



SHORTS Environmental

Low Carbon Building Services

PROJECT: Riverview School
CLIENT: Surrey County Council
CONSULTANT: DHP Property Consultants

A SURE START WITH GAS ABSORPTION HEAT PUMPS

As part of the Government's national Sure Start programme, Surrey County Council took the decision to develop the site at the Riverview C of E School, in West Ewell, to include a new Children's Centre. Children's Centres are the key provider of local services within the Sure Start programme, supplying early education for 3 and 4 year olds, quality childcare, after school activities and child health and family support services.

The development of the Riverview Children's Centre was a result of collaboration between Surrey Council's Early Years and Childcare Service, DHP Property Consultants and the school itself. The new building provides around 350 sqm of new accommodation including nursery daycare spaces, seminar room, consulting rooms, community spaces and administration services.



The remit for the building service consultants, DHP of Weybridge, was to design the building to have a BREAM Schools rating of Very Good. To achieve this, they included a number of features such as better than current building regulation U-values, passive solar measures, passive and natural ventilation measures, efficient heating and lighting systems and controls plus an all important element of renewable energy technology.

Having considered various heating options at feasibility stage; such as condensing gas boilers and electric heat pumps, it became clear early in the design stage that the most efficient renewable solution would be to incorporate a 35kW Robur Air Source Gas Absorption Heat Pump coupled with an Osma underfloor heating system. This was the most suitable solution in all aspects of the performance and environmental requirements. Control of the system is via three Trend IQ3 controllers primarily to optimize heat pump water outlet temperature (according to external temperature) and make effective use of system thermal lag.



Robur Gas-Fired Heat Pumps from Shorts Environmental are one of the most efficient and convenient heating products around. They are used all over Europe and offer major environmental and financial benefits to UK building users:

- They can produce hot water for heating or DHW with a seasonal heating efficiency of 140%
- They can provide up to 40% CO2 and running cost savings over condensing boilers and electric heat pumps.
- They do not contain any environmentally harmful F-gases
- They are available as air source, ground source or water source models.



DHP's Manfred Krall, who was responsible for the building services design at Riverview said "We opted for the Air Source Gas Absorption Heat Pump at a very early stage in the design process because their use of renewable technology and high efficiencies mean that their CO2 footprint is typically 40% less than that of a condensing boiler or an electric heat pump. The additional bonus to the school is that their heating system's annual running costs will also be 40% lower". Krall continued "Although the Gas Absorption Heat Pump can produce water for heating at temperatures upto 65oC, we decided to improve its seasonal performance even further by integrating it with a compensated low temperature underfloor heating system. As a result we are expecting seasonal efficiencies of over 150%, which speaks for itself when compared with 90% possible from a condensing boiler. Another key benefit is that the externally sited Air Source Gas Absorption Heat Pump meant that there was no need for a costly purpose built plant room, the cost of which would have far exceeded any capital cost advantage of using a condensing boiler."

Installation of the system went smoothly during which time DHP worked closely on the project with Robur's UK specialists, Shorts Environmental Ltd. Shorts' Managing Director; Dr Paul Welsby commented "We are extremely pleased to see the Robur Gas Absorption Heat Pump used at Riverview for its environmental advantages. It follows closely on the heels of a similar project at the new Riverside School in Orpington.

Contact the Shorts Environmental
Customer Support Team on;

01274 744277

Email:

customersupport@shorts-env.co.uk

Check the website:

www.shorts-env.co.uk