

# Floors: different types for different requirements

A floor is a floor, isn't it? FIS technical director **Joe Cilia** talks to four diverse suppliers of raised and access floors in our sector to explore the answer to the question.



One of today's often-specified commercial floors – raised access floors – were first conceived in the 1960s for distributing services to equipment rooms, housing very large mainframe computers. Back then, IBM and the BBC were among the pioneers of raised access floors, which sometimes were no more than sheets of board fixed to battens. Nowadays, raised access floors have evolved to include service ducts for simple cable management, power, fibre optics, voice, data, and heating ventilation and air conditioning.

The height of the under-floor void created is dependent upon the available slab-to-slab dimension and volume, and the type of low-level services. This can be anything typically from 50mm to 1200mm finished floor height.

Chipboard panels with a steel casing are the floors often seen as part of a Cat A fit-out and provide standard office grade performance levels. The steel provides a robust finish which can be used to take finishes using products with a magnetic backing such as timber. Loose-lay finishes can also be installed without the need for adhesives, with some using magnetic backing to tiles, or low-tack adhesives.

Phil Holmes, marketing manager at Kingspan Access Floors, said: "Kingspan offers steel-encapsulated panels with High Density Chipboard cores; however, there are products on the market with different cores such as MDF, calcium sulphate and cementitious cores."

With floors, a decision has to be made very early on as to which

method of specifying you wish to use, based on the requirements of your project and to what standard you require.

A floor system's performance can be measured in seven ways: load bearing (measured in Kilonewtons Kn); void depth and access; water resistance; fire performance; acoustic performance; thermal performance; and suitability for floor coverings.

Lindner Interiors' business development manager, Andrew Hudson, explained: "With many architects and developers wanting to move away from wet screeds within buildings, they are now considering calcium sulphate systems. The Lindner FLOOR and more system comprises modular panels that are manufactured from almost 100 per cent recycled materials and are supplied with pre-formed tongue and groove joints to the panel edges."

Floor loads from 2.5Kn up to 20Kn can be achieved using a single panel process. These can provide a solid platform and ideal base for the laying of hard floor finishes, such as natural stone, porcelain and timber.

Some floors are designed to deal with load, water resistance and sound performance but are not necessarily accessible. These are known as raised floors, with some manufactured from a by-product from coal fired power stations forming panels that can be bonded directly to sub floors or supported by steel pedestals. These systems provide several benefits to the main contractor and client, namely systems can be lighter than screeds, depending on depth of floor; quicker to install, as there are no drying times; and some systems can be supplied with water-repellent mixes, or enhanced acoustic properties, along with load-bearing capabilities of up to 20Kn.

Where Building Regulations ask that floors in fire-fighting lobbies are non-combustible, calcium sulphate systems can meet this performance criteria. There are systems that are impervious to water to ensure the floor will be stable, even under water deployed from sprinkler pipes. There are also systems that can be manufactured with preformed grooves to accommodate underfloor heating pipes.

The increase in high rise domestic construction has seen many uses for raised floors and flooring systems where it is important that they meet current Building Regulations, including Approved Document E (AD E) where sound transference from a floor to the dwelling below must be addressed. This includes impact and airborne sound transference.

Steve Knight, Knauf's business development director, said: "Manufacturers have come up with a number of ways to isolate the raised floor from the structural floor, and a sharp eye on the installation process is key to ensuring the dwelling will pass any site tests carried out under AD E."

One of the more unusual floors is made from recycled Polypropylene (plastic bottles). Keith Littler, national sales manager at Netfloor Systems UK Ltd, commented: "These panels are delivered with a moulded pedestal in place. Reducing the depth to 60mm makes them ideal where height and weight are an issue, such as with off-site and modular construction.

"The benefit of a no-fix system means they are being used in some historic buildings, such as old mill buildings which are being refurbished for commercial use but where glues and adhesives are banned."

All the manufacturers are environmentally conscious and have takeback or recyclable schemes for products at end of life.

Like with all products, there is a variety of options even within a manufacturer's range, so use the expertise available to ensure right product in the right place.

## FIND OUT MORE

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