

A new take on healthy eating

Between an imposing 19th century hotel and a water's edge lies Rhodes South, a contemporary rectangular timber restaurant run by celebrity chef **Gary Rhodes** and boasting a variety of healthy and sustainable building features. **Ella Taylor** stops off for lunch with a twist.



From the wood shaving insulation that makes use of every inch of construction materials, to the sedum roof that hotel guests overlook, the restaurant in Christchurch, Dorset, is claimed to be net carbon positive.

The building materials store around 100 tonnes more carbon than was emitted making it. This figure is calculated using a German system by **Professor Koenig** which takes into account the CO₂ emissions from the manufacture, construction and transportation stages of the building, even down to the emissions used to prune the FSC certified forests which provide the timber. Using this system, it is estimated that it will take 100 years before it becomes carbon neutral, if using fossil fuels such as gas.

German company **Baufritz** were commissioned to design and construct the

building, the design of which was based on its showroom in Germany which property developer and client **Nick Roach** admired when he visited it. It was the first commercial project the company had taken on in the UK, despite having been established in Germany for over 100 years.

Project architect **Anthony Cooper** was unfazed by this fact though, having worked on commercial buildings for other firms in the past. He said that the difference between a commercial and a residential project lay in the fact that the client is savvier, having usually commissioned similar buildings before, and often has a stricter budget and timescale in mind.

This is where **Baufritz's** prefabrication system relieves some stress, as the greater degree of control afforded by the factory

means, says Mr Cooper, that clients and architects can be sure that the structure will be finished, millimetre perfect and on-site on the agreed day. Currently structures are made in **Baufritz's** German factory, and built on site by trained employees from Germany. However, when it becomes economically viable, a UK factory, showroom and larger team will be set up.

The only worry on Rhodes South was that the basement and foundations were made by another company that were brought in before him, and that he had not worked with before. Unlike when working with a partner firm, nobody could be sure that the foundations would be built to the precise measurements needed for the timber building to sit on comfortably, or on time. Luckily in this case they did, and the building

was up just four days after being delivered, in time for the restaurant's opening day.

Mudford Estuary sits just five metres from the restaurant's large triple glazed windows, and does flood the lawn that the restaurant sits on in wet weather. This is why the timber structure sits on stilts, with a large gap underneath the dining room for water to enter and drain away, next to the basement where Gary Rhodes and his chefs store ingredients, which extends the length of the kitchen and bathrooms above.

The kitchen itself sits to one side of the restaurant, with a large picture frame window looking over the heads of diners and onto the estuary. With commercial sustainability growing in popularity, it was perhaps interesting to see that Rhodes South lacks obvious and attention-seeking features such as solar panels or wind turbines which usually signal sustainability to customers. Likewise, apart from the cooking equipment being new, and therefore more efficient than older models, there were no energy-efficient gadgets in the kitchen either. Instead, dishes are cooked using gas, as it is the best for Michelin-starred cooking, and produce is locally sourced, often seafood from around the corner, and in season. In the bathrooms, individual hand towels are offered rather than paper towels or hand dryers.

The dining room is a comfortable temperature and fresh, despite being airtight. Mr Cooper said that the building would not meet passiv haus standards, however, as it has been built to the site rather than to the standard. He believes that passiv haus is not needed in the UK as it is in Germany and Scandinavia, where the climate is harsher. However, he said that Baufritz buildings do typically come with measures already in



place to allow people to add on extras later, such as ducts for rainwater harvesting and systems for solar panels.

Outside, the building is clad in non-treated larch, framing the large triple glazed windows that make up three sides of four. The 40cm walls are filled with wood shavings left over from the factory, which are protected from fire, fungus and pests using a natural treatment made from soda and whey.

This insulation material, like the construction materials, is biodegradable, chemical-free and from a sustainable forest. It also exceeds current building regulation standards for thermal performance by around 70%. Energy loss through thermal transfer in these walls is only 0.16 W/m²K compared to 0.45 W/m²K in a conventional brick wall.

Building methods also mean man-made

materials are kept to a minimum: traditional joining techniques are used, meaning that no metal bolts are needed to keep it together. One steel beam exists in the whole 300m² building. As Mr Cooper says, if joinery was used to build successfully for many years in the past, why should we stop now?

As well as being eco-friendly, Rhodes South is also a "healthy building". A unique XUND-E plate, made from thin layers of carbon and a layer of natural gypsum board, is applied to the walls and roofs and then earthed, to reduce electromagnetic radiation in the building without interfering with electronic equipment.

This layer cuts out up to 99% of all high-frequency radiation and low frequency static emissions caused by alternating currents flowing through high tension cables. It also uses pollutant-tested construction and insulation materials and components, and other elements developed with doctors and building biologists.

In the future, "it would be nice to think people might choose where to eat based on how they live," said Mr Cooper, adding that as the UK follows Europe's lead in terms of sustainable developments, it will probably get "a wave of people branding themselves as eco-friendly restaurants."

The fact that Mr Rhodes did not have to brand his restaurant as eco-friendly, but chose to, is an encouraging sign to Mr Cooper, who hopes that sustainable restaurants and businesses will become more usual in future, so that environmental branding may not even be needed.

► <http://www.rhodes-south.co.uk>

► <http://www.baufritz.co.uk/>

Case%20Studies/Rhodes_South_Case_Study.html

