

Agrob Buchtal CarboCeram

## **Lightweight, quick, corrosion-free: setting new standards in swimming pool refurbishment**

The refurbishment of swimming pools dating from the 1960s and 1970s now requires efficient, durable and sustainable solutions. With the patented prefabricated component CarboCeram, Agrob Buchtal offers an innovative system for the rapid and precise renewal of pool heads. By combining a ceramic surface with carbon-reinforced concrete, the system enables significantly reduced construction times, high material efficiency and maximum durability without the risk of corrosion. A recent practical example is the successful implementation at the Ronneburg Youth and Leisure Centre in Hesse, where an indoor swimming pool over 50 years old was renovated to meet future standards using the CarboCeram system. Further projects are in the pipeline.

A key advantage of CarboCeram lies in its consistent prefabrication, whilst demolition and waterproofing work takes place in parallel on site. "This prefabricated construction method clearly offers the advantage of saving time. By pre-producing the prefabricated elements in the factory under ideal conditions, we save a considerable amount of construction time," explains Andreas Kramer, Head of Architectural Services at Agrob Buchtal.

During the refurbishment, existing pool coping is precisely removed and replaced with the prefabricated elements. The integration is a perfect fit, with existing geometries and fixtures already taken into account during the planning and production phases. The pool's appearance is also preserved, as transitions to existing tiles are barely visible. Production under controlled conditions also ensures consistently high quality. Time-consuming processes such as formwork, concreting and curing on site are completely eliminated. This simplifies construction processes, reduces interfaces and increases planning reliability.

### **Carbon concrete as a key technology**

Carbon-reinforced concrete forms the heart of the system. Unlike conventional reinforced concrete, carbon is completely corrosion-free and therefore ideal for environments subject to constant moisture and chloride, as is the case in swimming

pools. At the same time, the high load-bearing capacity allows for particularly slim and lightweight components.

“We have significantly higher strength than with reinforced concrete – and no corrosion. This is a very, very important aspect, particularly in swimming pools,” Kramer continues. The material efficiency also contributes to sustainability: less cement, sand and water mean a significantly improved carbon footprint.

### **Case study: Ronneburg – efficiency in existing buildings**

The Ronneburg Youth and Leisure Centre demonstrates the system’s performance in practice. “Our indoor swimming pool is a crucial component for the facility’s operational success, which is why we now want to bring it back up to scratch,” emphasises Reinhold Walz, client and manager of the facility.

The use of prefabricated elements requires particularly precise planning – but at the same time offers considerable advantages in the construction process. “The planning is more complex and requires greater precision, but it allows us to adapt exactly to existing structures and thus [speed up the construction process](#),” explains architect Gösta Weber of weber + elsässer architekten, who were responsible for the planning. Cooperation between all parties involved was consistently positive. The [rapid construction method](#), the high quality of workmanship and the smooth coordination led to a convincing result. The project illustrates how modern swimming pool refurbishment can be efficiently implemented today.

### **A sustainable solution for municipal infrastructure**

In view of rising demands for sustainability and cost-effectiveness, CarboCeram offers a forward-looking solution. Industrial prefabrication reduces waste and energy consumption, whilst durable materials significantly extend the service life. Shorter construction times minimise downtime – a decisive advantage for municipal operators. The refurbishment of swimming pools is also gaining increasing political significance, as demonstrated by relevant funding schemes. Innovative solutions such as CarboCeram help to implement these investments efficiently and sustainably.

With CarboCeram, Agrob Buchtal is redefining swimming pool refurbishment. This prefabricated component combines speed, precision and sustainability in a single system, offering a cost-effective and technically sound solution for the modernisation of existing facilities. The successful implementation in Ronneburg highlights the technology’s potential: shorter construction times, durable materials and a high degree of planning and execution reliability make CarboCeram a key component in the refurbishment of our swimming pool facilities.

**About Agrob Buchtal**

Agrob Buchtal is one of the leading specialists in ceramic solutions for demanding commercial construction and has made a name for itself internationally, particularly in the field of swimming pool ceramics. For decades, the company has stood for high-quality, durable and functional products that are specifically tailored to the particular requirements of swimming pools – such as high moisture exposure, chemical influences and safety aspects. The company has repeatedly brought innovative and technically sophisticated solutions to the market, thereby setting new standards. These include, amongst others, a range of anti-slip tile solutions for various wet areas, technical system solutions for swimming pool construction, and the introduction of the photocatalytic Hytect surface over 25 years ago, which to this day stands for improved hygiene and cleanability of ceramic surfaces. With developments such as the CarboCeram prefabricated component, Agrob Buchtal combines its long-standing ceramic expertise with forward-looking building material technologies. Architects, planners and operators benefit from holistic system solutions that combine design, technology and cost-effectiveness, and contribute significantly to the sustainable modernisation and new construction of swimming pool facilities.

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Blanks for the prefabricated carbon-concrete components at the factory  
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Tiling work on prefabricated components  
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Prepared swimming pool with the pool head cut out and waterproofing  
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Prefabricated component with integrated rung ladder is hoisted into place.  
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Andreas Kramer (right), Head of Architectural Services at Agrob Buchtal, checks that the CarboCeram prefabricated component fits precisely  
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The Ronneburg Youth and Leisure Centre in the Main-Kinzig district of Hesse is a municipal facility and an important hub for leisure, sport and socialising in the region.  
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