

Lewis Plates

Lewis Plates are rolled self-supporting, dovetailed, galvanised steel reinforcement sheets which allow lightweight concrete floors of limited thickness to be laid on (primarily) timber floor framing.



The plates are laid over the joists and nailed or screwed down; the underfloor heating pipe is clipped to them and a screed is then laid on top.

Ideal for use on top of a joisted structure where they help spread the load-bearing capacity of the floor.

Ideal Uses

- On water-resistant floors in rooms such as bathrooms, kitchens, utility and changing rooms, where existing timber boards and joists are to be retained.
- To create sound and fire resistant floors separating apartments
- To create fire-resistant floors for high-risk areas such as museums, computer rooms, archives and storage spaces for inflammable materials

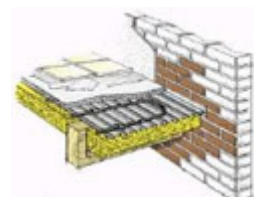
Advantages

- Simple to use due to special rolled profile
- Can be laid directly onto floor joists. Tongue and groove boards can be omitted resulting in savings on floor height and weight
- Enhance heat transfer capacity of underfloor heating
- Extremely fire-resistant
- Provide water resistant structural flooring
- High load-bearing capacity
- Enhanced durability owing to steel composition
- Total floor construction thickness limited to between 36mm and 50mm



Lewis Plates and Heat Pumps

Due to the low temperatures delivered by ground & air source heat pumps, concrete and screed are the ideal combination because low temperature water is effectively dumped into a thermal mass which in turn becomes a heat emitter (turning the building itself into a buffer and



heat sink). Heat pumps typically deliver a temperature of up to 45°C which is perfectly adequate for heating but considerably lower than a conventional system which can yield temperatures of 50°C (solid floor) and up to 70°C (joisted floor). If a heat pump is being used in a timber-joisted floor structure, the use of Lewis Plates on timber joists with screed, will give a temperature of 40°C to 50°C. This is a far better solution to ensure the overall performance and efficiency of the heat pump. The Lewis Plates are laid over the joists with the underfloor heating pipe clipped to them; a concrete screed is then poured on top. When you pour the concrete (screed) over, you achieve a higher thermal mass than if you use a dry sand and cement mix or aluminium plates thus increasing overall efficiency.