



RÉPUBLIQUE
FRANÇAISE

Liberté
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IRSN [DOSIMÉTRIE

INSTITUT DE RADIOPROTECTION
ET DE SÛRETÉ NUCLÉAIRE

ENVIRONMENTAL RPL DOSIMETER



THE RPL DOSIMETER IS ONE
OF THE BEST MEASURING SYSTEMS
CURRENTLY AVAILABLE IN EUROPE¹.

The environmental RPL is IRSN's passive dosimeter designed to measure the environmental dose in work areas, in accordance with the requirements of regulations and standards in force. It is used by the radiation protection officer (RPO) to conduct internal environmental tests.

IRSN's dosimetry laboratory is accredited by COFRAC2 to conduct measurements of ambient dose equivalent $H^*(10)$ according to the requirements of standard ISO 17025.

RECOMMENDATIONS FOR USING THE ENVIRONMENTAL RPL

- ⌚ The **environmental RPL** is designed to measure the environmental dose. It must be placed in a fixed position (against a wall for example) in a clearly identified location.
- ⌚ **IRSN supplies special holders** to facilitate the positioning and identification of environmental dosimeters.
- ⌚ **Plastic protective cases** are recommended for outdoor use. Holders and cases are available from our customer services department.
- ⌚ **Its recording threshold of 50 μ Sv** makes the environmental RPL the essential tool for ensuring that areas adjoining the monitored or controlled areas have a dose equivalent lower than 80 μ Sv per month.



> The environmental dosimeter
with wall-mounted holder



> The environmental dosimeter
with protective case for
outdoor use

ENVIRONMENTAL ANALYSIS AND RESULTS

- ⊕ The environmental dose is expressed as environmental dose equivalent $H'(10)$ in mSv.
- ⊕ This result corresponds to the dose integrated by the dosimeter between the first day of use (first day of the month or quarter) and the date of analysis at the lab.
- ⊕ The environmental dosimeter's results are available online on your management portal as soon as the analysis results have been validated by the laboratory.
- ⊕ Natural radioactivity is systematically deducted from environmental results. This value is calculated based on the result of the control dosimeter supplied with each shipment of dosimeters.

	Detected energy range ^(A)	Dose range ^(B)
Photons (X,γ)	From 8 keV to 6.6 MeV	From 0.05 mSv to 10 Sv
Bêta	From 100 keV to 3 MeV	From 0.05 mSv to 10 Sv

(A) - **IMPORTANT:** These values are in no way operating limits, but correspond to the minimum and maximum energies available in the reference facilities which enabled the tests to be conducted.

(B) - In laboratory conditions, the detection threshold is a few μSv only.

BENEFITS OF IRSN'S ENVIRONMENTAL RPL DOSIMETER



1 - According to the results of EURADOS Intercomparison 2010, <http://eurados.org/> 2 - Accreditation reference 1 - 5031.