

## Why Underfloor Heating?

### Introduction

UFH can keep a building warm using water that is much cooler than that needed by radiators.

As fossil-fuels become ever more expensive, UFH is able to harness solar energy, geothermal energy and waste energy, while making the most efficient use of fossil-fuels while these are still affordable.

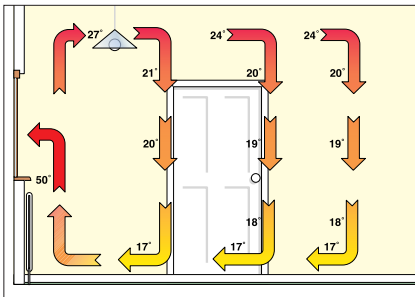
If you install UFH, you will always be able to heat your building.

### Radiator convection

Radiators use the air in a room to transfer energy mostly by convection.

Issues with this include:

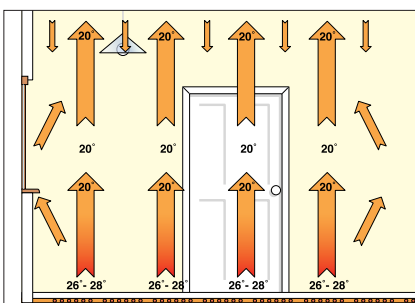
- Heat wasted through windows
- Warm air at ceiling level and cold at floor level
- Dust carried into the air in the room
- Room can become stuffy due to dry reheated air



### Underfloor heating radiation

Heat radiates from the floor providing:

- All-round even heat distribution
- It is completely unobtrusive, creating up to 15% more useable space
- More energy-efficient than radiators
- Safer - very low surface temperatures
- More hygienic - less dust in the air



### Energy-efficient comfort

UFH needs only to warm the floor surface to 26-28°C, which is about the same temperature as the palm of your hand. This can be achieved using water at 40-60°C, much lower than radiators need.

Heat losses through windows, ceilings walls and infiltration, as well as from supply pipes, are all reduced. This provides economy and comfort.

### What's different about Osma UFH?

Many UFH systems are created on site, one room at a time, using pipe and simple fixings. This "craft- industry" approach makes it difficult to achieve high quality in every project. If radiator heating used the same approach, each radiator would be assembled on site, from sheets of metal, valves and brackets, and then painted.

To overcome these limitations and make installation quicker, OSMA Underfloor Heating has developed and patented a range of standard products. With a product-based approach, it is the product that determines power output rather than the skills or experience of the person who installs it, and these products are as easy to install as radiators. Skilled installers are able to work more quickly and a first time installer can achieve a high quality result.

Each OSMA UFH product has been designed using years of on-site experience and to overcome the problems traditionally encountered with craft-based underfloor heating.

### Today's most advanced UFH technology

Products and components to suit every type of floor construction

- Sand/cement screeds and liquid screeds
- Softwood joists and timber I-beams
- Plain and acoustic battens
- Most forms of acoustic and sprung floors
- Raised Access Floors

### The Right Solution

Any UFH system has three constituent parts -

- Components that fit into the floor structure,
- Manifolds that fit on the wall and distribute warm water to each pipe circuit, and
- Room temperature controls.

OSMA UFH has developed the most comprehensive, easy to install components designed to suit each part of a system. These are continuously updated, taking into account the practical experience of specifiers, contractors and installers.

### Building Regulations 'Part L'

'Part L' (2006) is set to reduce energy used by a building by 23-28% compared with 'Part L' (2002). Legislation within 'Part L' (2010) is set to require a further 25% reduction. Examination of Target Emission Rate (TER) and Design Emission Rate (DER) reveals that 'Part L' (2006) is likely to encourage the wide-scale future use of heat pumps to heat buildings in place of fossil-fuel boilers. Heat pumps can work more effectively with high-efficiency UFH than with radiators.

In future, it will not just be a question of installing any form of UFH. High-efficiency OSMA UFH has been designed to be the most effective partner for a heat pump.

### Building Regulations 'Part E'

OSMA UFH includes components that fit quickly and easily into any Robust Standard Detail structure.

### Partnership Working

Following the principles advocated by Egan and Latham, the Company has worked very closely with other major building product companies while developing its product range, particularly with Knauf Insulation, but also with J R Danskin and Junckers®.