
DESCRIPTION

The P8003 Irreversible Temperature Indicator provides an accurate temperature measurement and display, with a temperature range of 27.5°C to 65.0°C (81.5°F to 149.0°F), in 2.5°C increments. The Indicator provides a visual and irreversible record of the maximum temperature attained in a process. The Indicator has activation material applied at each temperature point. When the Indicator is exposed to the specific temperature, a chemical reacts and the viewing window for that temperature point will display the color change from white to red. The Indicators are thin and flexible, non-toxic, non-liquid filled, non-breakable, and self-adhering with a peel-off backing for secure attachment to most clean, dry surfaces. This product is manufactured in a certified ISO 9001 facility.

APPLICATION(S)

The Irreversible Temperature Indicator is designed for use in Gamma, Electron Beam, and X-ray radiation process applications. The temperature range of the Indicator works especially well for medical device sterilization applications. The Indicator may be used:

- To measure the maximum temperature of products and materials during radiation processing
- During calibration irradiations where the temperature must be measured
- In dose mapping characterization of a facility or product
- To monitor temperature during routine irradiation processing
- For other monitoring and measurement applications

SPECIFICATIONS
Physical Specifications:

GEX Part No.	Product Name and Description	Thermometer Dimensions (per unit)	Packaging Specifications	Weight (per package)
P8003	Irreversible Temperature Indicator 10 Indicators per bag (Temperature sensitive dots on foil label stock)	1.950" x 1.625" ±0.031"	3" x 5" (clear poly-zip bag)	0.30 lbs.

Temperature Range:

Temperature range of 27.5°C to 65.0°C (81.5°F to 149.0°F) in 2.5°C increments. Temperature measurement is accurate to ±1.0°C.

Shelf Life:

2 years from the ship date. Irreversible Temperature Indicators are supplied with an expiration date which is provided on a Certificate of Compliance and on the product label.

Receiving and Storage:

The product is shipped from GEX in insulated shipper boxes with ice packs to ensure the product remains below 26°C (78°F) at all times. The product should be immediately inspected by the customer upon receipt to check the condition of the Indicators.

Store the P8003 product in a cool, dry area below 26°C (78°F) at all times. Storage in a refrigerated environment 4°- 16°C (40°- 60°F) is the preferred storage method. Storage in a freezing environment at 0°C (32°F) has not been shown to adversely affect the functionality of the Indicator.

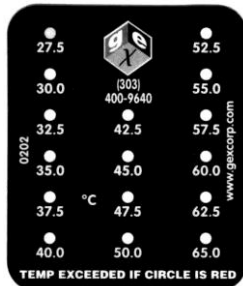
Stability:

The Irreversible Temperature Indicator product has been tested by the manufacturer to be accurate to ±1.0°C. Under the proper storage and usage conditions, non-exposed Irreversible Temperature Indicator activation trigger points remain a white color for at least 2 years from the date of manufacture until exposed to the trigger temperatures.

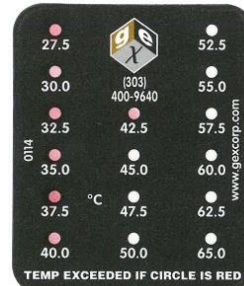
Environmental Influences:

The Irreversible Temperature Indicator is sensitive to environmental temperatures and human handling. See 'Receiving and Storage' and 'Precautions'.

PRODUCT PHOTOS



Non-exposed example



Exposed example

USAGE

How the Product Works:

- When the Indicator is exposed, a chemical reaction occurs and the viewing window for that temperature point will display an irreversible color change from white to red to register the temperature.
- The Indicator is self-activated. No manual activation is required other than attachment to the item being monitored.
- The chemicals in the indicators are calibrated to react at the labeled temperatures $\pm 1^\circ\text{C}$.

How to Use:

- Follow Receiving and Storage instructions section from above.
- Peel off the release liner (backing material) from the Indicator. The adhesive allows attachment of the indicator to most clean, dry surfaces.
- Attach the indicator flat against the surface being monitored.
- The maximum temperature achieved during a process is indicated with a red window.
- See Precautions section below for special handling instructions.

PRECAUTIONS

- The Indicators react immediately within the active temperature range! Handle with care in a cool, dry area.
- The Indicator can be activated by a person's body heat. Avoid handling the indicator near activation trigger points.
- If attaching a large quantity of indicators to a product (i.e. a dose map), keep the product in a cool, dry area before irradiation.
- The adhesive on the P8003 indicator is permanent. Do not use the self-adhering backside of the Indicator to attach to anything you do not want it permanently attached to. Taping the backing along the edges of the Indicator is the suitable alternative to attach the Indicator.

HEALTH/ENVIRONMENTAL INFORMATION

Irreversible Temperature Indicators are non-toxic, non-liquid-filled, and non-breakable. They can be safely discarded in general waste receptacles.

WARRANTY/GUARANTEE

Guarantee:

1 year GEX satisfaction guarantee. Product may be returned with or without reason within one year of the date of delivery.

REFERENCES

References:

See NPL CIRM Report 29 for guidance in estimating temperature during in-plant calibration.

To learn more about GEX products and services, visit www.gexcorp.com or contact a GEX representative at +1 303 400-9640.