2025 Domestic Technical Handbook Standard 3.14: Ventilation
Guidance for Fabricators & Installers

Meeting the Scottish Mandatory Standard 3.14 for Ventilation in Domestic Dwellings

This document aims to provide practical guidance on the Scottish Mandatory Standard 3.14, relating to ventilation of dwellings. It is the intention of the regulations to ensure adequate ventilation of all types whilst the energy efficiency of housing is improved at the same time. As the saying goes, 'Ventilate when you Insulate'.

The below is a Titon summary of the main points contained within the Domestic Technical Handbook, Section 3: Environment. The current Approved Document can be downloaded at https://www.gov.scot/publications/building-standards-technical-handbook-january-2025-domestic/. Please note that whilst we make every effort to accurately advise on the regulations as we see them, it is the responsibility of the installer to meet the relevant requirements.

Type of work being carried out

If you are installing windows in a New Build property, or are fitting replacement windows in an existing property

The regulations clearly distinguish between three schemes of ventilation, one of which will apply. The scheme of ventilation should be ascertained before carrying out any installation work:

- **Natural ventilation with trickle vents and intermittent extract fans** see page 3
  Applies to less airtight dwellings. The majority of dwellings will have this form of ventilation (particularly older dwellings).
- **Continuous mechanical extract ventilation** see page 4
  Usually with a central extract system or individual room extract fans.
- **Mechanical ventilation with heat recovery (MVHR)**
  Do not install trickle vents alongside MVHR systems.

If you are installing windows in a new home extension or conservatory see page 5

General trickle ventilation provisions

Trickle vent specification and marking

- The size of trickle vents is rated in Equivalent Area (EA), given in mm^2.
- All trickle vents must have their Equivalent Area (EA) rating clearly marked on the product, visible from inside the dwelling after installation.
- The EA rating indicates the effective airflow and is critical for compliance.
- All EA specifications within the regulations can be regarded as minimums.

Installation Height and Controls

- Install trickle vents at a height of at least 1750mm above floor level - to minimise cold draughts while maintaining occupant accessibility.
- It is recommended that trickle vents should be controllable by the occupant — either manually or automatically.
- Extract fans and trickle vents that are fitted in the same room should be at least 500mm apart.

Room Definitions

- A wet room is defined as any room in which daily use may generate water vapour (i.e. kitchens, bathrooms, utility rooms, toilets).
- An apartment is any room in which occupants regularly spend time, but is not a wet room (i.e. living rooms, bedrooms etc.)
- Any room into which people do not normally go (i.e. storage rooms, garages) is exempt from these provisions.
- For dwellings with basements, please refer to the Building Regulations section 1.38 or call for advice.

Natural ventilation with trickle vents and intermittent extract fans

New Build

The housebuilder will specify the EA requirements per room, taking into account the required whole dwelling ventilation rate.

- In buildings with a single exposed façade, the housebuilder or designer may specify EA that differs from the figures shown here.
- Where facades face sustained loud noise (e.g. main roads), the use of noise-attenuating trickle vents should be specified (see page 6).

The minimum total EA of trickle vents in each room should follow the guidance in Table 3.7a:

Table 3.7a - Minimum equivalent area of background ventilators for natural ventilation

Room	Area of background ventilation
Apartment	12,000 mm²
Kitchen or utility room	10,000 mm²
Toilet, bathroom or shower room	10,000 mm²

Additional information:

1. Where the background ventilator is ducted, the recommended areas in the table should be doubled to account for flow resistance within the ductwork.
2. The overall provision of background ventilation in a dwelling may be provided at an average of 11,000 mm² per room with a minimum of 11,000 mm² for each apartment.
3. To reduce the effects of stratification of the air in a room, some part of the background ventilator should be at least 1.75 m above floor level.
4. Further advice on the location of background ventilators can be found in Annex 3 A.

- The 'Additional information' section in Table 3.7a should also be followed.
- Where the whole dwelling air infiltration rate is proven to be greater than 10m²/h/m²@50Pa then the EA values shown above can be reduced to 8000mm² for apartments and 4000mm² for all other rooms (or alternatively, an average of 6000mm² per room with a minimum of 4000mm² in each apartment). The housebuilder will advise on this.

Replacement Windows in existing dwellings

If the existing windows have trickle vents, replacement windows must not reduce the standard of ventilation:

- Fit trickle vents with an EA at least equal to that of the existing windows.

If the EA rating of the existing trickle vents is unknown or the existing windows have no trickle vents fitted, you are expected to bring the windows up to standard as follows:

- Apartments: 12000mm² EA.
- Kitchens, Utility Rooms, Toilets & Bathrooms: 10000mm² EA.

All newly installed trickle vents must be **controllable (either manual or automatic)**.
If installation conditions prevent the installation of a trickle vent of the minimum specified EA value, then you must fit a trickle vent with the **maximum achievable** EA value.

Trickle Vents with Continuous Mechanical Extract Ventilation

New Build

The housebuilder will specify the EA requirements per room, taking into account the required whole dwelling ventilation rate.

- In buildings with a single exposed façade, the housebuilder or designer may specify EA that differs from the figures shown here.
- Where facades face sustained loud noise (e.g. main roads), the use of noise-attenuating trickle vents may be specified.
- The minimum total EA of trickle vents in each room should meet the regulations as follows:
  - Do NOT install trickle vents in wet rooms (i.e. kitchens, bathrooms or utility rooms).
  - Each apartment must have trickle vents that provide at least 4000mm² EA (or 8000EA if ducted).
  - Where a kitchen is in the same space as an apartment, specialist design advice should be sought.

Replacement Windows in existing dwellings

Replacement windows should meet the following regulations:

- Do **NOT** install trickle vents in wet rooms (i.e kitchens, bathrooms or utility rooms).
- Each apartment must have trickle vents that provide at least 4000mm² EA (or 8000EA if ducted).
- They must not reduce the current standard of ventilation

All newly installed trickle vents must be **controllable (either manual or automatic)**.
If installation conditions prevent the installation of a trickle vent of the minimum specified EA value, then you must fit a trickle vent with the **maximum achievable** EA value.

Ventilation for Home Extensions and Additions

New Conservatory

- In order to provide adequate purge ventilation, conservatory windows should have a total opening area of at least one-fifth of the floor area of the conservatory.
- The building regulations are complex, but we recommend that trickle vents should be provided relevant to the overall areas created (refer to Table 3.71a on page 2). For example, a conservatory used as a habitable area would need trickle vents fitted offering a minimum of 12000EA.
- If a conservatory is built over an existing window with trickle vents, please refer to page 5.

New Habitable Room (not including a Conservatory)

- Fit trickle vents according to the scheme of ventilation for the new extension:
  - If the extension is naturally ventilated: 12000mm² EA.
  - If the extension has continuous mechanical extract ventilation: 4000mm² EA.
  - If the extension has continuous mechanical extract with heat recovery: do **NOT** fit trickle vents.
- If the new extension is built over an existing window with trickle vents, please refer to page 5.

New Wet Room

- Fit trickle vents according to the scheme of ventilation for the new wet room:
  - If the wet room is naturally ventilated: 10000mm² EA (in conjunction with intermittent extract).
  - If the wet room has continuous mechanical extract (with or without heat recovery): do **NOT** fit trickle vents.
- If the new wet room is built over an existing window with trickle vents, please refer to page 5.

Ventilation of a Habitable Room through another room

The provisions in this section only apply if you have been directed here from one of the previous sections.

This section relates to the provision of ventilation to an existing internal room (usually a room without windows, or with limited ventilation) via another habitable room or conservatory (we'll refer to this as 'the ventilating room').

- Wherever possible the existing room should be fitted with ventilation to the outside air (this can be ducted if necessary). If the relevant EA value for the existing room can be achieved in this way then the following advice can be disregarded.
- If the existing room is a wet room then mechanical extract or passive stack ventilation **MUST** be provided to the outside air, via a duct if necessary. These rooms cannot be ventilated through other rooms.

Otherwise:

- If the ventilating room is a conservatory:
  - In order to provide adequate purge ventilation, conservatory windows should have a total opening area of at least one-twentieth of the combined floor area of the existing room and the conservatory, or one-fifth of the floor area of the conservatory (whichever is greater).
  - Ventilation should be placed between the existing room and the conservatory having an opening area of at least one-twentieth of the floor area of the existing room.
  - We recommend that trickle vents are fitted in the conservatory offering a minimum of 12000mm² EA.
- If the ventilating room is an apartment (habitable room):
  - The existing room and the ventilating room should be treated as one room and trickle vents should be fitted as follows:
    - If the dwelling is naturally ventilated: 12000mm² EA.
    - If the dwelling has continuous mechanical extract ventilation: 4000mm² EA.
    - If the dwelling has continuous mechanical extract with heat recovery: do **NOT** fit trickle vents.
  - The opening area between the two parts of the room should be not less than one-tenth of the combined floor area.

NOTE: If an external grade door is fitted between the existing room and the ventilating room, or if the minimum opening areas between the rooms cannot be achieved, then both rooms must be treated as separate and distinct rooms and ventilation fitted accordingly **to the outside air**.

Summary for Fabricators and Installers:

- Ensure **correct sizing and marking** of trickle vents.
- Install vents at **proper height** and with **easy occupant control.**
- Apply **specific guidance for new builds, replacement windows and Extensions**.
- Avoid installing trickle vents with MVHR systems.
- Use **noise-attenuating ventilators** where necessary.
- Follow **minimum EA and ventilator count requirements** strictly for compliance.

Please note that we publish maintenance instructions for all of our trickle vents, and recommend that you provide them to the housebuilder or homeowner along with other relevant compliance documents.

Guidance for Acoustic Trickle Vents

- Section 5 of the Domestic Technical Handbook specifies the minimum sound insulation standards that new building projects and renovations must meet to protect occupants from noise.
- The acoustic performance of trickle vents is expressed as a decibel rating (dB, but often given as Dn,e,w). Higher Dn,e,w values indicate better sound reduction performance. A trickle vent with a Dn,e,w rating of 44dB would provide better sound attenuation than one rated at 35dB.
- The World Health Organisation (WHO) defines noise levels above 65dB as noise pollution.
- BS 8233:2014 recommends:
    - Noise levels in habitable rooms should not exceed 35dB.
    - Restful sleep is only achievable when ambient noise levels remain below 30dB.
- Local planning laws may impose additional requirements for interior noise levels.
- Titon produce a full range of acoustic vents, backed up with regulatory expertise, tailored technical support and a reliable supply chain – please contact us if you require further advice.