



## REHAU GROUND-AIR HEAT EXCHANGER

AWADUKT THERMO

ARDS BUSINESS CENTRE, NEWTOWNARDS

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REHAU has completed the first commercial installation in Northern Ireland of its environmentally friendly AWADUKT Thermo ground air heat exchanger.

The controlled ventilation system has been installed in a new development of serviced business units at Ards Business Centre in Newtownards, near Belfast. It exploits the natural temperature of the earth to provide pre-warmed fresh, filtered air in winter and pre-cooled air in summer. The system was proposed by M&E consultants Bennett Robertson after extensive research of low carbon cooling solutions for the development.



CIBSE Low Carbon Consultant Gary Bennett of Bennett Robertson explains: "Our client wanted an environmentally friendly, comfortable building with low energy and maintenance costs. We considered the AWADUKT Thermo system to be an elegant and simple solution to the anticipated solar overheating for the East and South facing units in the development.

"We are using the system in conjunction with conventional tempered air handling units and night cooling: the system simply replaces conventional fresh air inlet ductwork and louvers. Bennett Robertson will be monitoring the performance of the system and occupant satisfaction over the first year of operation and comparing the AWADUKT system with split AC and VRF to validate the carbon savings."

It relies on a network of polypropylene pipes laid at just 1.5m below ground where the earth's temperature is a constant 8-12°C throughout the year. Fresh air is drawn through the pipes via an air inlet and the solid walled poly-



propylene provides excellent heat transfer between the ground and the air. By using the system, it is possible to raise the temperature of air taken in by up to 9K in winter and reduce the temperature by up to 14K in summer.

The REHAU pipework is manufactured with an integrated antimicrobial layer made of silver particles. This prevents microbial growth on the inside of the pipe which would otherwise cause musty smells.

At Newtownards, it was installed by contractors White Underfloor Heating from Strangford, County Down, with technical support provided from REHAU's regional sales offices in Dublin and London. Jamie White, Director and founder of White Underfloor Heat-

ing, which provides low energy heating solutions, added: "Over the past two to three years, we have found that more and more of our clients are searching for economically viable means of reducing their energy consumption, **AWADUKT Thermo provides a simple, low-maintenance, hassle free means of achieving this and as such is increasingly becoming the technology of choice for new buildings.**

In combination with a heat-recovery unit, **AWADUKT Thermo is expected to significantly reduce the heating and cooling costs for the business units.** An additional benefit for the clients is the reduced need for natural ventilation – such as opening windows – which will improve security and reduce noise levels and draughts.



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