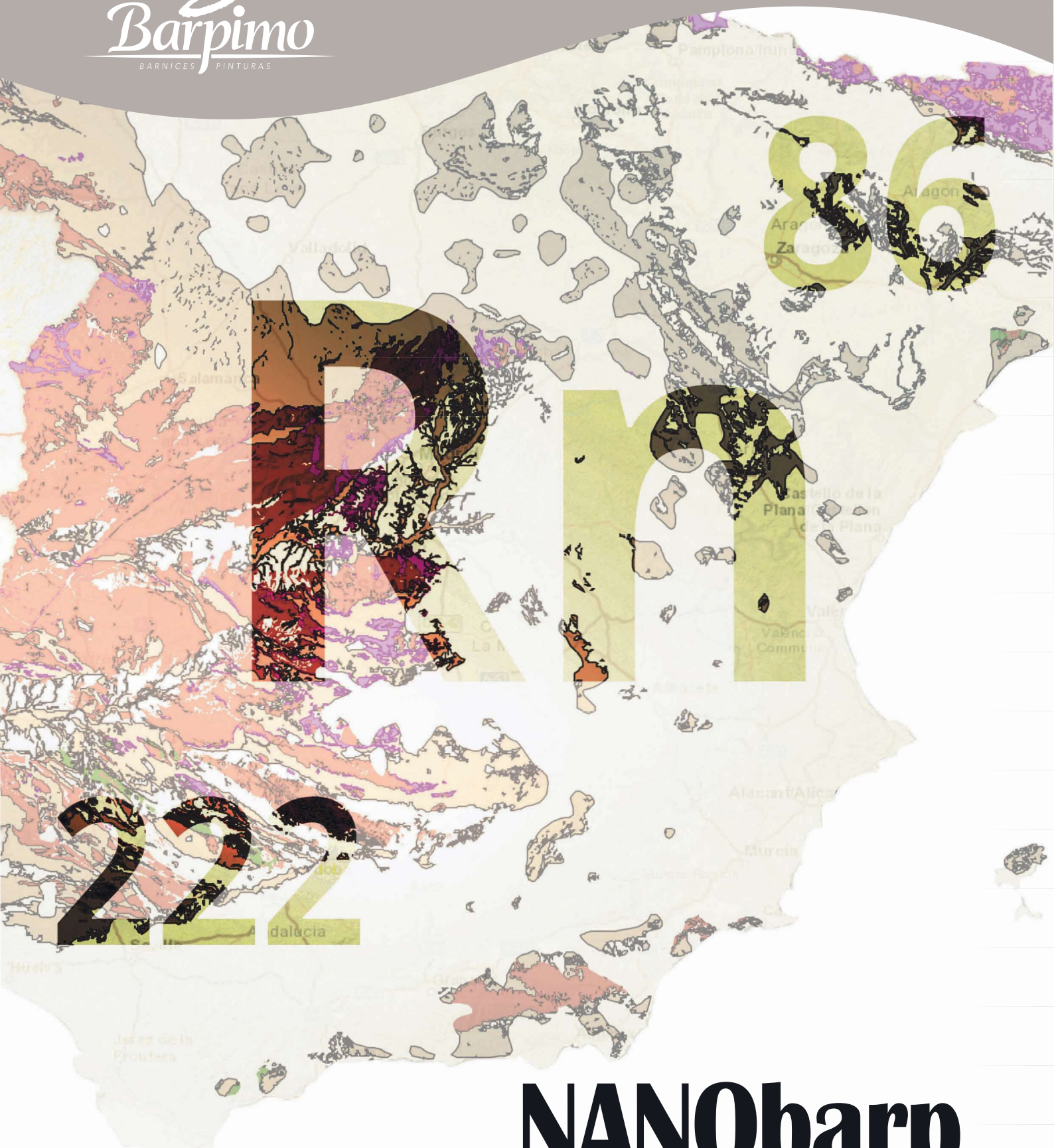




NANObarp Anti-RADÓN

¿What is Radon Gas?

It is a radioactive, colorless, odorless and tasteless gas that arises naturally in many granite soils, because they are rich in uranium..

Because it is a gas, it can travel through the Earth's crust and dissolve in water. This ability to move allows it to reach buildings From underground and accumulate in indoor spaces.

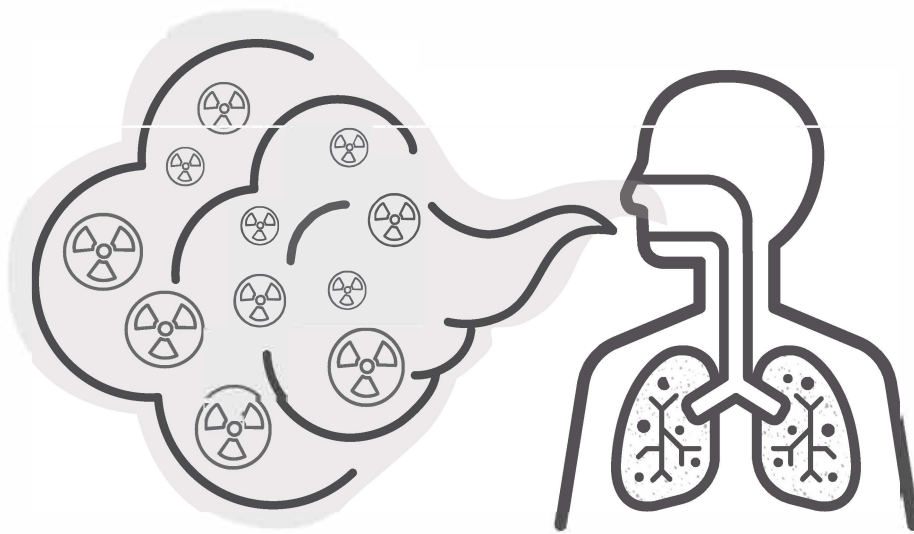


Inside the building, people can inhale radon, allowing its radioactive particles to enter the lungs and potentially cause lung cancer.

How does radon effect our health?

As recognised by the World Health Organisation and the scientific community, exposure over long periods of time to high concentration levels of radon activity is a risk factor in the development of lung cancer in humans.

*Radon is identified
as the leading cause
of lung cancer
among non-
smokers*



The reference level for homes in Ireland is 200 Bq/m³.

How does radon gas get through buildings?

FROM THE GROUND

Radon primarily originates from the ground and can enter through cracks and joints in the building that are in contact with soil.

FROM MATERIALS

From the materials used during the construction which have a high diffusion coefficient.

FROM THE WATER

Due to the consumption of groundwater (from springs or wells) without aeration.

GREATER CONCENTRATION ON GROUND FLOOR & BASEMENTS

Since radon comes from the ground, the highest concentrations in a building are located on the lower floors, such as basements and ground floors.

IT DILUTES QUICKLY IN AIR

When radon reaches the outside environment it quickly dilutes in the air, but when it reaches a closed and poorly ventilated space, such as the interior of a building, it can concentrate.

Barpimo



1 Air chamber

2 Meeting with facade
or wall

3 Enclosure materials

4 Expansion joint

5 Cracks

6 Meeting at pillar

7 Meeting at pipes

8 Open staircase

WHAT ARE THE SOLUTIONS?

Clasificación de soluciones **SEGÚN SU FORMA DE ACTUACIÓN**

**A) Isolation &
Protection of The Building**

Building insulation & protection against radon activity that leaks from the ground.

**B) Reduction Befre It Enters
The Building**

Solutions to reduce radon concentration before it enters the building.

**C) Reduction After It Enters
The Building**

Solutions to reduce radon concentrations afterit has penetrated the building.

Barpimo

What solution does Barpimo offer?

A waterproofing coating based on graphene nanoparticles, which have a gas shielding effect, prevent radon from penetrating into the building.



NANO
barp
NANOTECNOLOGÍA Barpimo



CERTIFICATE

Barpimo anti-radon paint is tested according to the Test Method Determination of the Radon Diffusion Coefficient. The radon diffusion coefficient has been determined according to the accredited methods described in:

ISO/DTS 11665-13. Measurement of radioactivity in the environment -- Air: radon 222 -- Part 13: Determination of diffusion coefficient in impermeable materials: two-sided membrane activity concentration test method.

The experimental method consists of placing the sample between two airtight containers, and two radon monitors continuously measure the concentrations on both sides of the tested samples. The calculation of the diffusion coefficient is based on the numerical solution of the diffusion equation that describes the transport of radon through the tested material.

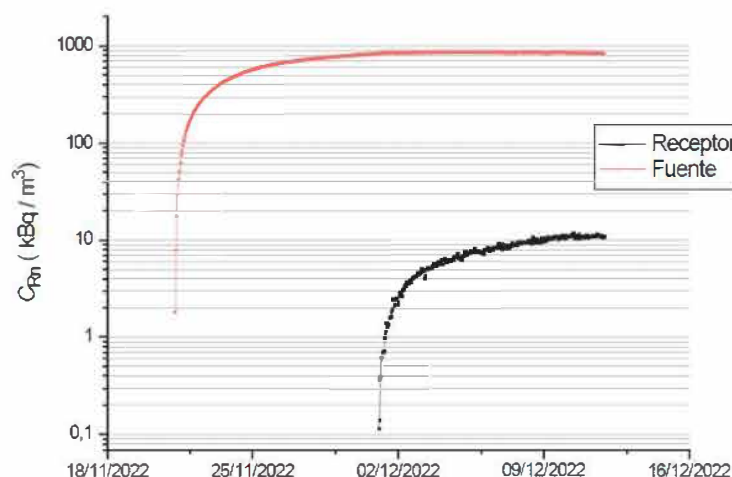


Fig. 1. Evolución de la concentración de radón en la cámara primaria/fuente (rojo) y en la cámara secundaria/receptor (negro) durante el ensayo. Radon concentration evolution in the primary/source chamber (red) and in the secondary/receiver container (black) during the test.



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