

Neutron Criticality Dosimeter

Description

The NCL-03 neutron criticality dosimeter provides neutron dose measurements after a criticality accident or nuclear event. Neutron activation elements provide the key components necessary for triage post incident. The dosimeter is small, light, and weather resistant. A key feature is the separation of the sulphur element from the other elements. This helps to prevent contamination, reduce element degradation, and promote a longer useful life.

Activation elements included in the NCL-03 are shown in the exploded view, below. The various elements cover the desired energy ranges and provide different activation times:

Gold / Cadmium / Gold with Cutoff

- Low Energy Estimation
- Activation Dwell Times in the Order of a Few Days

Indium

- Low Energy Estimation
- Activation Dwell Times in the Order of Hours

Sulphur

- Higher Energy Estimates
- Activation Dwell Time in the Order of Two Weeks

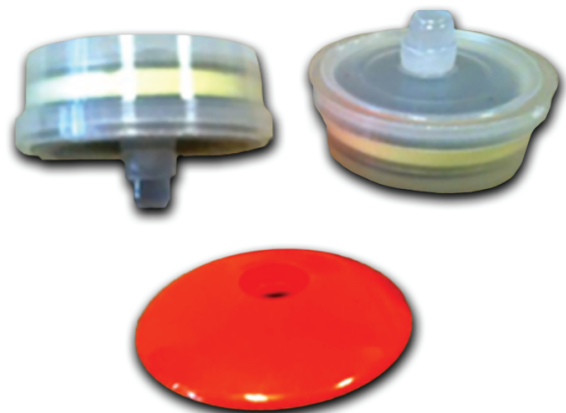


Key Features & Benefits

- For use by personnel or as an area monitor with reliable attachments for each application
- Designed to prevent sulfur contamination & deterioration of the metal detectors
- Standardized Design
- Current Base of User Experience
- Rugged, Lightweight, & Small in Size
- Passive for Reliability & Long Life

The NCL-03 pictured below depicts the Dosimeter and the attachment button for use on personnel clothing or for mounting as an area monitor. Some of the key design aspects of the NCL-03 are:

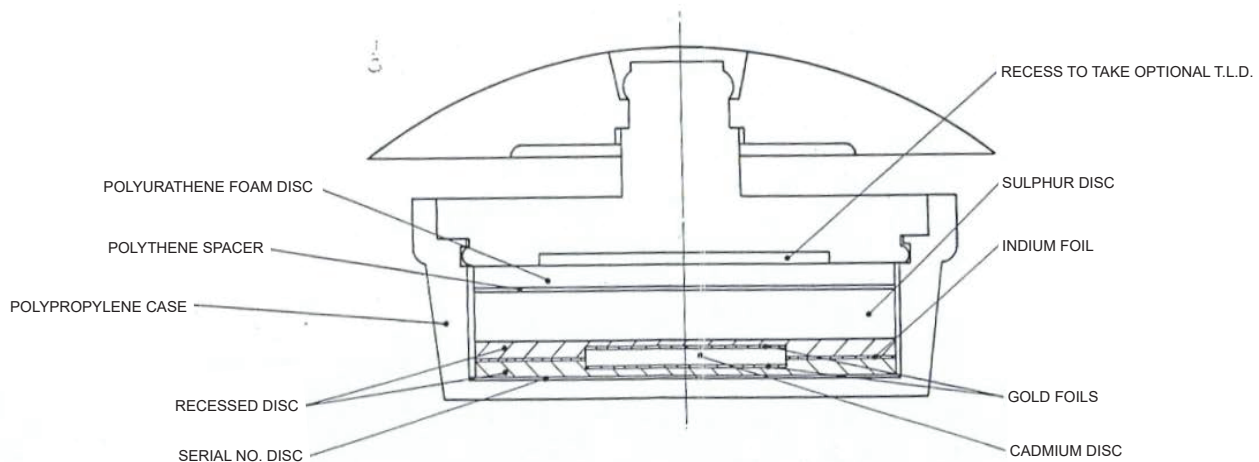
- Individual & Unique Identification Numbers
- Keyed Tamper Resistant Design
- Room for a TLD, OSL, or Alanine Element to Estimate Gamma Dose
- Separation of the metal elements from the sulphur using a physical barrier to prevent degradation into indium sulfide and cadmium sulfide



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Detailed View

The NCL-03 has the capability to use TLD, OSL, or EPR materials as well as PIN diodes when combined with the holder shown in the picture below. While the diagram below shows the recess for a TLD element, OSL and EPR materials may also be used.



Attachment Methods

There are several methods to attach the NCL-03 to personnel or inanimate objects.

Pictured below:

1. NCL-03 Locket
2. (Optional) Attachment button for use on personal clothing or mounting the device
3. (Optional) Hanger holder for attachment to a lanyard, belt, or similar devices (3.1.with PIN diodes)
4. (Optional) Belt with the Hanger holder attachment

