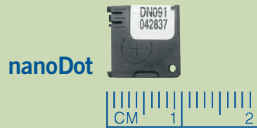


SPECIAL SERVICES

InLight® nanoDot™

*Change in Service—from TLD to InLight nanoDot*



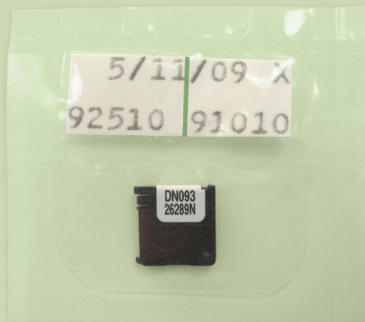
**Complete Reanalysis**

The Al<sub>2</sub>O<sub>3</sub> detector can be reanalyzed numerous times to confirm the accuracy of a radiation dose measurement.

Front of nanoDot with alphanumeric sensitivity code and serial number.



Back of open nanoDot with 2D bar code that includes sensitivity code and serial number. (Open dot shown for information only—do not open or tamper with dosimeter.)



Each nanoDot is shipped enclosed in a plastic packet that protects against contamination.

Note: Special Services dosimeters must be returned separately from any personnel dosimeters. The 92xxx account number and the green stripe on the identification label alert our receiving department that the dosimeters require special processing.

Special Services Direct (708) 441-8441  
Email: lcarr@landauerinc.com

The nanoDot, the newest innovation for single point radiation measurement, is now available through Landauer Special Services. The nanoDot uses Optically Stimulated Luminescence (OSL) Technology—the same technology as used in Luxel®+ and InLight dosimeters. The nanoDot can be used for diagnostic radiology, therapy, or any single point radiation assessment application, and is currently being used for a variety of applications throughout the world.

Special Services is now using nanoDot dosimeter(s) as dosimeter type X for all Special Services applications, and has discontinued the use of TLD dosimeter(s). Special Services now offers the following options:

**Reader Calibration Options**

- Standard – Choose either an 80 kVp (2.9mm Al HVL) on-phantom calibration, or a Cs-137 in air calibration. The phantom is a 30 cm x 30 cm x 15 cm PMMA whole body phantom. Calibration dose is H<sub>p</sub>(0.07) or entrance skin dose for 80 kVp, and D<sub>max</sub> for Cs-137.
- Non-Standard – Additional calibration standards are available for an additional charge.

Category	Radiation Environment	Conditions
Diagnostic	Fluoro (Standard Calibration)	80 kVp, 2.9mm Al HVL
	CT	120 kVp, 8.3mm Al HVL
	Mammography	20 kVp, 0.36mm Al HVL
	Dental	70 kVp, 2.4mm Al HVL
Therapy	6-12 MV Photons	With buildup: D <sub>max</sub> Without buildup: Entrance skin dose Relative to Cs-137
	6-12 MeV Electrons	
	15-18 MV Photons	
	15-18 MeV Electrons	
	Ir-192	
	Co-60	
Irradiator <sup>1</sup>	X-Ray (Low)	80 kVp, 2.9mm Al HVL
	X-Ray (High)	120 kVp, 8.3mm Al HVL
	Cs-137 (Standard Calibration)	Not applicable
	Co-60	Relative to Cs-137

<sup>1</sup> Irradiator Category may be reported as Rad Silicon upon request.

- Custom – Custom calibration sets for a radiation environment not identified above can be built by a customer using screened nanoDots (see below) purchased as part of this service.
  - Single-Point Set – A total of 6 screened dosimeters, 3 exposed by the customer to a known dose, and 3 blanks. Landauer’s laboratory microStar® reader will be calibrated to this single point, and the dose will be calculated using this reference.
  - Four-Point Set – A total of 15 screened dosimeters, 12 exposed by the customer to a range of known doses, and 3 blanks. The low and high dose settings of Landauer’s laboratory microStar reader will be calibrated using these four points. Dose levels are determined after consultation with Special Services and a Subject Matter Expert (Health or Medical Physicist) at Landauer.

Custom calibration dosimeters are retained by Special Services for up to 6 months or 10 uses, whichever comes first. During this retention period, custom calibrations are used in place of the standard calibration.

**Screened nanoDots**

Similar to TLDs, the nanoDot dosimeter uses a “batch” sensitivity to calculate the dose from its response. Dosimeter screening provides a report (available separately at no charge) that details the reproducibility of the dosimeter and identifies which dosimeters have a tighter range of measurement accuracy.

- General Population – Measurement accuracy is +/-6.0% (1-σ)
- Screened – Measurement accuracy is +/- 3.0% (1-σ)

**Special Services Dosimetry Service Rates - nanoDot**

Service includes processing and reporting of results via facsimile or e-mail. Custom packaging available at an additional cost. Prices exclude shipping and handling.

nanoDot (Price per dot)	Calibration		
	Standard	Non-Standard	Custom
Unscreened	\$18.95	\$20.95	...
Screened	\$24.95	\$26.95	\$26.95*

*Custom Calibration (Price per set)	Reference Point	
	Single	Multi
	\$100	\$400