



Brick type: Yorkshire Red Blend
Block type: Thermalite Shield
Construction method: Prefabricated Masonry Panels

Project Architect: Nelemor Projects
Contractor: Irvine Whitlock
Location: Burbage, Leicestershire

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Lawn House, a Code Level 6 ecohouse in Burbage, Leicestershire, is the first private development in the UK to be built using prefabricated brick and block cavity walls.

The designer, Penny Shankar, wanted to develop a zero carbon brick and block house and approached Forterra to discuss whether prefabricated panels could offer the benefits of off-site construction while helping to deliver a Code Level 6 building.

Although single leaf prefabricated masonry and composite concrete panels have been used for many years, prefabricated cavity walls – where the two leaves are made and tied together in the factory – are still a new concept.

Due to the ground breaking nature of the project it was vital that the specialist brickwork contractor had the necessary experience and expertise to deliver the exacting requirements. As such Irvine Whitlock, Forterra's brick and block contracting division, was chosen to construct and install the panels at Lawn House.

Each tailor-made panel used in the unique development consists of a high strength wirecut facing brick, insulation and a 100mm Thermalite block inner leaf, bonded together with an extremely strong modified mortar.

Forterra's Yorkshire Red Blend light textured bricks were chosen to meet the design criteria and blend in with the existing architecture in the area.

Twenty panels were used weighing up to seven tonnes each and measuring up to nine metres in length – all of which had to be constructed, lifted and transported to site and installed without any damage.

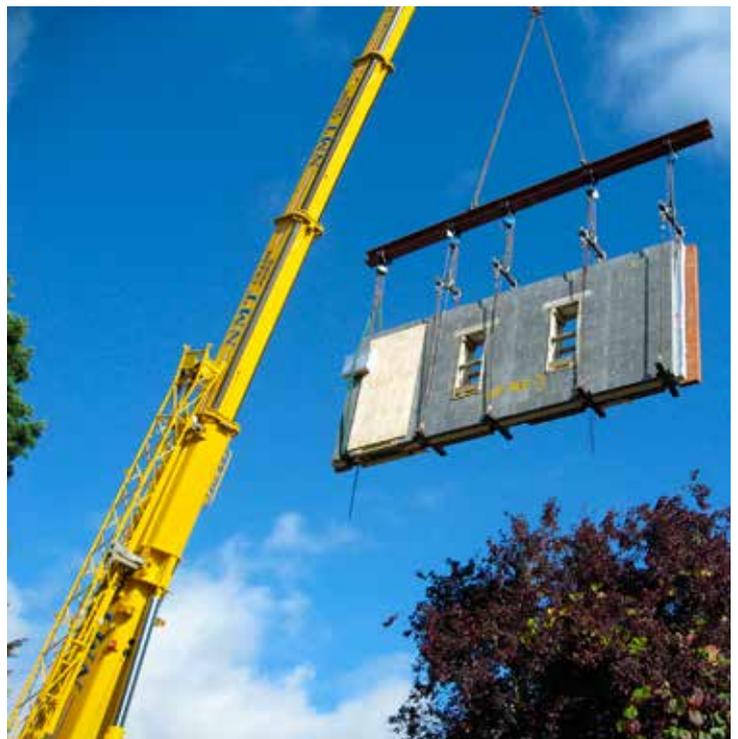
The panels feature 5mm joints rather than the standard 10mm and were constructed at Forterra's nearby Stewartby brick works.

The project is also the first example of a two storey prefabricated masonry house with continuous brickwork in the UK. The quality and accuracy of the installation is such that no connection joint is visible between the ground and first floors.

The result is a house that brings together the latest developments in off-site masonry construction, thermal mass and natural ventilation.

Inside the house a number of sustainable features and technologies have been used including an innovative super-insulated thermal store, greywater and rainwater harvesting, and a sustainable urban drainage system. In addition, Lawn House is one of the only domestic properties in the UK to feature solar photovoltaic (PV) panels across its entire south facing roof.

Penny Shankar said of the project: "Lawn House shows what can be achieved if you are willing to embrace new technology. The quality of the brick work is excellent and the speed of installation gives an indication of how quickly and efficiently mass housing could be constructed in the future using Forterra's prefabricated cavity panels."



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