

Deep knowledge with an intelligent base

The Wandegroup has delivered and the proof is in its success

Innovation, speed and quality have become the bywords of Mario Kleff's architectural designs and Wandegroup construction projects and all are clearly in evidence on schemes currently in progress – the Laguna Heights, Club Royal with six buildings, Park Royal 1 and 2 condominiums and the extraordinary 'Thai-Bali' villa close to Phoenix Golf Course.

In addition to those, Wandegroup is also forging ahead with work on the I-Condominium, another stunning villa on Pratumnak Hill and the Suan Sawarn condominiums in Jomtien.

All this activity follows Wandegroup's completion of the outstanding, 27-metres high temporary showroom for the 140-metre high W-Tower at Wong-Amat and precedes work on a further two eight-storey condominium buildings on Pratumnak Hill.

Mario's latest innovative techniques include the increasing use of cellular beams and super-sized footings to support the massive spans that the new beams can support. But Mario, a keen student of design and architecture history, was keen to stress that these are no design gimmicks.

"Take a simple staircase as an example," he said. "Normally they are filled with solid concrete, but I reinforce the concrete with hollow PVC tubing rather than steel rods. This reduces the weight by 30 per cent but increases the strength by 60 per cent.

Shape is key factor

"You may ask how can simple, hollow plastic be stronger than solid steel. The answer lies in the shape. You could bend a two-centimeter steel rod across your knee, but you couldn't bend a two-centimetre diameter PVC tube. So I have had huge

cellular I-beams manufactured for me incorporating this 'tubing' technique.

"This increases strength, decreases weight, saves on steel costs and enables me to build with much larger spans. This, in turn, opens up a whole raft of design possibilities."

Shape is a key element of design strength and to support that view Mario points to Cologne Cathedral, parts of which are 800 years old.

"Even back then floor spans of 30 metres were not uncommon," he said. "Some of the Gothic arches are 140 metres high and the reason they were able to build them that size was because the design was based on the shape of an egg – one of the strongest structures known to man. The egg is the perfect shape and Japanese builders are already incorporating plastic eggs in concrete which reduce the overall weight dramatically.

"Imagine buying a dozen eggs in an egg box at your local supermarket. As a structural design it is very strong yet light and so as a concept it is one I plan to incorporate in my designs at some point. This 'egg box' technique is already being used in super-construction in Japan."

Old techniques

Mario is reluctant to call this new technology, rather an adaptation of techniques that were known to builders a thousand years ago.

"There is no limit to what you can build if you have this knowledge, just like understanding the 'golden mean', a concept which underpins every design I do from my supercar to a condo block."

The golden mean, or golden ratio as it is also known, is an irrational mathematical constant, approximately 1.6180339887. At least



since the Renaissance, many artists and architects have proportioned their works to approximate the golden ratio – especially in the form of the golden rectangle, in which the ratio of the longer side to the shorter is the golden ratio – believing this proportion to be aesthetically pleasing.

Carbon steel

As to what we might expect from him in the future, Mario Kleff is understandably cagey. "I don't mind people copying my ideas, but I don't want them to employ them before I've had

the chance to do so myself," he said. "Let me just say that I'm thinking of doing a few interesting things with carbon steel on our construction sites."

Meanwhile, several of his innovative projects are proceeding at a pace.

Work is under way on the Bt 700m Club Royal Condominiums at Wong-Amat. This six-building, 450-unit complex on five rai for Heights Holdings features massive 2.5 metre deep footings up to nine metres by six metres wide to support the huge cellular I-beams of between 70 centimetres and

90 centimetres wide. Condo footings are normally no more than four to five metres wide, but by maximizing his design, Mario has been able to incorporate residential floor spans of between 20 metres and 40 metres.

Interior fit-out

Construction of Park Royal 1, a 40-unit, eight-storey condominium in Soi 1, Pratumnak Hill, is now complete with interior fit-out expected to be completed this month. Meanwhile, work is well under way on Park Royal 2, another

outstanding eight-storey, 79 unit condominium block on Pratumnak Hill which, just like the other schemes mentioned here, has been designed and is being built by Mario Kleff's Wandegroup.

The skeleton of Park Royal 2, which will feature the same high quality footings as Club Royal, is likely to be completed before the end of the year.

It is the speed and quality of construction that differentiates this cellular structure design with its 90 centimetre cellular steel beams for columns and

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bars, facilitating very large spans.

Park Royal 2 is the first residential building where these beams have been permitted and, as a result, the entire building will be glass and steel with virtually no concrete. Even the bedroom, bathroom and elevator walls are glass with the exterior clad in shining green glass.

The external structure of the 10,000-plus square metre Laguna Heights, an eight-storey, 79-unit luxury condo block, was completed in September. Work on the interior is now under way with the first of the eight floors completing during October.

Exceptional condominium

“Both the speed with which Laguna Heights has been built and its structural quality are outstanding,” Mario added. “It is one of the most exceptional condominium blocks in Pattaya.”

Finally, work is beginning on another extraordinary villa

to be build near Phoenix Golf Course, combining Mario’s approach to both architectural design and engineering innovation.

The owner, wanting something different and aware of Mario’s reputation for extreme engineering ideas, requested him to design an innovative building. Mario’s response was a design featuring clear spans of more than 24 metres.

Mario’s exclusive 90 centimetre cellular I-beams will again be in evidence – the first time such massive beams will have been used on a house in Thailand.

“These beams are a brand new design made specially in Thailand for the Wandegroup by Japanese firm SYS,” said Mario, “and I will be using them on the house along with standard I-beams. This house really will be unique, being the first of its kind to be built in this style with a mix of different beams.

“I have done it this way so that the structure and appearance of the building can be enjoyed properly. Furthermore, construction costs will be reduced because the large spans afforded by cellular beams means that fewer beams are actually needed.”

Huge kitchen

The two-storey house will feature spans of more than 24 metres between columns and incorporate living space in the region of 700 square metres plus a pool and garden on nearly one rai.

The ground floor will feature ceiling heights of between 4.5 and 6.5 metres and will contain the living area, guest bedroom and a huge kitchen of 76 square metres. The upper floor provides two master bedrooms, each of 55 square metres, together with 22 square metre bathrooms, 33 square metre balconies, 20 square metre walk-in wardrobes and a 100 square metre roof terrace.

On Pratumnak Hill can you see what advantage with I-beam construction can be archived, as the I-condominium presents cantilever over-hangs of up to 6.0 metres on all sites of the building. Right beside the rising Japanese House with enormous footings, huge columns and clear spans of over 24.0 metres.

We asked Mario how it feels to get such appreciative projects to control. “As I said before, the Wandegroup just built the footings for a greater opportunity on the construction future – we have many new things to show and we will prove this to the market.”

Big thanks

“Today, I would like to say *thank you* for all appreciate help and support from Thai Authority and high ranked Government members also developers such as the Heights Holdings who made this possible trough believing in my design ideas and the ability of Wandegroup.” Ω

