THE LAKES BY YOO
LECHLADE, GLOUCESTERSHIRE
REHAU AWADUKT THERMO
AT THE LAKES BY YOO

REHAU’s AWADUKT Thermo ground – air heat exchanger system is an integral part of the renewable energy solution developed by Greentec Systems for the prestigious The Lakes by Yoo second homes development near Lechlade in the Cotswolds.

The development of 160 contemporary, lakeside homes and hotel and leisure facilities is designed by The Raven Group in collaboration with the Yoo Design Studio, founded by Philippe Starck.

The first home to be equipped with the energy efficient Greentec system harvests heat from the sun, the ground and the lake water to give the home a near zero carbon footprint – yet it will have a healthy climate control system that costs just pence per day to run.

Air for the Heat Recovery Ventilation system is drawn in through a system of REHAU AWADUKT Thermo pipes laid 1.5m below the foundation of the building, where the natural temperature of the earth is a constant 8–12ºC. Four 18m long pipe runs of 200mm pipework have been installed in a Tichelmann layout with a 315mm header pipe.

On the hottest summer days, this has the effect of pre-cooling the incoming air by up to 14ºC and in winter of pre-heating it by as much as 9ºC – so with minimal running costs, the energy required to maintain a comfortable temperature in the home is reduced by up to 20%.

The inner surface of the pipe incorporates anti-microbial particles of pure silver and the optimised polypropylene material used also optimises the heat transfer between the ground and the air flowing through the pipe.

The Greentec System installed has a Danfoss heat pump at its heart, it produces hot water, heating and cooling by circulating fluid through 800m loops of REHAU’s RAUGEO PE100 polymer pipework laid at a depth of 7m on the bed of the lake. The lake offers an ideal thermal environment since water is an excellent thermal conductor.

Alongside REHAU AWADUKT Thermo and RAUGEO, Greentec also specified specialist REHAU pipework for the underfloor heating and plumbing systems.

Rooftop solar thermal panels and photo-voltaic panels integrate into the eco-friendly system to further harvest the sun’s energy and reduce running costs; Greentec estimates that each house will use 60–80% less energy than a conventional property equipped with a gas boiler and air conditioning system. And, under normal running conditions, there will be no local CO2 emissions to impact on the country retreat feel of the environment.

REHAU’s AWADUKT Thermo was shortlisted in the Innovative Building Products category at the recent Grand Designs Awards and is being used extensively in the new build homes sector.

Garry Woods, Greentec’s Managing Director, said that REHAU’s innovative AWADUKT Thermo is an essential addition to Greentec’s renewable energy portfolio and perfectly complements the REHAU range of building solutions.

UK & IRELAND SALES OFFICES

London, REHAU Ltd, The Building Centre, 25 Store Street, London WC1E 7BT Slough, Units 5 J & K, Langley Business Centre, Station Road, Langley, Slough SL3 8DS Phone: 01753 586500 Fax: 01753 586501 Manchester, Brinell Drive, Irlam, Manchester M44 5BL Phone: 0161 777 7400 Fax: 0161 777 7401 Glasgow, Phoenix House, Phoenix Crescent, Strathclyde Business Park, Bellshill, North Lanarkshire ML4 3NL Phone: 01698 503700 Fax: 01698 503701 Dublin, 9 St. John’s Court, Business Park, Swords Road, Santry, Dublin 9 Phone: 00353 (0)1 8165020 Fax: 00353 (0)1 8165021

www.rehau.co.uk 07.2009/rowy