

EDIS-1

Environmental Direct Ion Storage Dosimeter



*detection
monitoring
radiation*

OVERVIEW

The Mirion EDIS-1 is an Environmental Direct Ion Storage Dosimeter offering an alternative to TLD or film dosimeter.

The EDIS-1 dosimeter is based on an ionization chamber combined with a modern electronic Direct Ion Storage (DIS) memory cell. The Ion Chamber is widely used as a reference detector in radiation detection and is now available in everyday dosimetry applications. The EDIS-1 dosimeter can be read infinitely and non-destructively without any loss of dose information. This unique feature allows the user of the EDIS-1 to instantly read environmental doses whenever necessary.

The radiological range of the EDIS-1 covers the entire $H^*(10)$ photon energies without any compromises.

The wide dose and energy range, the ability to operate in pulsed fields and the performance at high dose rates make EDIS-1 an ideal device for all kinds of radiation dosimetry applications.

The excellent radiological features and the easy and fast reading of the EDIS-1 dosimeter makes the new DIS based Mirion dosimetry system superior to any Film dosimetry or TLD system without the need for complicated processing systems.

KEY FEATURES

- Direct measurement of $H^*(10)$ over the entire energy range
- Instant non-destructive readout and dose reset with a table-top reader
- Passive operation
- Insensitive to EM and RF interferences
- Operation at high dose rates and in pulsed fields
- Built-in memory chip for measurement location identification storage
- Small, rugged and waterproof
- A replacement to TLD and film
- Up to 12 month issue period



Nuclear
Power



Homeland
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& Defense



Industrial and
Manufacturing



Healthcare



Labs and
Education

EDIS-1 Environmental Direct Ion Storage Dosimeter

PHYSICAL CHARACTERISTICS

- Detector type: three TMDIS (Direct Ion Storage) detectors and two MOSFET detectors
- Sensitive to gamma and X-ray radiation
- Insensitive to neutrons (<5 %)
- Instant readout of ICRU dose equivalents: H*(10) 1 µSv to 40 Sv (0.1 mrem to 4000 rem) ¹⁾
- Calibration accuracy: ±5 % at 1 mSv 137_{Cs} for H*(10)
- Energy response in the dose range up to 1 Sv for Photons: H*(10) ±30 % from 15 keV to 9 MeV
- Angular response: H*(10) ±20 % up to 60° at 65 keV

¹⁾ When calibrated after every 10 Sv of accumulated dose

FUNCTIONAL CHARACTERISTICS

- Recording of official H*(10) dose
- Memory:
 - Calibration date
 - Dose reset dates
 - Location ID and name

MECHANICAL CHARACTERISTICS

- Size: 41 x 44 x 12 mm, with holder 47 (95 with strap) x 49 x 13 mm (1.61 x 1.73 x 0.47 in , with holder 1.85 (3.74 with strap) x 1.93 x 0.51 in)
- Weight: 25 g (0.88 oz) , with holder 43 g (1.52 oz)
- Holder: anodized aluminum

ENVIRONMENTAL CHARACTERISTICS

- Temperature range from -25°C to +50°C (13°F to 122°F)
- Enclosure class: IP 67 (waterproof)



MIRION
TECHNOLOGIES