



Luxel+ enhances the best features of traditional film and thermoluminescent dosimeter (TLD) technologies. Luxel+ exclusive state-of-the-art technology and advanced design features have set the new standard for the most comprehensive radiation dosimetry service available.

The look of Luxel+ can be customized with a combination of graphic formats, backgrounds and department color-coding to help identify groups. Graphic formats change in color with each exchange frequency and each season has its own unique icon to distinguish wear dates. Icons on the label identify the location to wear the dosimeter.

### Complete Reanalysis

The  $Al_2O_3:C$  (aluminum oxide) detector can be restimulated numerous times to confirm the accuracy of a radiation dose measurement

### Imaging

Unique filter patterns provide qualitative information about conditions during exposure

### Increased Sensitivity

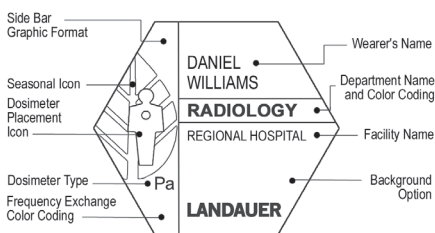
Minimum reporting as low as 1 mrem, with a precision of  $\pm 2$  mrem

### Administrative Flexibility

Color coding, graphic formats, background options and icons on the label help streamline monitoring and simplify identification

### Website Support

Track shipments, view dosimetry reports, browse your account and add/delete people or dosimeters on myLDR.com



## OSL Technology – The Standard in Radiation Monitoring

Luxel+ measures radiation exposure due to x, gamma, and beta radiation with optically stimulated luminescence (OSL) technology. The OSL detector inside Luxel+ is a thin strip of specially formulated  $\text{Al}_2\text{O}_3:\text{C}$  (aluminum oxide) crystalline material.

### Luxel+ Technical Specifications

Radiations Measured	Photon (X and Gamma Ray)	Beta Particle	Neutron
<b>Detector</b>	$\text{Al}_2\text{O}_3:\text{C}$ (Aluminum Oxide)	$\text{Al}_2\text{O}_3:\text{C}$ (Aluminum Oxide)	Optional Neutrak® 144 detector inside dosimeter (CR-39)
<b>Analysis Method</b>	Optically Stimulated Luminescence (OSL)	Optically Stimulated Luminescence (OSL)	Chemical etching followed by track counting
<b>Energies Detected</b>	5 keV to in excess of 40 MeV	150 keV to in excess of 10 MeV	Fast: 40 keV to in excess of 35 MeV Thermal: under 0.5 eV
<b>Dose Measurement Range</b>	1 mrem to 1000 rem	10 mrem to 1000 rem	Fast: 20 mrem to 25 rem Thermal: 10 mrem to 5 rem
<b>U.S. Accreditation</b>	Accredited by NVLAP® (LAB CODE 100518-0) in subcategory general and in all categories including V1 when neutron component is added		
<b>International Accreditation</b>	Internationally accredited in many countries such as Canada, UK, Russia, Australia and many more		

Luxel+ offers complete reanalysis, stability, imaging, precision, sensitivity and a wide dynamic range of measurement

### Dosimeter

Luxel+ is an integrated, self-contained packet that comes preloaded, incorporating a thin strip of  $\text{Al}_2\text{O}_3:\text{C}$  (aluminum oxide) sandwiched within a multi-element filter pack that is heat sealed within a laminated, light-tight paper wrapper.

The optional neutron detector is a CR-39 (allyl diglycol carbonate) based, solid-state nuclear track detector. It is not sensitive to x, gamma or beta radiation, and is incorporated into the Luxel+ dosimeter in an integrative, one-piece design.

All of these components are RF sealed inside a temper-proof plastic blister pack. Mishandling, light leakage or lost detection elements are eliminated.

### Durability

May be used for up to one year. Unaffected by heat, moisture and pressure when clear blister packaging is uncompromised.

## Learn More

Call 800-323-8830 or email [custserv@landauer.com](mailto:custserv@landauer.com)  
landauer.com

### Analysis Assurance

The  $\text{Al}_2\text{O}_3:\text{C}$  (aluminum oxide) detector can be restimulated numerous times to confirm the accuracy of a radiation dose measurement. A full reanalysis is automatically performed for every measurement yielding a dose in excess of 500 mrem.

Imaging to identify static, dynamic, or contamination conditions is automatically performed for low-energy photon and all beta measurements yielding a dose exceeding 500 mrem.

### Holder

The state-of-the art Finite Element Analysis study resulted in the development of the most durable holder available – simply snap the dosimeter into the holder with a secure clip.