

Envirofan Intuitive Underfloor and Sub-Floor Ventilation Design Without the Use of Flexible Ducting, How So?



Before we answer this question let us look at the sub-floor area itself. We can liken it to a blank canvas board as used by an artist, the more brush strokes, the more detailed and busy the canvas becomes.

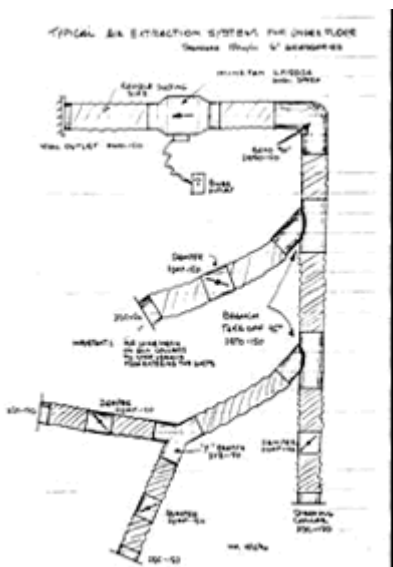
When it comes to sub-floor and underfloor ventilation the more materials that are installed in the sub-floor area the more inhibitive air flow becomes, as the air has to travel around obstacles.

Let us look at the worse case scenario that of central ducted heating. Ducting in these systems are quite large from 150mm to 300mm once these ducts are installed this could lead to subfloor and underfloor ventilation problems as the air flow is inhibited.

If the house is of solid brick construction another airflow obstacle exists, that of sub-walls. Ventilation companies are called in to rectify this problem by installing more flexible ducting and in some cases penetrate through these subwalls to accommodate the ductwork 'usually' of 150mm or 6 inches, which means the penetration has to be larger to accommodate the duct itself. If they do not make these penetrations then they usually run the ductwork through an established opening under doorways. Therefore we are still left with the legacy of the ductwork under the home.

Another consideration with the use of ducting is that in-line fans as shown below incur a back pressure drop as the air is pulled through the duct. Therefore the efficiency of the in-line systems is marginally lost...

Flexible duct has been used in the ventilation industry for years however if alternative ventilation practices deliver a better result should it not be considered?



100mm In-line fan systems @ 44db med Airflow rate approximately 2.6m³ med less back pressure drop.

At Envirofan our approach is cutting edge. When we start with a blank canvas, we finish with one. This is to maximise effective cross-flow in subfloor and underfloor areas without obstructions.

Firstly we can induce dry air from the outside and force it into the underfloor area by the use of solarpowered ventilation systems which is installed on the exterior wall (see pictures below) or by the utilisation of wire mesh vents. We then use bricksized ventilation systems that are established in the subwalls to direct air flow from room to room at a rate of 2.75m³/per minute at 27db, then extraction ventilators which are mounted on the other side of the home preferably on the east or south aspect draw the damp air out. This is the objective of what is deemed cross-flow ventilation. In exceptional circumstances whereby there is no accessible exit point for an extraction system the use of flexible duct to the nearest external point is unavoidable and is used sparingly.

So the conclusion is; for optimum cross-flow ventilation, keep your sub-floor clear and use flexible ducting sparingly.

Get expert advice from Envirofan Ventilation Systems. Sydney, Brisbane, Melbourne, Adelaide & Perth.

If you would like further assistance or if we could assist in fan ventilation installations either way I would be happy to respond to your enquiries.

'If It Is Not Envirofan, Then It Isn't One'