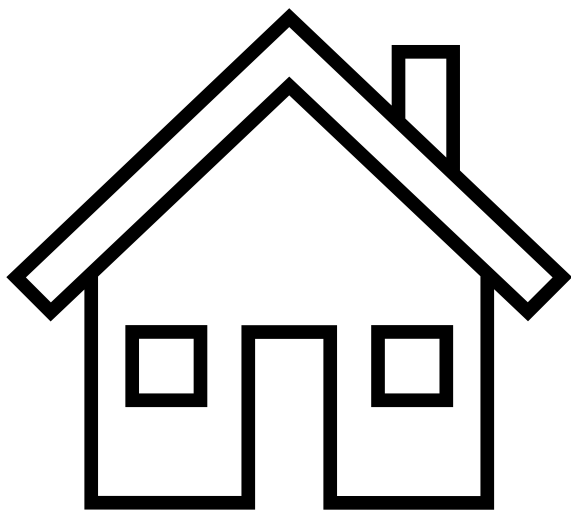


Radon in Buildings:

Identifying design weaknesses



A Contractors perspective;
What features could be a cause of high radon levels in a building?

Identification of design weaknesses can lead to appropriate fitment of remediation measures

March 2024

Jerry Board, Director, UK Radon Ltd



Radon: Building Design weaknesses

Radon from the ground enters into a building through any holes and cracks in its periphery

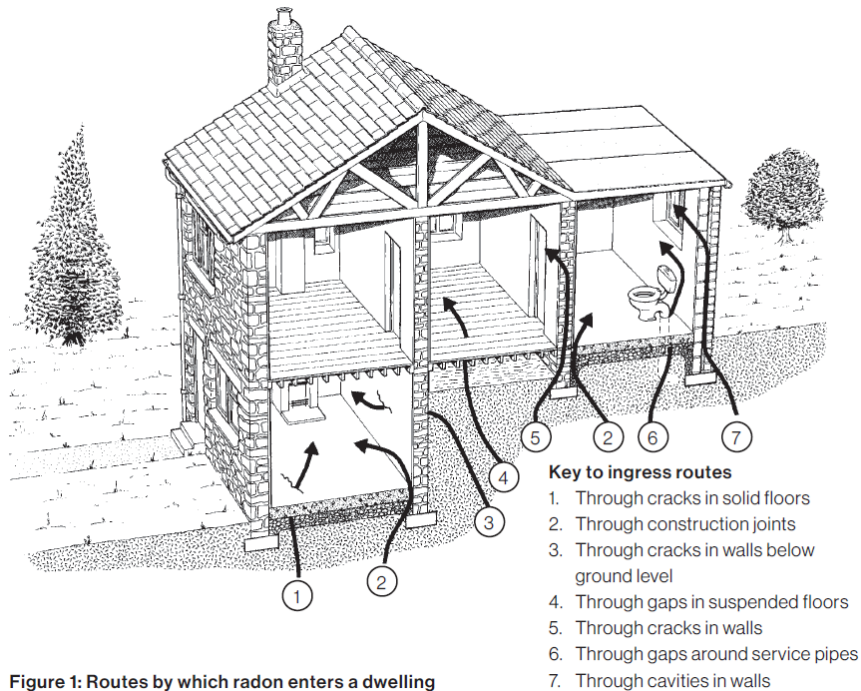
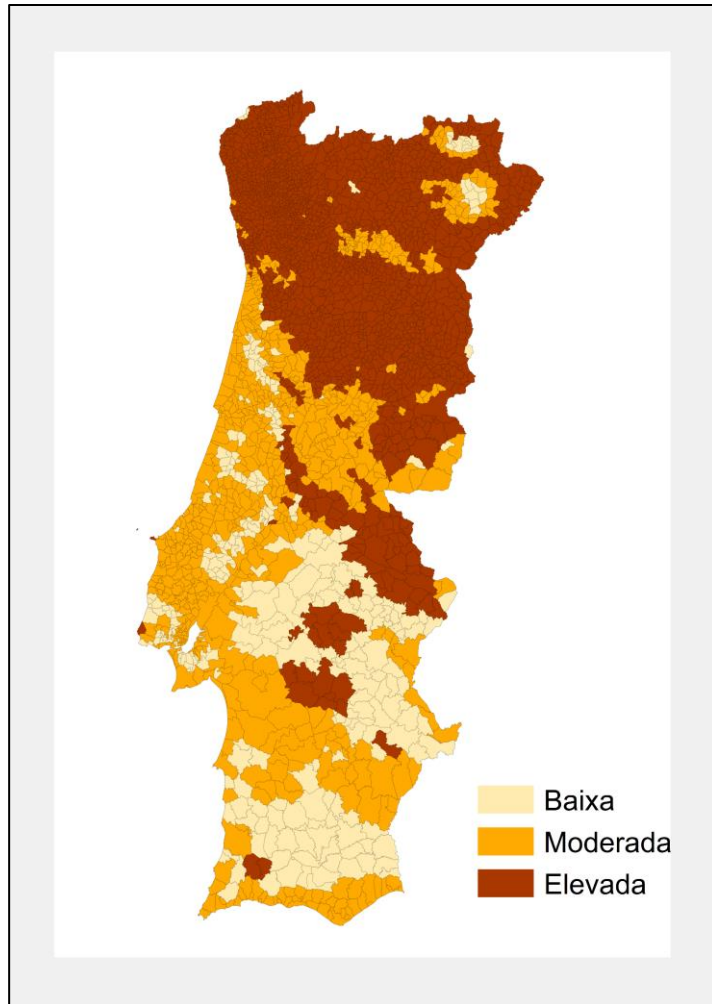


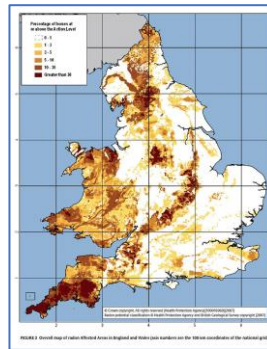
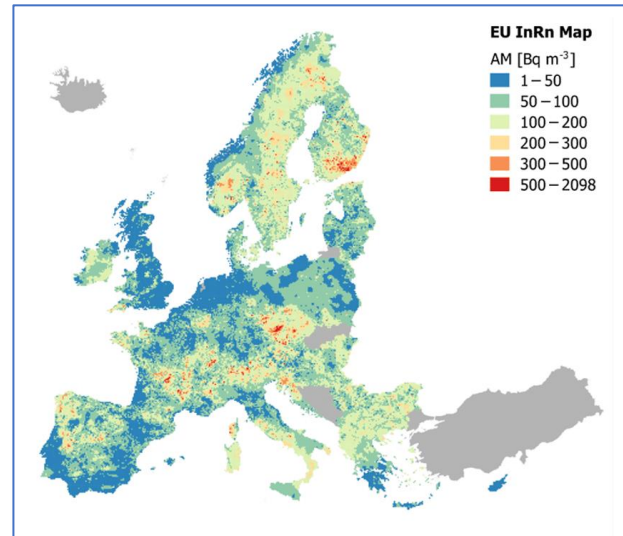
Figure 1: Routes by which radon enters a dwelling

- Building Location
- Building design
- Floor design weaknesses
 - Solid Floors
 - Suspended Floors
 - Mixed floors
- Internal fittings

Building Location (External Factors)



Geology

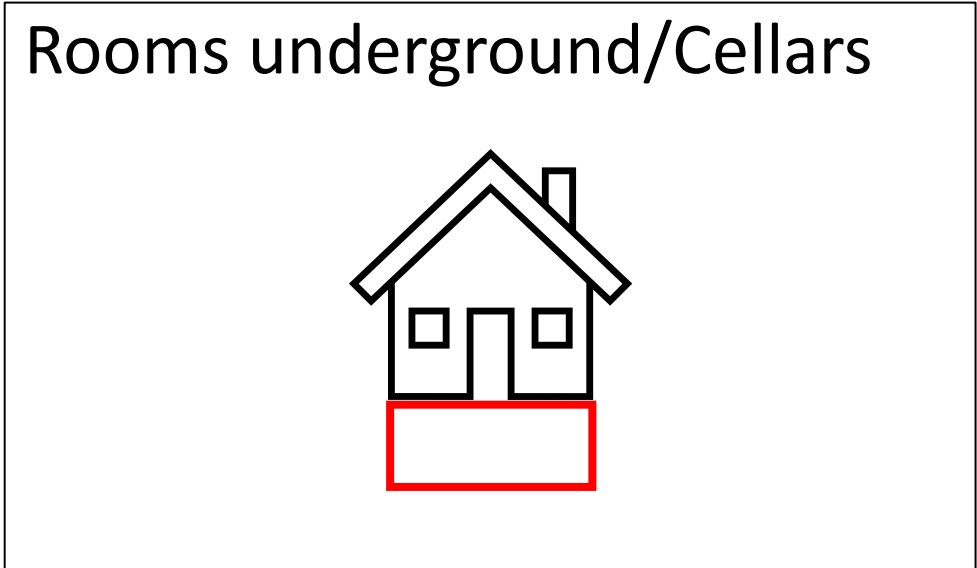
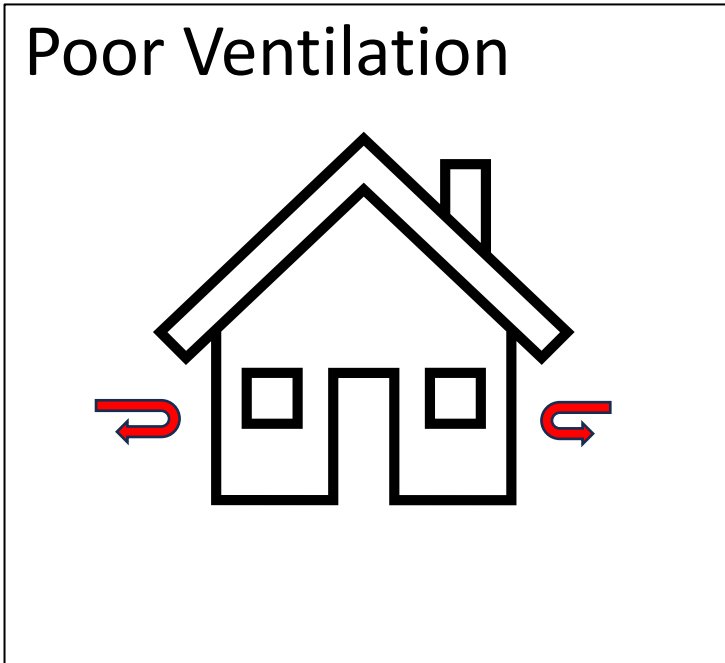


Soil: Mining, Quarrying, and Waste



Whole Building Design

Think about the buildings age.
Building design changes through time

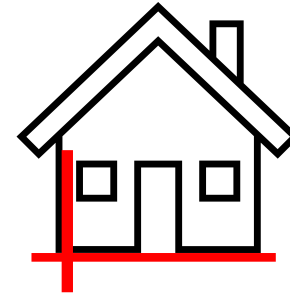


Floor design weaknesses; solid floors

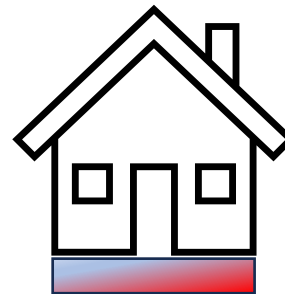
No protective barrier



Broken protective barrier

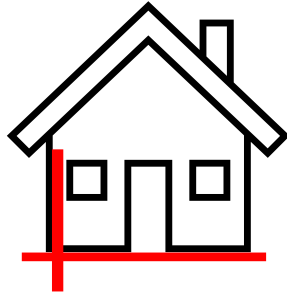


Poorly in-filled sub-floor ground

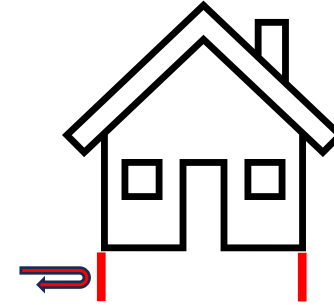


Suspended Floors and Complex design

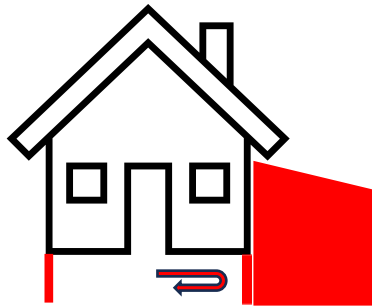
No/broken protective barrier



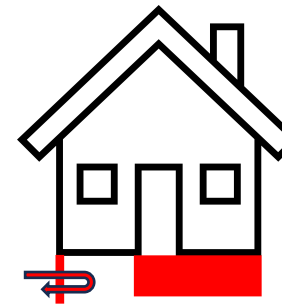
Poor ventilation under suspended floors



Extensions

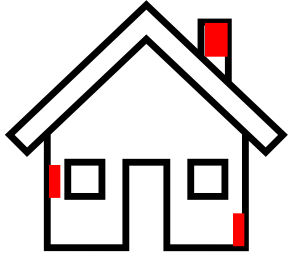


Mixed floors

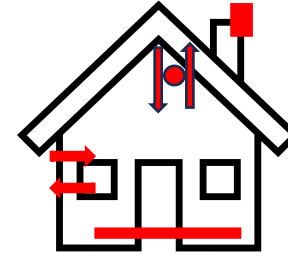


Internal Features

Heating



Ventilation/Extraction



When choosing appropriate remediation methods, you need to be aware of many building design faults.....

Surveying for fitment of a Radon system requires the skills of a detective. You must piece together a lot of information to be able to identify the most relevant issues regarding radon's ingress into a building

- External influences (related to the building location)
- The Buildings structure
- Floor design
- Other internal features

Collection of the relevant information, and good interpretation of it, makes the difference between remediation success and failure