



INTERSERVE PASSIVHAUS HEADQUARTERS

REHAU GROUND-AIR HEAT EXCHANGER & REHAU GENE[®] WINDOWS

REHAU SPECIFIED IN PASSIVHAUS CERTIFIED OFFICES

INNOVATIVE REHAU AWADUKT THERMO & REHAU GENE[®]

The REHAU AWADUKT Thermo ground – air heat exchanger has been installed in only the third office in the UK to be fully certified to Passivhaus standard.

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Because Passivhaus construction focuses on making the building as well insulated and air tight as possible, specifying the right ventilation solution is essential. In conjunction with environmental building services consultants Couch Perry & Wilkes, Interserve chose the REHAU AWADUKT Thermo system because it was appropriate for the compact site and was more cost effective than a borehole solution.

The two storey building will provide 680m² of accommodation. A 21m x 12m pipework array has been laid adjacent to the building beneath ground which will eventually become the car park. 250m of REHAU's DN200mm collector pipework has been installed at an average depth of 2m along with 24m of DN400mm header pipe to deliver tempered ventilation air into the building pre-cooled in summer and pre-warmed in winter.

The grid feeds directly into a plant room located at one end of the building where it is connected to a MVHR unit before the air is distributed around the building.

The REHAU AWADUKT Thermo system uses the natural temperature of the earth at a depth of 2m to pre-warm or pre-cool incoming air. Optimised polypropylene pipework maximises the heat transfer which takes place so that in summer incoming air can be cooled by up to 14° C and in winter it can be warmed by as much as 9° C, achieving a Coefficient of Performance of around 20.

The system has particular benefits for an air tight building such as this one because it incorporates an integrated antimicrobial layer made from silver particles which eliminates the risk of microbial growth or musty smells.

The new building has no gas fired space heating and relies for its heat on solar gain from its south facing aspect and from the tempered air delivered via the AWADUKT Thermo and MVHR systems.

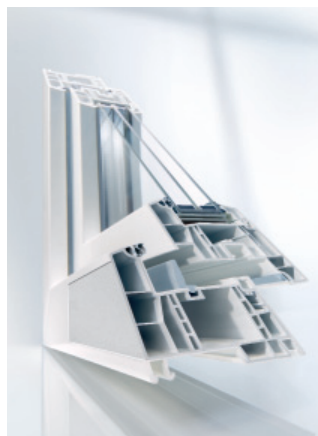
A small heat pump is in place to provide additional warmth in winter if required.

REHAU has also provided the triple-glazed fenestration solution for the building with 27 of its new REHAU GENE[®] windows installed across the south of the building. These Passivhaus certified windows achieve a U-Value of just 0.8W/m²K. using a six chamber system extruded from a new high-tech fibre composite material branded RAU-FIPRO[®].

The new building has been constructed using highly insulated blocks with concrete infill, pre-cast concrete beams to provide some additional tempering, and is clad in timber to increase the insulation performance.

When it opens in August 2011, it will be the new regional office for Interserve and will serve as a showcase for Passivhaus design as well as allowing Interserve to evaluate the effectiveness of the various design solutions.

Architects on the project are CPMG architects and the developer is Raynsway Properties.



UK & IRELAND SALES OFFICES

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