## FLOOR

Floor heat loss can account for 10-15% of building heat loss. The method of insulation depends on whether the floor is a solid concrete slab or a suspended timber floor. Radon barrier is normally installed in all floors.

### 1. Suspended Timber Floors:

- Insulation (typically mineral wool or high-performance glass fibre) is placed between the wooden joists.
- A breathable membrane should be used to support the insulation and prevent draughts.
- **Critical:** Underfloor ventilation must be maintained via air bricks to prevent joist rot.

### 2. Solid Concrete Floors:

- Typically require laying rigid insulation boards over the existing concrete, followed by a new floor screed or floating floor.
- This method will raise the floor level, which may require adjusting door heights and skirting boards.

## CRITICAL CONSIDERATIONS

1. **Damp Proof Membrane (DPM):** It is essential to ensure that a DPM is intact or replaced to prevent moisture from rising into the new insulation.
2. **Airtightness:** Seals should be applied where the floor meets the wall to eliminate perimeter draughts.
3. **Pipework:** Any heating or water pipes located beneath the floor should be fully lagged before the floor is sealed.

## "WHAT SHOULD I DO NEXT?"

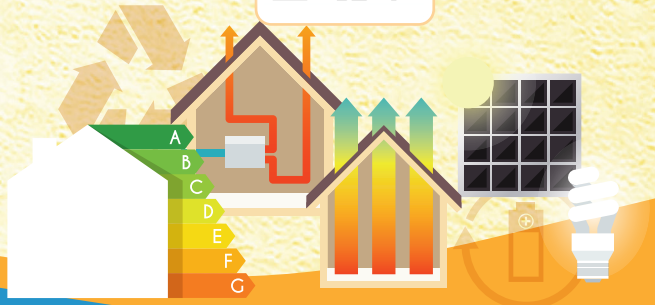
Not sure where to start? Talk to KSEC.
Check if you have a BER and advisory report.
Building Energy Rating (BER) Certificate

Read the relevant SEAI guide.
This KSEC leaflet gives a quick overview. For detailed guidance, use the SEAI homeowner guides and speak to a registered professional.

**Building Energy Rating (BER) Certificate**

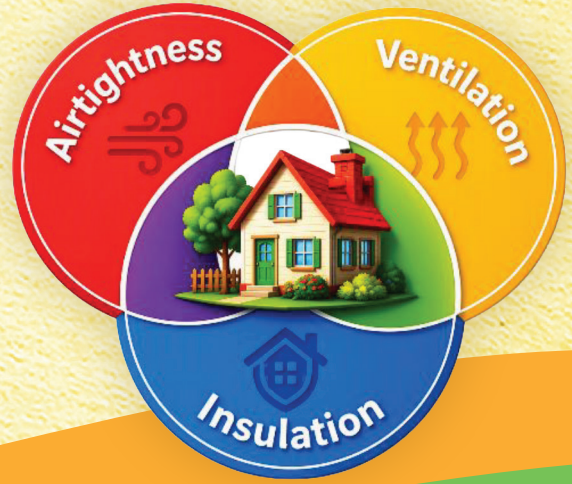
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# A Guide to Airtightness, Ventilation & Insulation



**Here is homeowner-friendly information about Airtightness, Ventilation, Insulation.**
**Please follow the links for specific SEAI leaflets on each topic**

## VENTILATION:

SEAI Ventilation Guide

**Airtightness:** Avoiding unintentional leakage points or areas in the building (envelope).
Insulation aims to overcome uncontrolled ventilation.

**Ventilation:** proper ventilation is critical to prevent mould growth and ensure air quality

**Uncontrolled Ventilation:**

- Windows and doors, especially with letter boxes and cat/dog flaps.
- Attic hatches
- Behind fitted kitchen units.
- Incorrectly finished drylining and internal wall insulation, even in new builds.
- Down lighters in ceilings
- Electrical, TV & other cable outlets
- Suspended timber floors
- Pipework penetrations, especially in the hot press.
- Open fireplaces
- Extract fans that don't have a draught baffle.

**Ventilation** - Poor ventilation and draughts can waste heat (15-20%) but ventilation is still essential for a healthy home.
Keep heat in, let fresh air in, and get the right advice before doing works.

**Critical Consideration:** Airtightness Balance: Energy-efficient ventilation systems (especially MVHR) perform best in highly insulated, airtight homes.

## INSULATION:

SEAI Attic Insulation Guide

**Attic** - Roof heat loss accounts for 25% of building heat loss so it is always a good place to start.
There are different options for increasing the amount of attic insulation:
Additional rolls of mineral wool insulation can be used.

- Loose-fill insulation such as cellulose or sheep wool can be used.
- Rigid insulation can be used.

Provision can be made for keeping the attic space suitable for storage.

**Critical Considerations:**

1. Where soffits are ventilated, that ventilation baffles are used at the eaves.
2. All power cables in the attic space should be sleeved prior to them being covered with insulation.
3. All uninsulated pipes in the attic need to be fully insulated, as does the cold-water storage tank, which should be covered and vented with a suitable air vent.
4. Downlighters need to be covered with a suitable airtight, fire-resistant fitting.
5. Any attic floor covering should not compress the insulation.
6. Roof Rafter Insulation - different insulation can be used. There are specific requirements attached to such work to ensure the integrity of the roof ventilation.

SEAI Wall Insulation Guide

**Wall** - There are three main types of wall insulation:

1. **Cavity walls**
   Suitable only for cavity walls (not cavity blocks) by drilling and filling the gap.
   It is most effective in empty cavities; results are less certain if partially filled.
   This is the least disruptive method but offers the least predictable performance.

2. **Inside walls**
   Involves fixing insulated plasterboard to the inside of external walls.
   This requires removing and re-installing radiators, sockets, and skirting.
   It can be done room-by-room, provided walls are dry and in good condition.
   Older, lime-based walls require specialized materials.

3. **Outside wrap**
   Applied to the building exterior; not suitable for timber-framed houses.
   For best results, it should be done alongside window replacement and extended above the soffit to meet attic insulation.
   In areas with high wind and driving rain, rigid cladding (rain shield) is recommended over standard acrylic render.