



MONORING®

Try it, you'll love it!

MONORING is a passive and ring dosimeter that measures X-rays, gamma rays and beta radiation. A product designed and manufactured in France.

The MONORING dosimeter contains a TLD (ThermoLuminescent Dosimeter) chip made from lithium fluoride (LiF).



Single element ring



Adaptable to all hand sizes



Example of use

COMFORTABLE TO WEAR AND HYGIENIC

- Fits the finger without pinching or going out of shape
- Smooth, single element to ensure a good disinfection
- Disinfection by immersion or brushing
- Indelible marking
- Encapsulated detector to prevent loss

Select an accredited service!

The MONORING is part of our COFRAC accreditation scope.

Accreditation in accordance with the recognised international standard NF EN ISO/IEC 17025 demonstrates the technical competence of the laboratory for a defined scope and the proper operation in this laboratory of an appropriate management system.



ACCREDITATION
N°1-1545
SCOPE
AVAILABLE ON
WWW.COFRAC.FR



MONORING®, combining comfort with accuracy

One-piece, adjustable & hygienic ring

MAKES EVERYDAY MOVEMENTS EASY

Thin, lightweight ring

MONORING is a dosimeter ring made from shape memory plastic. The ring fits your finger, adapting to its shape perfectly. It is available in two sizes to ensure comfort for all finger shapes, even the broadest, and resistance to wear.

The ring is light and easy to wear, and thin enough not to hinder your movements.

Its rounded edges procure wear comfort. MONORING can be worn under gloves without risk of tearing. It does not slip when the gloves are removed.

Robust design

MONORING is sufficiently robust to resist everyday wear and tear, particularly when washing hands with a brush. It cannot be torn or go out of shape.

The TLD chip is sealed inside the body of the ring to ensure it remains in place as long as the ring is on the finger. MONORING eliminates all risk of the detector coming loose or getting lost!



OPTIMAL IDENTIFICATION

With the same color code than IPLUS® and VISION®, MONORING offers a clear identification of the wearer and period wearing.

Particles of titanium oxide are injected into the polyethylene cap. They are revealed by laser for a permanent marking. Thus, it withstands brushing and disinfection procedures.



HOW TO WEAR MONORING

For maximum comfort, your ring stays in shape. Adjust it to fit!



If your ring is too big, tighten it by pushing the sides inwards.



If your ring is too small, widen it by twisting outwards.



urate measurement

EASY TO DISINFECT

The only single element ring on the market

To meet your hygiene requirements, MONORING is made from a single part, with no corners or gaps. It is therefore easy to clean and disinfect.

Maximum hygiene

The methods proposed have been validated in the hospital environment by an external organisation and several nosocomial infection prevention committees.

Access helpful resources to keep informed on www.landauer.fr

Disinfection Box

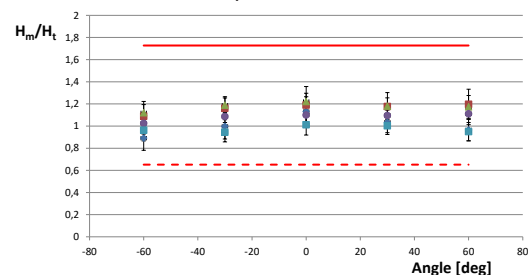
LANDAUER provides you with a Disinfection Box that can accommodate a MONORING dosimeter and a VISION® dosimeter.

As part of its disinfection protocol, LANDAUER advocates the use of the Disinfection Box for decontamination bath or storage.

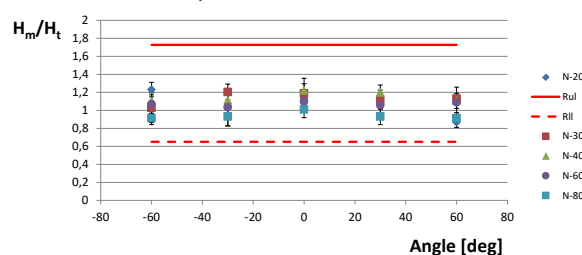


ANGULAR RESPONSE FOR PHOTONS

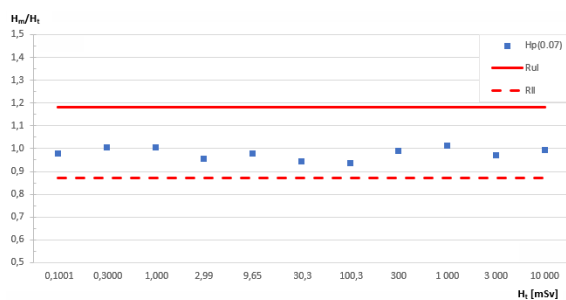
Horizontal angles $H_p(0,07)$



Vertical angles $H_p(0,07)$



LINEARITY RESPONSE $H_p(0,07)$



Caption:

H_m : measured dose
 H_t : theoretical dose

Rul: maximum limit allowed by the standard
Rll: minimum limit allowed by the standard



TECHNICAL PERFORMANCE

Types of radiation measured	Result of the MONORING dosimeter	
	Photons	Beta or electrons
Personal dose equivalent	$H_p(0.07)$ whole body and wrist	
Dose range	from 0.1 mSv to 10 Sv	
Minimum reporting value	0.1 mSv	
Linearity response	from 0.10 mSv to 10 Sv Standard deviation < 7%	
Energy and angular response	$\pm 60^\circ$ from 15 keV to 1.33 MeV	$\pm 45^\circ$; 0.8 MeV (E_{mean})

Lithium fluoride-based dots are sensitive to neutrons. A personal dose equivalent $H_p(10) = 1$ mSv from thermal neutrons induces a personal dose equivalent $H_p(0.07)$ of 10 mSv. A personal dose equivalent $H_p(10) = 1$ mSv with a source of D_2O moderated ^{252}Cf induces a personal dose equivalent $H_p(0.07)$ of 0.6 mSv.



ENVIRONMENTAL RESISTANCE CHARACTERISTICS

Operating and storage temperature	No effect on detector sensitivity up to 40 °C
Hygrometry	No effect on detector sensitivity up to 90 % humidity
Exposure to light	No effect on detector sensitivity

GENERAL CHARACTERISTICS

Manufacturer Dosimeter designed and manufactured in France for LANDAUER

Types of radiation measured Photons (X- and gamma rays) and beta

Detector Single element, one TLD chip

Chip material LiF:Mg,Ti (lithium fluoride doped with magnesium and titanium)

Body and lens material Polyethylene

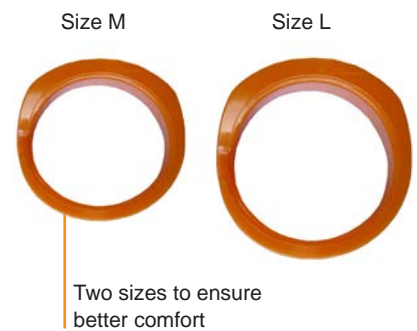
Weight

M	1,05 g
L	1,30 g

Finger size

	Minimum	Medium	Maximum
M	44	47	63
L	53	57	69

Circumference in mm



MEASUREMENT METHOD

MONORING is a single element ring made from polyethylene. It contains a lithium fluoride TLD chip. This detector is placed inside a cavity closed by a lens and sealed by ultrasound. The information is marked on the lens by laser, making it indelible.

The TLD (ThermoLuminescent Dosimeter) technology works on the basis of detector heating. When the chip is heated, visible light is emitted in proportion to the exposed dose.



COMPLIANCE WITH STANDARDS

EN 62387:2016 - Passive integrating dosimetry systems for personal and environmental monitoring.

QUALIFICATIONS OF OUR LABORATORY

- Participation in national and international inter-comparisons
- Dosimeter characterisation carried out by an independent reference laboratory: Henri Becquerel French National Laboratory (LNHB) - CEA
- Quality management system under NF EN ISO/IEC 17025