

Glossary

Air Infiltration: Uncontrolled inward leakage of air through cracks and gaps in any building element and around windows and doors of a building, caused by the pressure effects of wind or the effect of differences in the indoor and outdoor air density

ATIF: Assembly transportation and installation frame. A reusable frame returned to factory after module installation; usually purpose-designed for that product.

Brick slips: Thin cuts of real brick, or in some cases purpose-made brick tiles, commonly used to replicate the appearance of a normal brick wall for both internal and external use.

Building enclosure: The system or assembly of components that provides environmental separation between the interior space and the exterior environment.

BIM: Building Information Modelling is a process for creating and managing information on a construction project across the project's lifecycle. It is a collaborative tool that can be used by the whole project team, clients and end users.

Chilled beam assembly: A complete cooling, heating and ventilation system in one unit. Suitable for many types of application, but most commonly used for offices.

Cladding: refers to components that are attached to the primary structure of a building to form non-structural, external surfaces.

Concrete: A strong and hard substance used for building, made by mixing cement, sand, small stones, and water.

Cross laminated timber (CLT): CLT panels are precision-manufactured to any dimension from single-layer timber boards, then glued together at right angles to form large solid timber panels for walls, floors and roofing.

Cross wall construction: Multi-storey structure where the walls are designed as the means of primary support.

Distribution module: Volumetric services preassembly for vertical risers or horizontal distribution.

Duct: Conduit through which air is transported; normally modified by state of air as in supply duct or return duct.

Dry lining: A system for cladding the internal surfaces of buildings, such as walls and ceilings. Plasterboard is attached to internal faces, creating a smooth surface that paint can be applied to directly.

Envelope: The external walls and roof that form the perimeter or enclosure of a building.

EPS: Expanded polystyrene – the core of the SIP.

Factory Engineered Concrete (FEC): The pre-cast concrete elements of a structure. This includes wall and floor elements, ceilings, staircases, columns and beams.

Field Factory: A facility set up close to the construction site, usually to reduce the need for long-distance transportation of preassembled products.

Floor Cassette: A factory-manufactured panel comprising a series of floor joists joined together with end-joists to form a load-bearing element of floor construction.

Frame/framing systems: Frame typically refers to the structure of a building and may be constructed from many different materials. The term may also be used to describe the supporting structure for a pod or other volumetric unit.

Habitable space: Building space intended for continual human occupancy. It generally includes areas used for living, sleeping, dining and cooking, but does not usually include bathrooms, toilets, hallways and storage areas.

Heating pod: A mini-plant room, typically fully commissioned and ready to go, with modular boiler plant. Smaller units can be wall mounted, whereas the larger units are rig or floor mounted.

Heavy-duty services module (HDSM): Volumetric services preassembly for vertical risers or horizontal distribution. They may contain pipework, ductwork and electrical elements as well as non-services related items like access walkways, grid floors and drylining.

Hollowcore floor: Pre-stressed, pre-cast concrete slab units. The cores can function as service ducts and significantly reduce the weight of the slabs, maximising structural efficiency.

Integrated plumbing system (IPS): Hand-wash basins, urinals and lavatories assembled offsite into units with backboards, taps etc. Many units are designed to be removed and replaced once they have reached the end of their serviceable life.

Lift shaft: Containment for lifts and sometimes also bracing for structural frames. Manufactured offsite, often in pre-cast concrete or steel.

Light duty service module: An assembly of small diameter pipework, cable trays or ductwork for both horizontal and vertical distribution.

Light-gauge steel frame (LGSF): Light-gauge steel frame is an important material for off-site construction. Structural panels assembled from cold-formed galvanised steel sections, used in a wide range of building types and in hybrid situations with timber and other materials.

Mass customisation: The benefits of mass production are combined with systems that offer greater choice for the individual customer, improved control of the whole construction process, and flexibility of assembly options.

Lux: Lux is the unit of illuminance, equal to one lumen per square metre. It is used as a measure of the intensity, as perceived by the human eye, of light that hits or passes through a surface.

Module: Commonly used to refer to volumetric building modules where the units form the structure of the building as well as enclosing useable space. Also sometimes used to describe room modules, which do not incorporate their own superstructure.

Modular (electrical) wiring: A preassembled electrical cabling system usually made up into looms or wiring harnesses to provide the electrical distribution system for all mains power, lighting and controls.

Multi-purpose riser: Multiple-service vertical distribution module, usually constructed from hot rolled or galvanised mild steel and incorporating appropriate building services which may or may not be lagged.

Non-volumetric preassembly: Items that are preassembled, but do not enclose usable space.

OSB: Oriented strand board is a type of engineered wood similar to particle board, formed by adding adhesives and then compressing layers of wood strands in specific orientations.

Off-site Construction: Refers to the part of the construction process that is carried out away from the building site, usually in a factory or in specially created temporary production facilities close to the construction site.

Packaged plant: One or more items of mechanical and/or electrical plant that are combined in the factory to form a transportable unit.

PAM: A preassembled module.

Panel: A generic term describing a planar unit, typically manufactured offsite, which may or may not have a structural as well as an enclosure function.

Passivhaus: Passive house, from the German, is a rigorous standard for energy efficiency in a building, which reduces the building's ecological footprint. It results in ultra-low energy buildings that require little energy for space heating or cooling.

Phase change material: A substance with a high heat of fusion which, on melting and solidifying at a certain temperature, is capable of storing and releasing large amounts of energy.

Plant room module: Packaged or skid-mounted preassembled plant rooms prefabricated in the factory, ready for direct connection to mains services onsite.

Pod: Prefabricated volumetric pod, factory finished internally, complete with building services. Types of pod include bathrooms, shower rooms, office washrooms, plant rooms and kitchens.

Podium slab: Podium slabs are special type of floor system that transfers loads from a steel or wood frame structure above the slab to walls and columns below.

Prewired distribution board assembly: A preassembled distribution board fully internally wired usually complete with female sockets to connect modular wiring, internal components such as Miniature Circuit Breakers (MCB) and surrounding containment.

R-value: R-value is a measure of resistance to heat flow through a given thickness of material. The higher the R-value, the greater that resistance, so the better the thermal insulating properties of the object.

Ring beams: Horizontal supports for masonry walls, made of steel-reinforced concrete.

Risers: Preassembled electrical or mechanical vertical distribution modules designed either to be self-standing structures or fixed to walls.

Roof cassettes: A factory-manufactured panel similar to floor cassettes. For pitched roofs in residential applications they will usually be timber or steel-based SIPs spanning from eaves to ridge.

Service walls: Preassembled dry-lined internal walls incorporating small bore pipework and electrical services.

SIP: Structural insulated panels, or SIPs, are a high-performance building system for residential and low-rise commercial construction. The panels consist of an insulating foam core sandwiched between two structural facings, typically oriented strand board (OSB).

Skids: Transportable frames for carrying standardised preassembled products, mainly building services.

Skinny Module: An assembly of small diameter pipework, cable trays and associated fittings for both horizontal and vertical distribution.

Soffit: An exterior or interior architectural feature, generally the underside of any construction element.

Spatial daylight autonomy: Describes how much of a space receives sufficient daylight. Specifically, it describes the percentage of floor area that receives at least 300 lux for at least 50 percent of the annual occupied hours.

Sub assembly: An assembly of components brought together at either site or in a factory to form completed systems.

Terminal module: A module containing a room terminal unit complete with valves, controls, pipework ductwork and wiring.

Thermal mass: The ability of a material to absorb and store heat energy. A lot of heat energy is required to change the temperature of high-density materials like concrete, bricks and tiles; they therefore have high thermal mass. Lightweight materials such as wood have low thermal mass.

Timber frame: Timber frame building can consist of wall panels, alongside floor and roof panels, which are often referred to as cassettes. These can also be open panel or closed panel.

U-values: Thermal transmittance, also known as U-value, is the rate of transfer of heat through a structure divided by the difference in temperature across that structure. The better-insulated a structure is, the lower the U-value will be.

Useful daylight illuminance: Defined as the percentage of the working year when daylight illuminances on the work area fall within a certain range – typically 100-2000 lux. Below 100 lux artificial light is needed, and above 2,000 lux, discomfort can occur.

Valve assemblies: Valve assemblies prefabricated to individual specification, which reduce onsite installation time and site storage requirements.

Volumetric unit: Either describes units that enclose useable space but are installed inside or on top of a building (i.e. pods) or describes volumetric units that enclose useable space and are joined together onsite to form the whole building without the need for any extra support structure.

Wiring loom: A preassembled collection of cables and connectors (sometimes called Modular Wiring).