



National Retrofitting Scheme A 5 Step Plan to Effective Ventilation



Introduction

Ireland's National Retrofitting Scheme provides homeowners with a comprehensive range of packages that make it easier for them to upgrade their homes to be more energy efficient, for increased comfort levels and lower energy bills.

With upgrades likely to make the home significantly more airtight, assessing if there will be adequate ventilation, and maintaining existing ventilation, is key to leaving the resident with good indoor air quality.

Why is good indoor air quality so important?

Everyday living generates high amounts of indoor air pollutants such as moisture from bathing, cooking and washing, toxins from cleaning supplies and deodorants, and particles shed from pets.

Without effective dilution and removal, contaminants can affect the fabric of the building by providing ideal conditions for mould growth; and the health of the occupants by causing and aggravating conditions such as asthma, heart disease and lung disease, according to studies.



An average family of four can produce around 13 litres of water vapour per day in the home - that would result in a lot of moisture in the air.

How to achieve good indoor air quality when retrofitting

With 50 years of experience as a marketing leading ventilation manufacturer in the UK, we have created five easy steps to help you provide ventilation which conforms to the NSAI SR54 Code of practice for the energy efficient retrofit of dwellings.

- Step 1 -

Survey the property for existing ventilation as these will need to be maintained or enhanced. Take note of:

- Trickle vents in windows.
- Through-wall vents for background ventilation (vents with controllable internal grilles).
- Through-wall vents for appliance ventilation (vents with fixed open internal grilles).

- Step 2 -

Provide controllable background ventilation to the values set out in the following tables:

- Table 31 for air permeability levels equal to or more than 5m³/hr/m².
- Table 32 when the air permeability is expected to be less than 5m³/hr/m².

Note: Where Mechanical Extract Ventilation (MEV) is installed, provide background ventilation of at least 3,125mm² equivalent area per habitable room.

Table 31 - Minimum levels of background and extract ventilation as specified by Table 30

Room usage	Minimum background ventilation (mm ²) ^d	Intermittent extract fan rating (l/s)
Habitable room	6 500	Not required
Kitchen ^a	6 500	60 (reduced to 30 for suitably sited extracting cooker hood)
Utility room ^a	6 500	30
Bath or shower room ^b	Not required	15
WC (only) ^c	Not required	6

a) Where the room has no external wall, a floor area of less than 6,5 m² and background ventilation cannot be provided then extraction fan to operate with a 15 minute overrun etc.

b) Where the room has no external wall and background and purge ventilation cannot be provided then the extraction fan should operate with a 15 minute overrun etc.

c) Where a window opening for purge ventilation exists then the window alone may be relied upon to provide extract ventilation.

d) Ventilation area as stated above is free area. Equivalent area is measured in accordance with the method specified in I.S. EN 13141-1: 2004. The above values should be multiplied by 0,8 to obtain equivalent areas.

During the process of providing a whole house retrofit, the air permeability that can be achieved may well exceed current typical new build levels. Where good levels of air permeability (i.e. below 5 m³/m²/hr) are achieved the specific guidance in Table 32 should be followed. The improvements required to achieve this level of air permeability are described in Table 28.

Table 32 - Minimum levels of background and intermittent extract ventilation when the air permeability is expected to be below 5 m³/hr/m²

Room usage	Minimum background ventilation (mm ²) ^{c-d}	Intermittent extract fan rating (l/s)
Habitable room	7 000	Not required
Kitchen ^a	3 500	60 (reduced to 30 for suitably sited extracting cooker hood)
Utility room ^a	3 500	30
Bath or shower room ^a	3 500	15
WC (only) ^b	3 500	6

a) Where the room has no external wall, then extraction fan to operate with a 15 minute overrun etc.

b) Where a window opening for purge ventilation exists, then the window alone can be relied upon to provide extract ventilation.

c) Ventilation area as stated above is free area. Equivalent area is measured in accordance with the method specified in I.S. EN 13141-1: 2004. The above values should be multiplied by 0,8 to obtain equivalent areas.

d) The minimum total equivalent area of background ventilators providing general ventilation should be 42 000 mm² with an additional 7 000 mm² for each additional 10 m² floor area above the first 70 m² of floor area measured. For single storey dwellings situated at ground level or on any storey up to four storeys, an additional 7 000 mm² per dwelling should be provided. The minimum level of background ventilation recommended for each room is unlikely to provide the total background ventilation required for the dwelling as a whole.

- Step 3 -

Ensure there is adequate ventilation to combustion appliances as per Table 35.

Table 35 - Guidance for the provision of adequate supply of air for combustion appliances

Retrofit Works		A. No existing supply of air in room containing a fixed open flued appliance.	B. Adequate supply of air provided in each room containing a fixed open flued appliance.
1	Wall Insulation, window replacement or sealing/ insulation of suspended floors carried out BUT NO new open flued appliance fitted.	Permanent ventilation should be provided in the room containing the appliance, (see note).	No requirement to upgrade permanent ventilation. Recommended to ensure ventilation is unblocked, in good condition and permanently open.
2.	New open flued or flueless appliance fitted.	This work falls within the Building Regulations Part J- Heat Producing Appliances. See TGD J for further guidance.	This work falls within the Building Regulations Part J - Heat Producing Appliances. See TGD J for further guidance.
3	Provision of new balanced flue appliance.	This work falls within the Building Regulations Part J- Heat Producing Appliances. See TGD J for further guidance.	This work falls within the Building Regulations Part J - Heat Producing Appliances. See TGD J for further guidance.
NOTE This permanent ventilation will also suffice for Background ventilation, see clause 10.			

- Step 4 -

Consider fitting acoustic sound attenuating vents in properties situated in noisy areas, i.e. near a busy road or railway line, etc. Reducing the amount of noise entering the property will give the resident a more peaceful environment so they won't feel inclined to close vents for prolonged periods to keep out noise.



Technical Guidance Document F: Ventilation, states the average A-weighted sound pressure level in noise sensitive rooms such as bedrooms and living rooms is recommended not to exceed 30 dB LAeqT.

- Step 5 -

Ensure all ventilators have an Equivalent Area air flow calculation measured to EN 13141-1:2004, and are located at least 1.75m above floor level to prevent draughts, as stated in the Code of practice.

Rytons Compliant Habitable Room Ventilator



Rytons Controllable LookRyt® AirCore® (AC10HP)

- Compliant background ventilator for habitable rooms.
- Economically priced 125mm dia. through-wall core ventilator.
- Controllable internal panel for use in a habitable room.
- Provides 7,500mm² equivalent area to EN 13141-1:2004.
- [Cowled](#), [baffled](#) and [acoustic](#) options also available.
- Readily available through Distributors and Builders Providers in Ireland.

Rytons Compliant Stove and Fire Ventilator



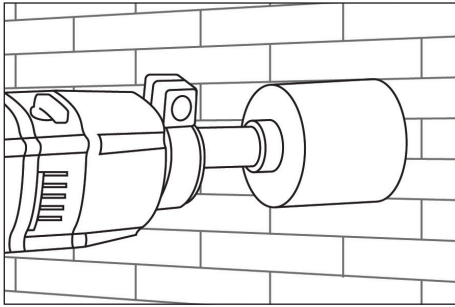
Rytons LookRyt® AirCore® (AC10LP)

- Compliant ventilator for stoves and fires.
- Economically priced 125mm dia. through-wall core ventilator.
- Fixed open internal panel for use in a room with a stove or fire.
- Provides 10,400mm² equivalent area to EN 13141-1:2004.
- [Cowled](#), [baffled](#) and [acoustic](#) options also available.
- Readily available through Distributors and Builders Providers in Ireland.

Rytons LookRyt® AirCore® Range Best Practice Guide to Fitting

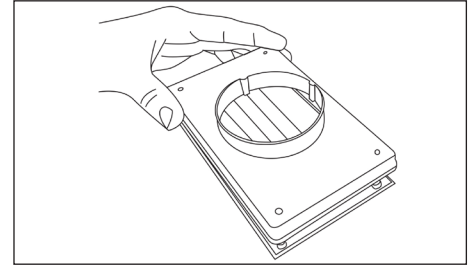
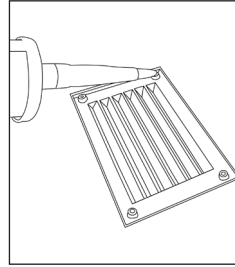
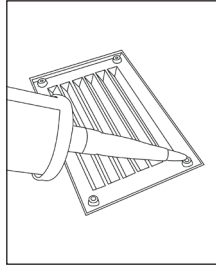
Download the full fitting instructions sheet from our website [here](#).

Minimise cracking ...



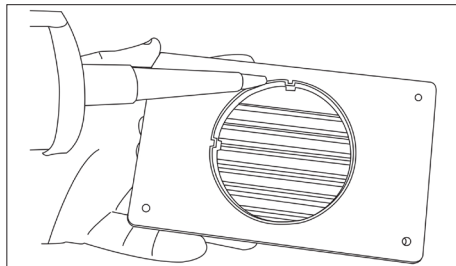
Drill a pilot hole inside and outside and core drill from each side into the cavity.

Quickly join the outside grille and spigot together ...

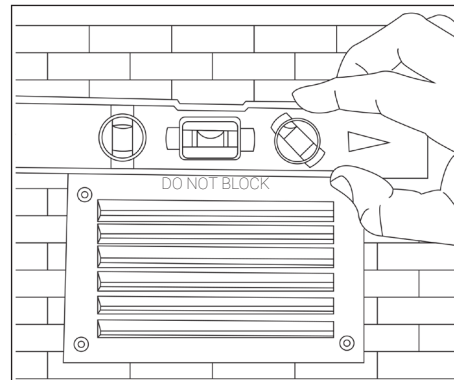


Place a small dab of grab adhesive onto each of the corner screw holes and attach the backplate.

Easy outer grille fitting with levelling time ...

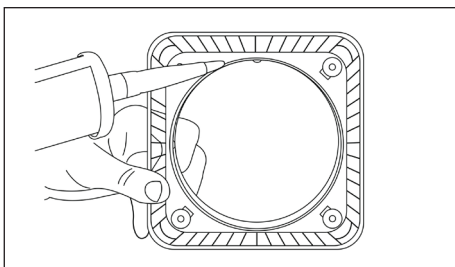


Place a thin bead of grab adhesive around the spigot of the backplate.



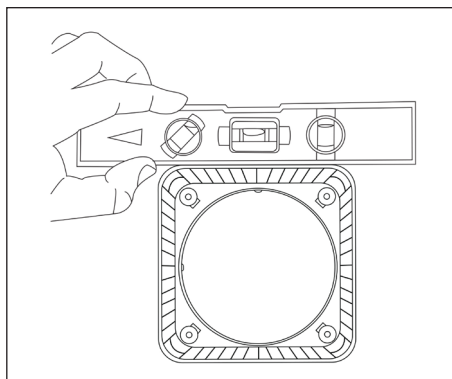
Position the spigot in the tube and level the assembly while the adhesive sets.

Quick LookRyt® panel fitting ...



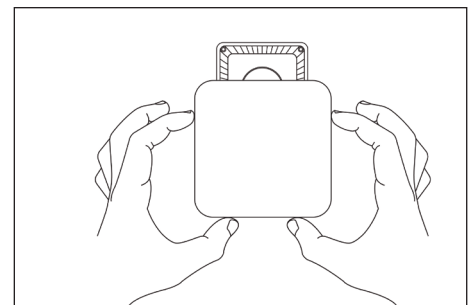
Place a thin bead of grab adhesive around the spigot of the LookRyt® backplate - avoid seepage into the screw holes.

Level it up ...



Position the spigot in the tube and level the backplate while the adhesive sets.

Give it a minute ...



Let the adhesive set before finishing by push fitting the LookRyt® front panel into position.

Frequently Asked Questions

Q: What can I do if the homeowner is concerned about excessive draughts?

A: The unique design of the Rytons Controllable LookRyt® Panel offers premium draught reduction by dispersing air evenly into the room. The panel is also easily adjusted by a simple push/pull or tilt action, allowing the resident full control of the air flow.

Rytons also offer a Baffled LookRyt® AirCore® ([AC7HP](#)) to help slow air movement through the vent, plus Cowled LookRyt® AirCore® options ([AC10HPCWL](#)) and ([AC7HPCWL](#)), providing further wind and weather protection.



Q: What can I do if the homeowner is concerned about the look of the internal panel?

A: Rytons LookRyt® Panel can be painted or wallpapered to match the room décor for a discreet finish.



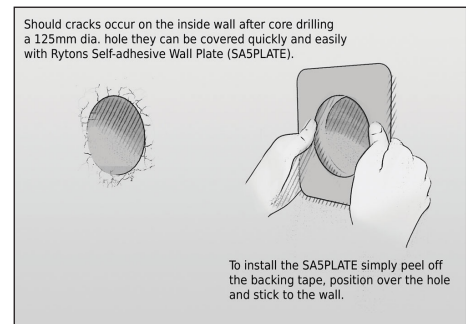
Q: Can I extend the standard core tube to fit within larger cavities?

A: Yes. You will need a second AirCore® Tube ([AC10TUBE](#)) and an AirCore® Connector ([ACCONNECT](#)). Please note: Should you need to cut the AirCore® Tube we recommend cutting equal lengths off each end to maintain the central water baffle.



Q: What if old plaster cracks on the inside wall after core drilling?

A: Minimise cracks by drilling a pilot hole inside and outside before core drilling from each side into the cavity. However, Rytons Self-adhesive Wall Plate covers ([SA5PLATE](#)) are available to buy should you wish to have them on hand.



Q: What can I do if the homeowner is concerned about noise travelling through the vent?

A: Rytons offer a range of Acoustic LookRyt® AirCore® sets with sound reducing properties. These ventilators are lined with acoustic foam and have a dB rating independently tested by the BRE.



Q: Can I use a controllable background vent to supply ventilation for a gas appliance or fire?

A: No. Any ventilation for heat producing appliances must be fixed open. Find compliant ventilators on our website under [Boiler, Stove and Fire Ventilators](#).



A Family Business
Since 1972

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