

CASE STUDY - QUANTUM EVOLVE

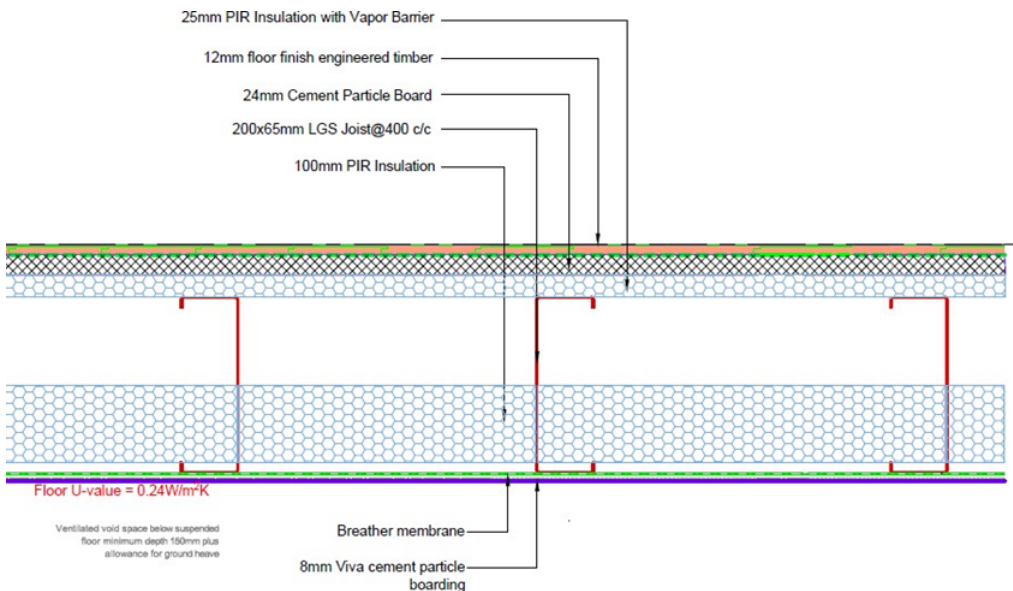
Quantum Evolve is a Malaysian based company with over 30 years of experience, previously specialising in shop fitting, design, construction and project management.

Following a rebrand, they entered into the residential industry and have now obtained a [system approval with Premier Guarantee](#) for their Steel Frame Modular system, up to three storeys.

The structure is a steel frame with a variation of cladding, brick slip or render fitted. The modules are wrapped in the factory for protection during delivery, and are delivered, installed and fully finished on site by the manufacturer.



Ground Floor Construction



Ground floors are to be suspended steel floor cassettes, made up of Light Gauge Steel Frame Joists with 100mm PIR insulation between the steels and 25mm PIR insulation above with a Vapour Barrier.

Above this is 24mm Cement Particle Board and then 12mm floor finish engineered timber. On the underside of the floor cassette will be the breather membrane and 8mm of Viva CPB boarding.

The external finishes are applied to the base of the external wall at ground floor level and Telescopic vents are installed through this to achieve a minimum of 1500mm² per metre run of external wall. There is a ventilated void beneath the structure of a minimum 150mm.

Intermediate Floors/Ceiling Section

First floor cassette consists 200mm C section light gauge steel joists with 200mm RWA 45 Rockwool insulation between. Above this is 2 layers of 24mm Viva cement particle board, 12mm engineered timber floor finish. On the underside of the steels, is 8mm Viva cement particle board.

The Ground Floor ceiling cassette is made up of Weather proof membrane over 11mm OSB/3, over, over 2 layers of 12.5mm Boral Firestop plasterboard.

External walls

The External walls are made up of 100mm x 45mm C section light gauge steel studs with 100mm of Rockwool insulation between. The walls are constructed using 75mm Starken reinforced wall panels fixed using galvanised screws into the Light Gauge Steel studs.

From the external face WBS render system or WBS brick slip system, over 100mm RW6 Rockwool insulation above DPC level. Beneath this is the WBS cavity spacer track over the breather membrane, which lies over the 13mm Viva cement particle board. (Please see diagrams below).

