

GENERAL INFORMATION

ANNUAL RADIATION EXPOSURE LIMITS

Whole body, blood forming organs, gonads:	5,000 mrem/year
Lens of eye:	15,000 mrem/year
Extremities and skin:	50,000 mrem/year
Fetal:	500 mrem/gestation period
General Public:	100 mrem/year

Based on USNRC Regulations, Title 10, Part 20, Code of Federal Regulations and adopted by many states. Certain states and other regulatory agencies may adhere to different limits.

Control Dosimeter: A control dosimeter (master control and/or series control) is included with each shipment of dosimeters for monitoring radiation exposure received during transit. At the customer's facility, store the control in a radiation free area during the wear period.

Minimal Dose Equivalent Reported: Dose equivalents below the minimum measurable quantity for the current monitoring period are recorded as "M." The minimal reporting levels vary according to the dosimeter type and radiation quality.

Photon (x or gamma ray):	1 mrem
Beta:	10 mrem
Neutron (Fast):	20 mrem
Neutron (Thermal):	10 mrem
Fetal:	1 mrem
Ring:	30 mrem

"SL" is an elective option for the minimal dose equivalent reported for the Luxel dosimeter for photon (x and gamma ray). Exposures less than 10 mrem report as "SL," and exposures at or more than 10 mrem begin reporting at 10 mrem and report in increments of 10 mrem.

Ring Dosimeter Reading: Ring dosimeter readings report as a shallow dose.

The "ASSIGNED" line follows all of the original whole body dosimeter doses with the EDE 1 or EDE 2 calculation results or Landauer's standard dose assessment protocol (deep and shallow whole body dose from the highest reading whole body dosimeter, lens dose from the dosimeter closest to the eye).

Fetal Dosimeter: A declared pregnant worker will possess a fetal exposure on an extra page of the report based upon the whole body dosimeter worn closest to the fetus. The fetal dose is reported for the current wear period, plus the estimated dose from conception to declaration (if provided by customer), and the total dose from declaration to present.

DOSIMETRY REPORT INFORMATION

Information for each participant is reported in two or more lines as follows:

FIRST LINE EXPLANATION

Participant Number: Unique number assigned by Landauer.

Name: Person to whom the dosimeter is assigned.

Dosimeter: Badge type according to radiation monitoring needs:

Luxel:

P, Pa: Photon (x or gamma ray), beta

J, Ja: Photon (x or gamma ray), beta, fast neutron

T, Ta: Photon (x or gamma ray), beta, fast and thermal neutron

Ring:

U: Photon (x or gamma ray), beta

P, J, and T dosimeters contain a filter pack with tin and copper filters and an open window.

Pa, Ja, and Ta dosimeters contain a filter pack with aluminum, copper/aluminum and plastic filters and an open window.

A dosimeter with a "+" is an elective option that contains a filter pack with lead, copper/aluminum, and plastic filters, and an open window.

Use: Refers to the use or location of the body for which the dose is given.

Use	Location
AREA	Area Monitor
CHEST	Chest
CNTRL	Control
COLLAR	Collar
EYE	Eye
FETAL	Fetal
LFINGR	Left Ring
RFINGR	Right Ring
SPECL	Special Purpose
WAIST	Waist
WHBODY	Whole Body

Radiation Quality: Types and energies of radiation contributing to whole body dose equivalent.

B: beta
BH: beta high energy, e.g., strontium, phosphorus
BL: beta low energy, e.g., thallium, krypton
BN: beta, neutron mixture
BS: strontium beta
BT: thallium beta
BU: uranium beta
NF: neutron fast
NT: neutron thermal
P: photon (x or gamma ray)
PB: photon, beta mixture
PBN: photon, beta, neutron mixture
PH: photon high energy greater than 200 keV
PL: photon low energy less than 40 keV
PM: photon medium energy 40 keV to 200 keV
PN: photon, neutron mixture

Dose Equivalents:

Deep dose equivalent (DDE): DDE applies to external whole body exposure at a tissue depth of 1 cm (1000 mg/cm²).

Eye dose equivalent (LDE): LDE applies to external exposure of the lens at a tissue depth of 0.3 cm (300 mg/cm²).

Shallow dose equivalent (SDE): SDE applies to the external exposure of the skin or extremity at a tissue depth of 0.007 cm (7 mg/cm²) averaged over an area 1 cm².

Deep, eye and shallow dose equivalents report for the time frame indicated by "For Monitoring Period." Individual radiation component results and combined totals report in separate lines.

Quarterly Accumulated Results total dose received within the calendar 3-month time frame. (Note: Quarterly accumulated columns are eliminated for bimonthly service or display "Not applicable.")

Year-to-date accumulation totals dose received from the beginning of the current year to present wear date.

Lifetime accumulation totals all dose received from inception date of dosimeter service to present reported wear date.

Internal exposure, if applicable, is summed with Landauer external dose equivalents. Total effective dose equivalent is the sum of both deep dose

equivalent (external exposure) and committed effective dose (internal exposure).

Records For Year: The number of times that a participant's name has appeared on Landauer reports during the current year, including absentee reports and corrections.

Inception Date: The date Landauer began keeping dosimeter records for a given dosimeter for a participant on the current account.

SECOND LINE EXPLANATION

Notes: Text messages explaining any abnormalities or comments. The note with message will appear on a separate line below all dosimeter exposure information.

No NVLAP accreditation is available from NVLAP for thermal neutron dosimeters.

This report must not be used to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the federal government.