

14th April 2016

Kaifu-Bad press release

## **Historical bath saved by wood**

### **Prefabricated elements combine traditional design and modern construction**

*The oldest swimming pool complex in Hamburg, Kaifu-Bad, is a protected monument built originally in 1895. It was closed for many years because the roof was in danger of collapsing. The renovation project posed multiple challenges: the need to respect the protected design, tolerate salt water and high humidity, and meet modern sustainability standards. All this could not be met with traditional construction methods or steel structures. The solution was found in pre-fabricated wooden elements by Metsä Wood.*

### **Wood has every advantage against humidity and corrosion**

As part of the renovation project, one of the pools was converted into a unique salt-water bath. "What sounds simple presents unusual challenges for architects," reports **Manfred Voss**, from the renowned architecture firm MRLV. "The salt water has a salt content of 6%, which is good for humans but bad for steel. The salt will consequently cause an enormous exposure to corrosion. We knew from the beginning that a standard solution wasn't an option."

The old, ailing roof truss needed to be replaced with a steel-free construction. The architect collaborated with the structural engineer **Stefan Heidrich** from WTM Engineers. The whole renovation was done without metal joints. Wood was chosen as the primary material as it was the only way to handle both the big changes in temperature as well as the corrosive effects of the high humidity, salt water and chlorinated water. "Using industrially manufactured, dimensionally stable Kerto-Q wooden trusses helped us to achieve an efficient solution. We were able to develop an object-specific design that meets both the static and the economic requirements", Voss continues.

### **Pre-fabrication saves time and money**

Constructing such a special kind of roof using engineered wood products, high degree of pre-fabrication and plenty of joints without metal is a unique and new approach in Germany. Due to the use of Kerto® LVL (Laminated Veneer Lumber) elements, the project also succeeded economically: As all the wooden parts were industrially manufactured, they were ready to install on site, which means significant savings in construction time. The savings from the faster installation covered the extra costs of the challenging structure and moisture-proofing.

### **Versatility of Kerto preserves barrel shaped vaults**

In Kaifu-Bad renovation the Kerto products were used in various very different applications from beams to panels. Kerto structures proved to be a very strong and dimensionally stable solution, that carries even large loads. For example, despite the 14 metre long span, the main trusses could be manufactured in a thickness of only 134 mm. In addition, the Kerto-Q panels allowed an arched cut of the bottom of the trusses, which preserved the historical

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barrel shaped vault. The 69-millimetre-thick Kerto-Q panels used for the roof shell paneling not only acted as panels but also stiffened the roof structures and stabilized the original brick walls against wind loads.

The success of the Kaifu-Bad renovation was a result of professional, service-oriented discussion between the supplier, the designer and the builder.

Experience the whole reconstruction of the historically valuable Kaifu-Bad at [www.metsawood.com/publications](http://www.metsawood.com/publications)

**Images:** <http://databank.metsagroup.com/I/9TMvLgk8zgQQ>

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