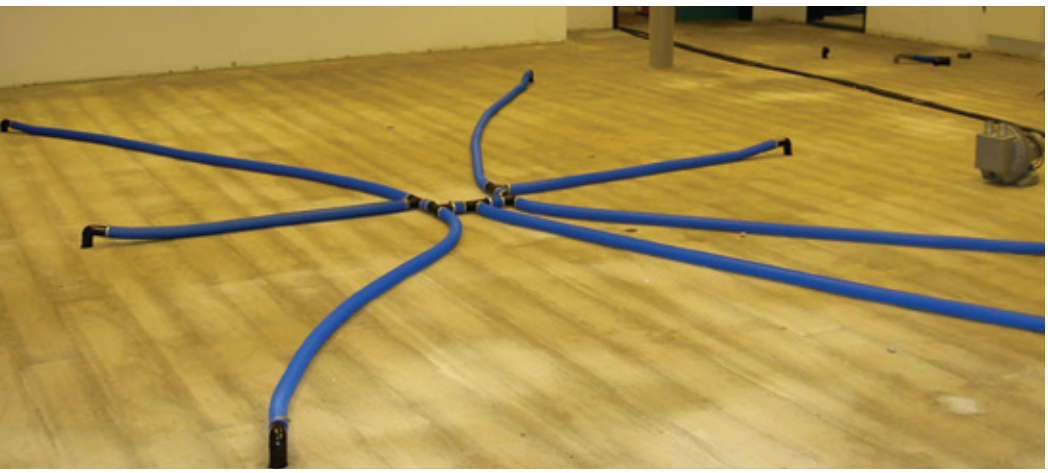
Drying of Sandwich Floors/ Constructions

Always By Your Side.



Overview

Sandwich constructions are structures consisting of several different layers, at least one of which is always insulation. Sandwich floors evolved when concrete replaced wooden beams and brick arch as a preferred construction material. As solid concrete amplifies sound, a layer of insulation is required to absorb the noise - the result was the development of the sandwich floor.

Sandwich constructions are not only used for suspended floors but also for external walls and ground floors. Despite common perceptions, floors are insulated to absorb noise rather than preserve heat and a popular material used for floor insulation is expanded or extruded polystyrene. Modern insulations are now often made of environmentally friendly materials which require extra attention when wet due to their tendency to smell. The most commonly used is a calc-based screed, although concrete, gypsum based 'anhydrite' and asphalt are also popular. The base layer of the sandwich floor carries the load and almost always is made of concrete.

Application

When drying out a sandwich floor, it is best to use a dehumidifier which delivers warm, dry air. Small holes are drilled into the insulation, mostly from above through the screed. Flexible hoses are then used to connect the dehumidifier to the drilled holes, using a high pressure turbine to overcome resistance and improve airflow.

Insulation can be dried in two ways, either using pressure or suction, depending on the material being dried and the circumstances in which the process is taking place. Dry air can be blown through the insulation or the moisture can be extracted by building pressure within the insulation. In both cases, a dehumidifier is used to reduce the vapour pressure of the air in order to allow the water molecules to escape from the wet insulation.

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It is essential that dry air is allowed to flow through the insulation or the structure will not dry fully. This method is only suitable if the structure is free from dust and bad odour or the surrounding area will be affected. Turbines can be used to suck dry air through the structure to remove bad odour; with the wet air being released out of an open window or through a similar escape route. A dehumidifier is then used to dry the air in the room itself.

There are many factors to consider when starting a project:

- Can the floor cover be saved and if so, will the value of the floor cover outweigh any costs involved?
- Can the construction drying process be undertaken within the remit of the agreed budget?
- How quickly can the work be carried out to prevent further disruption to the customer?
- Will the equipment needed cause further disruption?

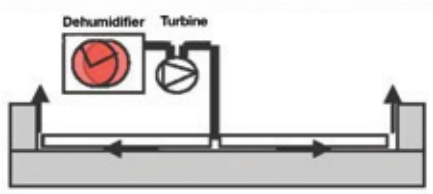
Results

A dry, odour free construction.

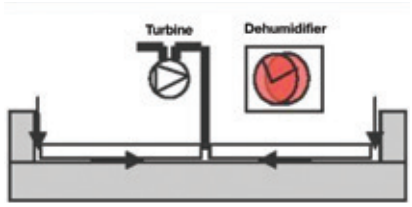
Benefits

The benefits of employing Polygon's methods far outweigh any alternatives. Taking up floors to remove wet insulation is an expensive and lengthy process which creates noise and disruption.

The procedure utilised by Polygon puts an end to cold, wet floors and bad odours as the removal of moisture means that microbes, which create the odour, cannot breed. It also negates any problems associated with causing the chemical breakdown of the glue used to lay carpets. The Polygon technique offers substantial financial savings, is efficient, clean and overall, less disruptive.



Dehumidifying by pressure.



Dehumidifying by suction.