

Modular "Spaceframe" Buildings



- Welded steel spaceframe
- UK building regs. compliant
- Fast and cost effective
- 30+ year life expectancy

Modular buildings bespoke built to any size and specification, and ideal for use as office blocks, sales offices, marketing suites, health centres, classrooms, site accommodation and many other applications.

Pre-fabricated to meet all current building regulations, our range of new "Spaceframe" modular buildings provide the perfect time and cost saving alternative to a traditional brick & block structure, and can be built as single or multi-storey, and finished externally in a variety of styles to suit the local environment.



Thermowood clad classroom



Two-storey office complex



Carpet tiles and suspended ceiling

Modular Buildings - Technical Specifications

Benefits of a modular solution

- More cost-effective than a permanent structure.
- Re-locatable - potential to take the building with you if you move to a new premises or place of business.
- Ideal for construction sites, offices, hospital, schools and many more applications.
- Almost indistinguishable from typical site-built properties
- Fast - can be installed up to 90% faster than traditional building methods
- Environmentally beneficial

Structural design and details

The structure is designed and constructed in accordance with the following standards and technical references:-

- BS 5268-2:2002 'Structural Use of Timber'
- BS 5950-2:2001 'Structural use of steelwork in building. Specification for materials, fabrication and erection - Rolled and welded sections'
- BS 5950-5:1998 'Structural use of steelwork in building. Code of practice for design of cold formed thin gauge sections'
- BS 6399-1:1996 'Loading for buildings. Code of practice for dead and imposed loads'
- BS 6399-2:1997 'Loading for buildings. Code of practice for wind loads'
- BS 6399-3:1988 'Loading for buildings. Code of practice for imposed roof loads'
- BS 648:1964 'Schedule of weights of building materials'
- Timber Designers Manual 'Ozelton & Baird'

Imposed Loadings - Floor – 3.0kN/m², Roof – 0.75 kN/m²

Design Wind Speed - Calculated in accordance with BS 6399: Part 2

Fire Rating

- External face of walls - Class 3 or Class 1 surface spread of flame (depending on finish).
- Internal face of walls and ceiling - Class 0 surface spread of flame.
- Minimum 30min Insulation, Integrity and Stability protection (inside to out).

Insulation Values

Walls 'U' = 0.35w/m²k
Roof 'U' = 0.225w/m²k
Floor 'U' = 0.249w/m²k

Internal Ceiling height - 2400mm, 2700mm, 3000mm or 3300mm.

Floor structure – 'U' value = 0.25 w/m² K

Steel floor frame: 150 x 75 x 10mm C-Section Hot Rolled Steel Channel perimeter beams with 125 x 50 x 3mm PFC Galvanized steel floor joists at 406mm centres welded between.

Floor Deck: 18mm V313 Flooring grade moisture-resistant T & G Chipboard glued and nailed to timber joist packing battens.

Insulation: Double layer of 'Ecobrite' foil insulation membrane laid over galvanized steel floor joists with airspace above to underside of chipboard deck.

Floor Covering: Carpet tiles or 2mm welded vinyl.

External walls – 'U' value = 0.35 w/m² K

Timber Framing: 95x35mm top and bottom rails with 95x35mm vertical studding at 400mm centres, with horizontal cross mid rails.

Cladding: Plastic coated steel (Plastisol) bonded both sides to 9mm exterior grade plywood glued and nailed to studding timber to form a stressed skin construction.

Insulation: 90mm glass-fibre insulation quilt fitted in between timber studding.

Vapour Barrier: Single layer of 'Ecobrite' foil insulation membrane is fitted directly onto internal side of walls studs.

Packer Battens: 55mm timber packing battens are fitted on top of 'Ecobrite' insulation to create air cap behind plasterboard internal lining.

Internal Lining: 12.5mm vinyl-faced plasterboard fixed onto timber packer battens, board joints finished with two part white PVC H-section trims.

Skirting & Cornice: White PVC.

Wall Bay to Bay Joint Cover Strips: 12.5mm cream vinyl-faced infill piece for internal flush finished walls.

Roof structure – 'U' value = 0.25 w/m² K

Steel Roof Beams and frame: Engineered steel lattice edge beams duo-pitch with steel angle tie bars. Roof beams connect to 80 x 80 x 4mm RHS cold formed full-height corner posts, which are connected to the floor perimeter beams at the bottom, creating a rigid steel frame construction. Roof and ceiling are created separately with an air space in between promoting cross ventilation.

Roof Deck and Covering: Single layer rubberised roof blanket is bonded onto 12mm plywood which is nailed onto timber roof joists 100 x 38mm @ 400mm centres.

Ceiling Joists and Lining: 12.5mm foil-backed plasterboard fixed onto 100 x 38mm timber ceiling joists @ 400mm centres.

Insulation: 2 layer's of 90mm glass-fibre min slab quilt to roof space above ceiling joists.

Roof Ventilation: Cold deck, continuous strip soffit vents.

Rainwater Goods: Rainwater is discharged directly from the roof into full length PVC square line gutter along each end of the bays. The gutter discharges via PVC square fall pipes to ground levels.

Ceiling Bay to Bay Joint cover Strip: Joint concealed by 12mm thick twice-rounded MDF strip finished with laminated white vinyl to match wallboards, mounted on timber laths.

Fascia detail: Fascia is built onto the ends of the steel columns, and clad with 9mm WBP plywood. The finish is as per the external wall finish.

Doors

External Doors & Frames: Kincroft steel composite security doors with multi-point locking.

Internal Doors & Frames: Joinery grade softwood timber frames with oak-facaded internal flush doors.

Windows

Specification: Double-glazed white uPVC framed, full opening vent, windows size 900mm x 1000mm (WxH) glazed in K glass with neoprene glazing gaskets, trickle vents, and opening restrictors. Window linings white PVC.

External fittings

Walls: 9mm exterior grade plywood bonded both sides with plastic coated steel (Plastisol).

Corner Trims: Plastisol.

Bay Joint Trims: Plastisol.

Plinth Trim: No plinth trim is supplied unless specifically required.

Electrics

Distribution Boards: A T P & N distribution board is fitted in one bay of any modular complex to allow one connection to be made to the new building. All other bays are fitted with individual VE-COS consumer units, which connect back to the distribution board, by either:

(a) 32A plug and sockets, which are generally used on smaller complexes with low electrical Loading.

(b) Hard wiring each consumer unit back to the distribution board, which is used on larger complexes with higher electrical loading.

Installation: Each module is factory fitted with lighting, power and heating all protected by MCBs (miniature circuit breakers) within the consumer unit.

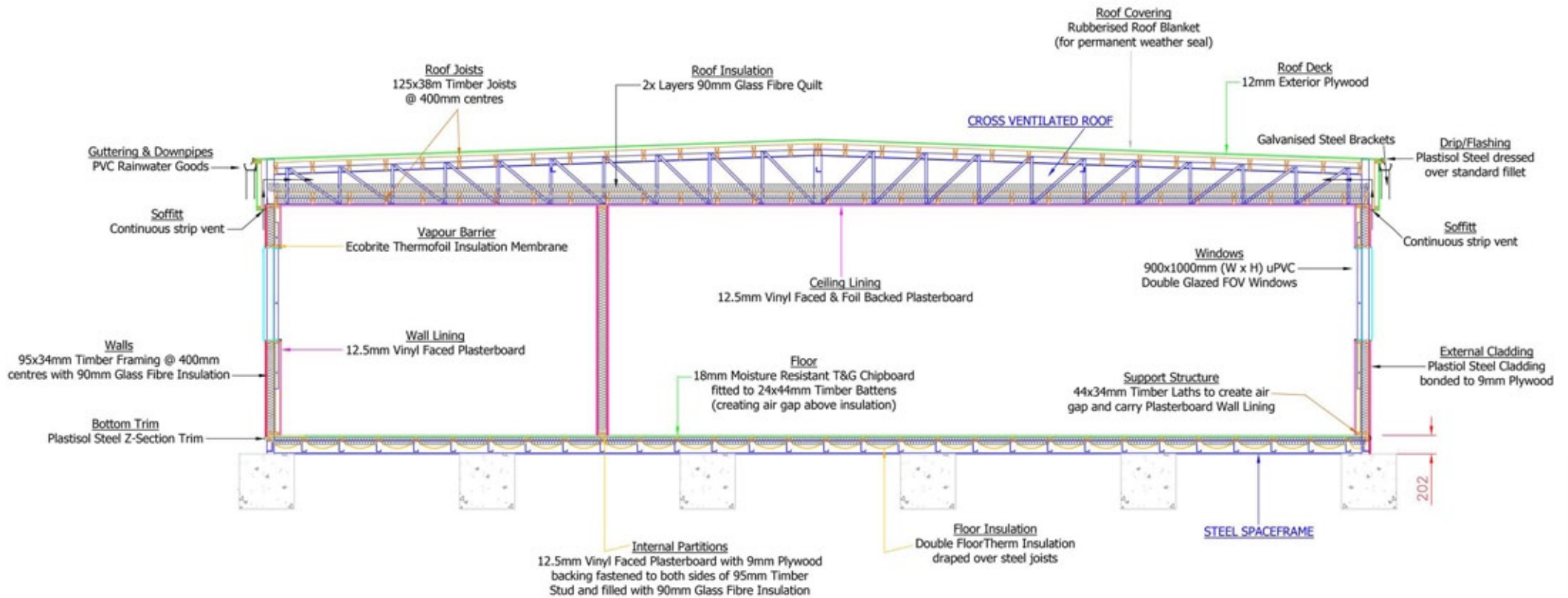
Certification: All modules are pre-tested to comply with current regulations, and are fully certified accordingly.

Variations from this 'Standard' specification for specific units will be noted in our quotations for same.

Due to the company's policy for continuous improvement to its product range, we reserve the right to change and/or alter specifications without prior notice. Clients will of course be notified accordingly.

Revised - 01.05.18

Modular Buildings - Cut section drawing



U-Values
 Roof Construction - 0.225 W/m²/K
 Wall Construction - 0.340 W/m²/K
 Floor Construction - 0.200 W/m²/K
 Windows - 0.180 W/m²/K

Designed to meet UK Building Regulations