator Strip – Type 4	115 mm x 19 mm	100/bag
DIS-100	Chemical Indicator Strip – Type 1	100 mm x 16 mm	100/box

# Packaging for Dry Heat

## Nylon Self-Seal Sterilization Pouches and Roll Stock Tubing

Crosstex Nylon Self-Seal Sterilization Pouches and Roll Stock Tubing are manufactured for use in Dry Heat processes up to 420°F (215°C). Nylon material is clear, strong and puncture resistant, maintaining a durable barrier for instrumentation until point of use.

- Pouches have built-in adhesive tape which eliminates the need for a heat sealer or indicator tape
- Each pouch is notched for ease of opening after processing, and complimentary external chemical indicator labels are included
- Roll stock tubing is designed to be cut to any length prior to packaging and then mechanically sealed or taped closed
- Latex free



### Nylon Self-Seal Sterilization Pouches

Crosstex Code	Dimensions	Quantity
NSP-400	2" x 10" (5 x 25 cm)	100/bx
NSP-405	3" x 10" (8 x 25 cm)	100/bx
NSP-410	4" x 10" (10 x 25 cm)	100/bx
NSP-420	7" x 10.5" (18 x 25 cm)	100/bx
NSP-430	9.5" x 13" (24 x 25 cm)	100/bx

### Nylon Sterilization Tubing

Crosstex Code	Dimensions	Quantity
SN2	2" x 100 ft (5 cm x 30 m)	16 rolls/cs
SN3	3" x 100 ft (8 cm x 30 m)	12 rolls/cs
SN4	4" x 100 ft (10 cm x 30 m)	12 rolls/cs
SN6	6" x 100 ft (15 cm x 30 m)	12 rolls/cs
SI2	2" x 100 ft (5 cm x 30 m) w/ Process Indicator	16 rolls/cs
SI3	3" x 100 ft (8 cm x 30 m) w/ Process Indicator	12 rolls/cs
SI4	4" x 100 ft (10 cm x 30 m) w/ Process Indicator	12 rolls/cs
SI6	6" x 100 ft (15 cm x 30 m) w/ Process Indicator	12 rolls/cs



## Biological Indicators for Chlorine Dioxide

### Biological Indicators - Traditional Spore Strips

Crosstex manufactures Biological Indicators (BIs) for use in monitoring Chlorine Dioxide sterilization processes. Our BIs are manufactured using precise care, which provides assurance that each pouch contains a biological indicator consistent in population and purity.

- Consist of inoculated filter paper, each 7 mm x 38 mm, individually packaged in easy-to-handle Tyvek®/Tyvek® pouches.
- The strips can be easily removed from the pouch for transfer to culture media
- Convenient shelf packages of 100 units per box
- Products are accompanied by a Certificate of Analysis and are certified with population and purity
- Compliant with ISO 11138-1



### Traditional Spore Strips

*Geobacillus stearothermophilus* Cell Line 7953  
30 month shelf life

Crosstex Code	Packaging	Population	Quantity
TCDS-06	Tyvek®/ Tyvek®	10 <sup>6</sup>	100/box

Tyvek® is a registered trademark of E.I. du Pont de Nemours and Company.

## Biological Indicators - Traditional Spore Strips

Crosstex manufactures Biological Indicators (BIs) for use in monitoring Steam-Formaldehyde sterilization processes. Our BIs are manufactured using precise care, which provides assurance that each glassine pouch contains a biological indicator consistent in population and purity.

- Consist of inoculated filter paper, each 7 mm x 38 mm, individually packaged in easy-to-handle glassine pouches
- The strips can be easily removed from the glassine pouch by tearing open for transfer to culture media
- Convenient shelf packages of 100 units per box
- Products are accompanied by a Certificate of Analysis
- Compliant with ISO 11138-1



### Traditional Spore Strips

*Geobacillus stearothermophilus* Cell Line 7953  
24 month shelf life

Crosstex Code	Population	Quantity
STSF-05	10 <sup>5</sup>	100/box
STSF-06	10 <sup>6</sup>	100/box

## Chemical Process Indicators



Crosstex Steam-Formaldehyde Chemical Process Indicators (CPIs) are manufactured to meet performance specifications as outlined in ISO 11140-1 Sterilization of health care products - Chemical indicators - Part 1: General requirements, for Type 1 Process Indicators. Our CPIs provide a fast and consistent visual check on items that were sterilized by Steam-Formaldehyde.

- Consistent and irreversible color transition from violet to green
- No light sensitivity issues
- Permanent pressure-sensitive adhesive
- Room temperature storage (15°C to 30°C)
- Each shipment is accompanied by a Certificate of Analysis to ensure product quality and consistency



### Chemical Process Indicators

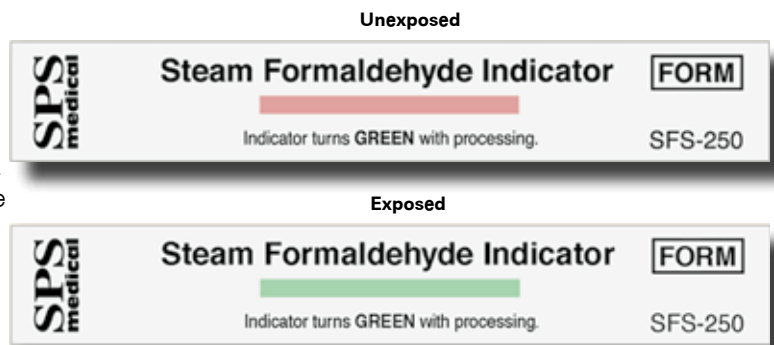
60 month shelf life

Crosstex Code	Description	Indicators Per Roll	Unexposed	Exposed
CPI-SF01	Circle Indicator Label 12.7 mm	5,000		

## Chemical Indicator Strips

Crosstex Steam-Formaldehyde Chemical Indicator Strips demonstrate exceptional performance and are customized for the most widely utilized Steam-Formaldehyde sterilization processes and provide a distinct color change. Crosstex evaluates the performance of every lot to ensure consistent and reliable performance.

- Indicator turns from red to green when processed
- Each shipment includes a Certificate of Analysis for assurance of product quality and performance
- ISO 11140-1 Type 4 Compliant



### Chemical Indicator Strip

24 month shelf life

Crosstex Code	Description	Dimensions	Quantity
SFS-250	Chemical Indicator Strip – Type 4	100 mm x 16 mm	250/box

Colors shown are representations of printed ink initial and signal colors but may vary from actual use.

# Our Product Literature

**CROSSTEX** | INDUSTRIAL

Consistent.  
Reliable.  
Innovative.

Your most trusted partner for sterilization products and services.



Monitoring Products for Steam Sterilization **STEAM**

**STEAM**

**CROSSTEX** | INDUSTRIAL

Timely.  
Accurate.  
Experienced.

We're with you from start to finish.



Monitoring Products for Ethylene Oxide **EO**

**EO**

**CROSSTEX** | INDUSTRIAL

Trusted.  
Tailored.  
Precise.

We can help you ensure the safety of your product.



Monitoring Products for Gamma & E-Beam Sterilization **IRRAD**

**IRRAD**

**CROSSTEX** | INDUSTRIAL

Innovative.  
Smart.  
Trusted.

We're your partner for sterilization products.



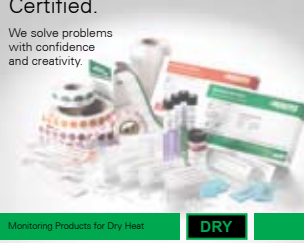
Monitoring Products for Vaporized Hydrogen Peroxide **VH2O2**

**VH2O2**

**CROSSTEX** | INDUSTRIAL

Secure.  
Tested.  
Certified.

We solve problems with confidence and creativity.



Monitoring Products for Dry Heat **DRY**

Steam-Formaldehyde **FORM**

Chlorine Dioxide **CLO2**

**DRY** **FORM** **CLO2**

**CROSSTEX** | INDUSTRIAL

Precise.  
User-friendly.  
Flexible.


We're here to verify your product performance.



Quality Control Test Suspensions - Growth Promotion

**CROSSTEX** | INDUSTRIAL

THE RIGHT MASK FOR THE RIGHT TASK



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