

MMC trials held across 105-house development



The latest scheme of a 1000-home major housing contract is being built using a mix of innovative modern methods of construction (MMC) supplied by Nuspan Flooring and Roofspace Solutions. Together, the two solutions will help to speed up overall delivery of the phase compared to traditional methods.

Lovell, the leading partnerships housing expert, is delivering a major housing project on behalf of the Borough Council of King's Lynn and West Norfolk. The current construction phase began in October 2020 at the Nar Ouse Regeneration Area (NORA), which encompasses plans for 105 two- and three-bedroom properties for affordable rent, private rent shared ownership and market sale.

Lovell began the initial phases of the development with traditional methodologies, such as masonry superstructures, before opting to trial an MMC approach for the current phase.

This includes 105 of Nuspan's precast insulated floors, a system that offers a reduction in labour of up to 83 per cent and no onsite waste. The system is also five times quicker to install than traditional block and brick floor foundations – when calculating the time taken to obtain a structural floor, from golden brick to superstructure (approximately one plot a day for block and beam vs six plots a day for Nuspan).

These will be combined with 24 i-House™ units from Roofspace Solutions, which speed up construction to watertight stage by 35-40 per cent, building from the slab up to the roof trusses within five days on an average 3-bedroom house.

Lovell chose to trial these MMC products due to the higher standards of design quality provided, alongside the sustainability benefits and



reduction in waste typically associated with MMC. What's more, any success achieved in the project could act as a blueprint for widespread rollout of MMC across future Lovell developments.

Building better, quicker

Nuspan has delivered MMC floors on every NORA plot constructed to date. They comprise insulated precast concrete units (IPCU), which combine structural-grade reinforced concrete bonded to high-performance expanded polystyrene (EPS). On this site, all floors have been finished with a structural screed.

Designed and manufactured bespoke to the requirements of each house type, Nuspan's floors provide an offsite solution to traditional block and beam suspended ground floors. Typically, they are intended for new build residential properties and smaller-scale commercial buildings.

Each plot's floor can be installed in as little as one hour, providing a safe platform for follow-on trades to move in straight away.



Meanwhile, Roofspace Solutions i-House uses a bigger variant of the aircrete block, which are lifted by crane and assembled in a similar sequence to a timber frame build. This results in a much faster construction process than a traditional build.

Elements are designed to be craned into place onto an adhesive bed on standard foundations. Blocks are joined using thin-joint adhesive, providing an extremely airtight finish.

Crucially, the homes are constructed from the slab up to the roof trusses in only five days. This has benefited Lovell's construction programme, allowing internal trades to begin their work sooner than with a traditional build.

Intended for domestic property construction of up to three storeys, i-House consists of inner leaves of external cavity walls, separating walls, floors, lintels, cavity closures, insulation and roof trusses, with the inclusion of soffit and fascia for the internal skin of the property.

The off-site manufacture of both solutions and the construction of larger elements prior to site delivery creates less waste and dust for workers. This results in a safer and cleaner working environment, with workers exposed to fewer dangers and hazardous materials.



Success of the trials

Michael Saunders, Operations Manager at Lovell, said: "This project demonstrates that more exacting standards are achievable with off-site construction methods. The approach also helps us to combat current industry challenges such as strain on the supply chain and skills shortages. Success in this trial will mean that Lovell and our client will be able to make more informed decisions about MMC investment on our future developments."

Graeme Reed, i-House Operations Director, said: "Roofspace Solutions and Nuspan are greater than the sum of our parts. Individually, we create products and solutions that address a need in the construction market, and help to speed up housebuilding.

"Together, those benefits are multiplied, allowing the contractors and developers to reap the associated benefits such as cost savings, increased safety and a significant reduction in construction time."

Helen Wildin, Sales and Marketing Manager from Nuspan, said: "This collaboration demonstrates what can be achieved when the industry works together. It also highlights the potential of using MMC to speed up construction – sustainably – on the scale we need to meet the huge demand for housing."

To find out how Nuspan Flooring's offsite solution can be incorporated into your project, call (01482) 810445 or visit www.nuspan.co.uk/contact-us

Roofspace Solutions has been part of the Saint-Gobain Group since 2018, as part of its Off-Site Solutions division. For more information on i-House, visit www.roofspacesolutions.co.uk/i-House