Innovative system
Acceptance Certificate

Issue date:	14/03/23
Reference number:	3630
Issue:	02
Innovative System Owner:	Legal & General Modular Homes Unit 1, Hurricane Way South, Sherburn In Elmet, Leeds, LS25 6PT
Innovative System Name:	NPD2.0
Generic form:	Volumetric

NHBC Services Ltd has reviewed the following information (the System Manual) related to the Innovative system supplied by the Innovative Product Owner:

- Legal & General Modular Homes NPD02 System Manual Rev P09 17.07.23
- Legal & General Modular Homes NPD02 MMC Manual Rev P03 27.08.21
- Legal & General Modular Homes NPD02 Structural System Manual Rev C01 23.12.20

Relying on the information provided by the Innovative System Owner, NHBC Services Ltd considers that the Innovative system can meet NHBC Standards.

Additional requirements must be met in order for a new home to qualify for Buildmark cover. Buildmark cover for new homes will only be issued to Builders or Developers in accordance with the latest version of the NHBC Rules (a copy of which can be found at www.nhbc.co.uk).

This acceptance certificate is valid until such time as it is no longer published or authorised by NHBC. Readers are advised to check the validity and latest issue number of this Certificate by either referring to our website at www.nhbc.co.uk/accepts or contacting NHBC directly.

Issued by:

Technical Innovation Manager

NHBC Services Ltd

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Description, Scope and intended

The Legal & General NPD02 system is a hybrid concrete and steel volumetric system comprising of apartment and ancillary area modules, corridor, and roof cassettes.

The volumetric module's primary structure comprises of pre-cast concrete ribbed floor slabs with a hot rolled structural steel frame composed of 100mm x 100mm x 8mm SHS columns, 150mm x 100mm x 8mm RHS and 100mm x 80mm x 6mm RHS header beams and 5mm x 150mm Flat steel cross braced bays. Pre-insulated light gauge steel infill stud wall frames and ceiling cassettes are installed within the structural SHS skeleton to form the complete module. For apartment modules external sheathing boards, internal linings, windows, doors, and internal and external membranes are all installed in the factory. These modules and fitted out with fixtures, services, and internal finishes. The standard size of each of the modules that form the apartment is 3150x6300mm (nominal). Ancillary modules will take the same form but will not be internally finished to allow installation of services and final linings and finishes on site. All ancillary modules consist of one typical module, the standard size of the module is the same as a single apartment module (3150mm x 6300mm).

Modules are stacked vertically with steel columns interrupted by the concrete slabs of each module. Horizontal connections are made through steel plates installed on site between modules on the tops of columns. For upper stories, steel cones fixed to the underside of the slab initially guide the module into place onto the columns of the module below and bolted connections are made passing through the slab and column top plate.

The modules are sited on site installed foundations to a project specific design. The system relies on a precast concrete central core for stability. The roof and external cladding finishes are installed on site to a project specific design.

Extent of review for NHBC Warranty on NHBC Registered Sites

NHBC Services Ltd has undertaken a technical review of the System Manual as set out in line with the NHBC Accepts Technical Document for Innovative systems.

The NHBC Accepts Service is intended solely to provide confidence that the Innovative system meets NHBC Standards and is not intended as evidence of performance for any other purpose. Appraisal of the Innovative systems against building regulations is not carried out as part of this Service.

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Exclusions and Limitations

This Acceptance Certificate is made out solely to the System Owner. To the fullest extent permitted by law, we do not accept or assume responsibility to anyone other than the System Owner arising out of, or in connection with, this Acceptance Certificate.

Exclusions and limitations are set out in the System Manual. Additional considerations in the use of the Innovative system include:

- The system is limited to 5 storeys in height
- The system is only suitable for use in buildings with a precast concrete core providing building stability, subject to a project specific design
- External cladding is limited to a handset brick or concrete block cladding only with 'enhanced' fire barriers to any openings or penetrations to the external wall
- The system is not applicable to sites with a characteristic value of snow on the ground (Sk) exceeds 0.6 kN/m2 as defined in BS EN 1991-1-3:2003 + A1:2015
- The system is not applicable to sites with a peak velocity pressure (qp(z)) exceeds 1,0 kN/m2 as defined in BS EN 1991-1-4:2005 + A1:2010, unless sheltered. Provision within the Eurocode to account for topography, orography, wind direction and sheltering maybe used to determine site specific wind loads
- Site specific aspects of the construction will need to be considered for each development, particularly in relation to foundations, subfloor and external groundworks, roof structure and finish, glass in areas of risk and SAP calculations in respect of the services installations
- Items to be designed/verified on a project specific basis include foundations, precast concrete core (providing building stability), balustrades, roof deck/finishes, balcony design/vibration verification and connections to precast concrete core
- Projecting elements such as canopies, sunshades and Juliet balconies are not included within the scope of the system