

TEST REPORT

DETERMINATION OF RADON DIFFUSION COEFFICIENT

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Customer Data

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Scope of the report

- **Test report:** This report present the results of the determination of radon diffusion coefficient obtained in the Laboratory of Environmental Radioactivity, University of Cantabria.
- **Number of samples: 1**

Samples data

- **Date of reception:** 26/04/2021
- **Samples features:**
 - Tecnocoat P-2049, pure polyurea membrane
- **Start date:** 28/04/2021
- **Final date:** 21/05/2021

Test Method

Radon diffusion coefficient has been determined according to the accredited methods described in ISO/DTS 11665-13. The experimental method consists on placing the sample specimen between two airtight containers, and two radon monitors measure the concentrations on both sides of the tested samples continuously. Calculation of the diffusion coefficient is based on the numerical solution of the diffusion equation describing radon transport through the tested material.

Regulations regarding this test

The customer does not indicate any relation to this type of assay specific legislation.

▪ **Obtained results**

The results contained in this report only affect the tested materials. The following tables contain the results of the determinations expressing all values in $m^2 s^{-1}$ units for the diffusion coefficient.

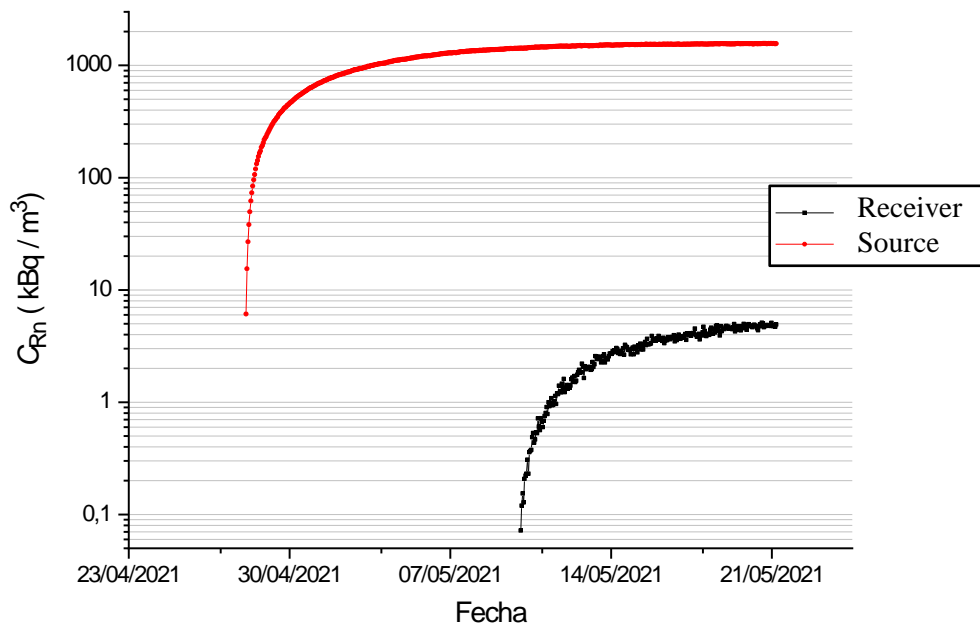
TEST PARAMETERS

Laboratory temperature: $19 \pm 1 \text{ }^\circ\text{C}$

Equilibrium radon concentration primary chamber: $1564 \pm 78 \text{ kBq m}^{-3}$

Equilibrium radon concentration secondary chamber: $4.92 \pm 0.30 \text{ kBq m}^{-3}$

Material tested thickness: 2.30 mm



| TESTED MATERIAL | DIFFUSION COEFFICIENT D ($m^2 s^{-1}$) | |
|------------------|--|----------------------|
| | mean value | uncertainty |
| Tecnocoat P-2049 | $4.0 \cdot 10^{-12}$ | $1.1 \cdot 10^{-12}$ |

The measurement uncertainty is the error multiplied by the coefficient $k = 2$, which for a normal distribution corresponds to a coverage probability of approximately 95%

End of the Report

- **Date of issue (Responsible):**