21st December 2023

Re; Proposed New Dwelling - Slates Farm, Kilmacolm

Proposed Construction Type Sustainability Statement

Structural Build Method – Insulated Concrete Formwork (ICF) with Izodom ICF from Econekt

The proposed use of the Low Energy build system from Econekt currently comprises of the Izodom insualted foundation system to all ground bearing slab areas along with the low energy ICF wall form to all external wall areas, finished with an open cell airtight insulation to the roof space along with triple glazed timber windows and doors. As a standard this proposed build could achieve;

- U values to the slab areas of 0.13W/m2K (improving on the Passivhaus minimum standard)
- U values to the external wall areas of 0.15W/m2K (achieving Passivhaus standard)
- Air changes of less than 1 ACH at 50 pascals, controlled by a MVHR system
- High levels of thermal mass
- Complete thermal bridge free construction.

The Econekt structural system with Izodom ICF is a fully Passivhaus certified building system used throughout Scotland, the rest of the UK and wider Europe. The system is used on some of the most sustainable builds as one off homes and affordable housing developments (inclusive of Inverclyde at Earnhill Road, Greenock) via the key benefits of guaranteed insulation levels, low impact construction with a low carbon manufacturing process. Izodom building materials are recognised as a truly sustainable build method having been awarded full Passivhuas Certification from the Passivhaus Institute in Germany.

The Izodom materials have been demonstrated to show a decrease in Co2 emissions by over 51% and a reduction in accumulated energy by over 11% when compared to more traditional masonry and standard insulation build methods.

ICF as a building method demonstrates its commitment to sustainability with improved thermal performance (easily achieving Passivhaus standards as the per the Scottish Governments desired minimum standard), superior air tightness (aided by the removal of thermal bridges) and waste reduction. The life cycle assessment, when compared to standard building materials, shows that the in use operation of an ICF build's environmental impact is dramatically reduced due to thermal performance, air tightness and subsequent reduction in required energy use – in turn reducing the demand on fossil fuel reserves.