



Case Study

Retrofit for the Future, Passivhaus Pilot Warwickshire Orbit Heart of England, part of Orbit Group

High specification SolarthermPlus® windows were used to bring a 1940s former Council house up to Passivhaus standard.

Housing Type: Affordable Housing

Project Size: 2 storey semi-detached houses

Product Specification: SolarthermPlus® 70mm Tilt & Turn windows extruded to BS EN 12608 class 'A' wall thickness rating. 44mm Triple glazed super argon gas filled units with Planitherm One and low iron glass. The frames delivered a 'G' factor of 0.64, meaning that 64% of the heat striking the window from outside will be transmitted through to the occupants. The Passivhaus whole window 'U' value of 0.8W/m²K was complimented by a centre pane value of 0.6W/m²K. The frames were all BS7950 Kitemarked to meet the specification for enhanced security performance of windows for domestic applications.

Measured Benefit: SolarthermPlus® is extremely cost effective as the 0.8W/m²K is achieved without using hugely expensive krypton gas filling. In line with the Passivhaus principle, SolarthermPlus® was chosen as a locally-sourced alternative to products that would have to be imported from Europe. SolarthermPlus® windows contributed to the 'Fabric First' refurbishment of these dwellings, transforming the living environment for the occupants. The heating costs are expected to drop by 85%!

Complexity: These houses are believed to be the first Wimpey no-fines construction to be refurbished to the Passivhaus retrofit standard (EnerPHit) in the world! No-fines is notoriously difficult to install windows and doors into in a refurbishment situation.