Insulation and heating FAQs

Insulation: the ‘thermos flask’ effect

Our houses have been designed to use less energy by reducing the amount of heat that leaks out. The walls and the loft are super insulated and all the joints at windows and doors really well sealed.

A useful way to think about your house is that it’s similar to a thermos flask; once it is warm inside, the insulation keeps it warm. This should mean you use less heat. However, it can take a bit of getting used to as you may need to adjust how you use your heating.

The district heating system
Heat and hot water for all of our houses are supplied by the District heating system, run by Veolia. This is in the Super sustainable centre (SSC) also known as the energy centre.

The turbines were fuelled originally by gas and are being gradually moved to bio fuel, which is more sustainable. Eventually the gas turbines will just be for back up. Bio fuel is wood chip which is grown locally and coppiced or harvested in a continuous cycle. This is a low carbon and renewable fuel and so is considered sustainable.

Very hot water is run underground in a loop round the estate, with a spur off to each house. You are charged for your individual use, measured by a CIU, which you will usually find in a cupboard in your house.

What temperature can I expect in my home?
A good temperature is a very subjective thing. However, the national standards for the temperature your heating should be able to achieve is 18 degrees in your bedrooms and 21 degrees in your living room.

You will have separate thermostats upstairs and downstairs as well as thermostats on individual radiators. This means you can vary the temperatures in different parts of your house easily.

How do I use my thermostat?
See instruction sheet at the end of this section

Is it Ok to board out my loft?
If you have insulation on the ‘floor’ of your loft it is best not to board it out completely as this will compress the insulation and it won’t be as effective. Also, it is important to realise that the joists in a loft (as opposed to a room in the roof) are ceiling joists, not floor joints. This means they are designed to be strong enough for access, but not for lots of storage.

Ventilation: keeping your home fresh

Being well insulated is great, but your home still needs to breathe! If a well-insulated and tightly sealed house is not ventilated, the air will start to smell stale within hours and your bathroom may produce mould.

Most of our houses have two ventilation systems; Trickle vents and Mechanical air ventilation (MEV). These systems are standard in many new houses, as specified by the building regulations.

In Stephenson quarter the houses have a different system: Mechanical ventilation heat recovery (MVHR) and do not have trickle vents (they are not needed with an MVHR system).

Trickle vents

What are trickle vents for?
Your window frames will have trickle vents. This allows fresh air to trickle in and out, this is important as your super insulated home still needs to breath and let fresh air in and moisture out.

They are an alternative to opening your windows, which is useful in cold weather. In warm weather you should of course also open your windows, but when you are out and don't want to leave windows open, the trickle events allow air to circulate.

An example of a trickle vent is below.

Is it Ok to shut my trickle vents?
It's OK to close some of your trickle vents some of the time, examples might be if it's very cold, you can feel a draft or there is a room you don't usually use.

It's not a good idea to close the trickle vents in a bedroom you are using, if you also close the bedroom door you will not have sufficient ventilation.

Trickle vents can be opened by pressing the two tabs on the end of the vent and closed by pushing the central section.

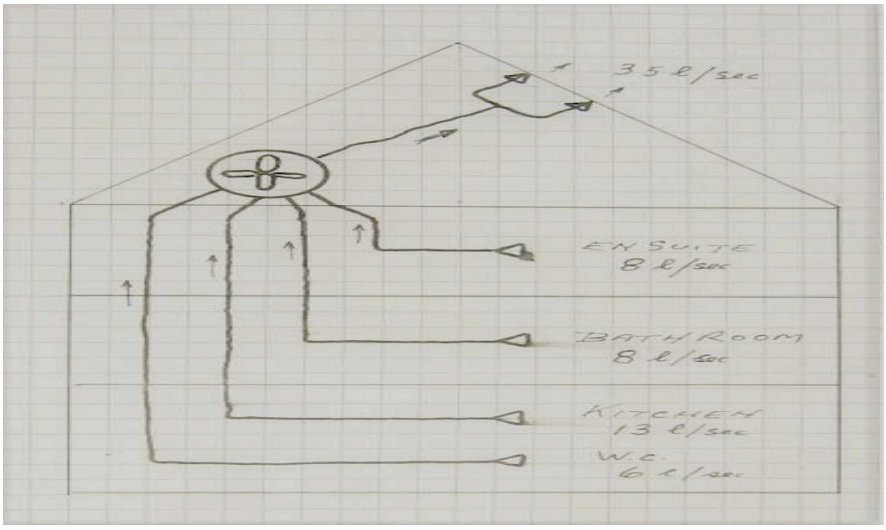
Mechanical air ventilation

What is the Mechanical air ventilation (MEV) system?
You have a mechanical air ventilation (MEV) system in your kitchen and bathroom(s). The MEV is on all the time and costs very little to run. You may hear a slightly humming sound coming from the MEV and these rooms may feel noticeably cooler in summer.

In effect your MEV system is a superior extractor fan. The air extraction is boosted when you put the light on in either room. You can also boost the extraction rate but the systems vary between houses. You may have the booster switch next to light switches or possibly near the hob.

Is it Ok to turn my MEV off?
No, you should never turn the MEV system off! It is important that this MEV system is on at all times to ensure good ventilation.

How does the MEV work?
The MEV system uses a single, central extract fan mounted in the roof space. This fan sucks air through individual ducts from the bath/shower room and the kitchen. The combined air flow is then pushed through a single duct and discharged to the outside through a number of 'ventilation tiles' mounted in the roof. Here is the schematic:



The following picture shows a typical installation. In this case there are four suction ducts from the three wet rooms and kitchen, which are at floor level. The common discharge duct to the two roof tiles is at high level.

How do I know the MEV is working properly?
The best way to tell that your MEV is working properly is the air on your house. It will smell fresh. After a time, you will also be able to see dark marks around the roof vents (this shows air has been extracted) see photo below. Homes have also been randomly inspected to check the effectiveness of the MEV systems.

Does the MEV system need servicing?

The system is designed so that it doesn't need servicing. It is self-cleaning and the fan motor has sealed for life bearings that do not need lubricating. Periodic cleaning of the ceiling extract valves should be carried out if it looks dusty. You can use your vacuum cleaner if it has a long reach, or a soft brush.

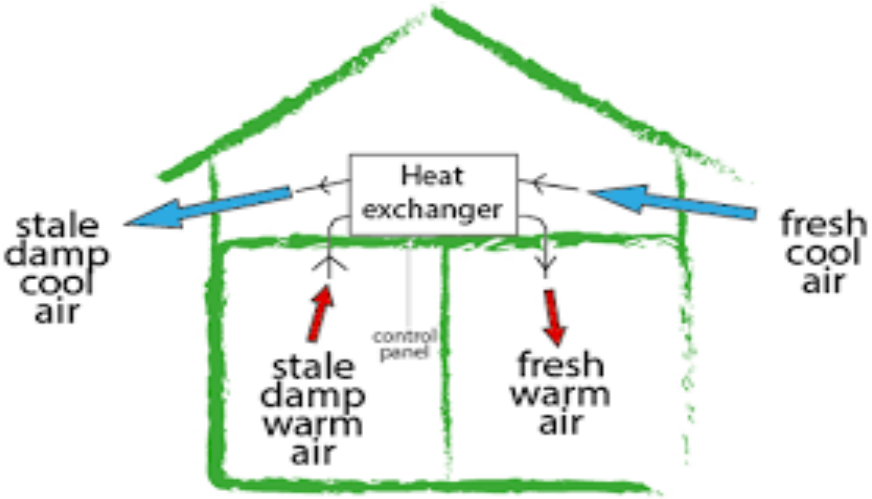
Mechanical ventilation heat recovery system

What is Mechanical ventilation heat recovery?
Only houses in the Stephenson quarter have the Mechanical Ventilation Heat Recovery system (MVHR).

The MVHR system doesn't replace the need for your heating, but it helps the heating work more efficiently by recycling that warm air.

MVHR works independently of your normal heating system. In each room there are ventilation ducts with filters that feed the air in and out of the space, all leading to a heat exchanger that is placed in the loft.

This heat exchanger is the brain of the heat recovery system, moving the stale air through hundreds of small pipes whilst drawing in cold air from outside in other ducts. These flow past each other without mixing physically but the heat is drawn from the stale air to the cold air, which is then fed back down into the pipes and into the rooms. The stale air, minus its heat, is then expelled into the atmosphere.



How do I know the MVHR has been installed correctly?
There have been problems with the installation of the MVHR systems. David Wilson Homes have accepted liability and have now surveyed all homes on the Stephenson quarter. At the time of writing the remedial work is planned for completion in 2020.

Once the remedial work is completed, all homes will be issued with a certificate.

How do I know the MVHR is working properly?
The best way to tell that your MVHR system is working properly is the air on your house. It will smell fresh. After a time, you will also be able to see dark marks around the roof vents (this shows air has been extracted).

Does the MVHR system need servicing?
Yes, the system should be serviced annually, with a check over and a filter change. This is a requirement of your warranty.

The Chimney

Is the chimney just cosmetic?
All the outlets for soil and vent pipes go up through your chimney, keeping them at the right height and avoiding unsightly pipes.

For more information from David Wilson homes follow this link

https://www.dwh.co.uk/Help--support/