



Innovative system Acceptance Certificate

Issue date: 14/01/22
Reference number: 3645
Issue: 01
Innovative System Owner: Malcolm Allan Housebuilders Limited
Castle office, Castle Farm,
Kintore, Aberdeenshire,
AB51 0XR.
Innovative System Name: XD-1 Wall Elements
Generic form: Panelised – Precast Concrete

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

- Malcolm Allan Housebuilders Precast Concrete Products – XD-1 Wall Elements System Manual, Issue 7
- Malcolm Allan Housebuilders Precast Concrete Products – XD-1 Wall Elements Installation Manual, Issue 6

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 Malcolm Allan Housebuilders XD-1 Wall Elements System is primarily a structural insulated sandwich external wall panel, consisting of a precast reinforced concrete loadbearing inner leaf, insulation layer and a precast reinforced concrete external facing panel. The inner and outer leaf panels are tied together using Schöck Isolink GFRP thermal connectors. Single leaf precast reinforced concrete wall panels are also supplied for use in forming internal loadbearing, garage walls and compartment walls. The external panels are finished with a proprietary render system which may be installed in the factory or on site.

The panels are fixed to the substructure using retaining L brackets to a project specific design. Vertical joints between adjacent wall elements are formed using the Halfen HEK bolted connection system, which are cast into the edges of the inner concrete leaf. Horizontal joints are formed using vertical threaded reinforcing joint bars and sealed using a thixotropic grout. Lifting and erection anchors are cast into the panel in accordance with manufacturer's instructions. Panels are restrained at floor and roof levels.

The external panels are pre-fitted with glazed units, specified and designed on a project specific basis.

The system is intended for use in conjunction with non-loadbearing internal wall panels, timber or I-joint intermediate floors and timber roof structures to form the completed home.

The system is suitable for use as an external loadbearing and facing wall in residential houses, up to a maximum of two storeys in height. The system is only for use in Scotland and only where Malcolm Allan Housebuilders are the registered builder and developer. The system may only be used 500m or more from the shoreline.

The panels are subject to project specific design with each project requiring additional specification documentation to include:

- Concrete mix design
- Connector design
- Insulation specification and thickness
- Concrete wall thickness to meet structural design requirements
- Specification of external wall finishes
- Project specific lifting, storage, installation, and propping arrangements

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.



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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.

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 has been assessed for use in Scotland only
- The system may only be used 500m or more from the shoreline
- The system may only be used where Malcolm Allan Housebuilders are the registered builder and developer