

Kniele GmbH, 88422 Bad Buchau, Germany

# Concrete meets Design

■ Mark Küppers, CPI worldwide, Germany

**CRE Panel GmbH is a subsidiary of Jolo Betonfertigteile - Josef Loacker GmbH, a company with more than 60 years of experience in the production of precast concrete elements - and is already in its 3rd generation. Whether indoors or outdoors, CRE Panel offers products that are highly suitable for a wide range of applications. Production takes place at the second production site, Plant 2 in Götzis. For the production of concrete for the demanding precast architectural concrete elements, CRE Panel opted for the KKM 250/375 cone mixer from Kniele. Kniele also supplied the other core components for the new concrete mixing plant.**

Jolo's origins lie in a construction company founded in 1954 with an associated precast plant. In the 2000s the construction company was spun off and the company concentrated exclusively on the precast concrete plant. The series production of precast slabs with in-situ topping, which are manufactured in large quantities, has become Jolo's core business. As a family-owned company, Jolo is powerful and can react quickly if external influences make this necessary.

At Jolo the team spirit is always in the foreground, everyone helps where he can and the motto is "if we do something, then with full passion". Jolo is innovative, offers fast solutions and attaches great importance to close customer contact from planning to production.

## Regional Partners

One of Jolo's particular strengths is its excellent cooperation with small and medium-sized enterprises from Vorarlberg. These efforts guarantee the high quality requirements of the products to the customers. The company is very proud of these long-standing partnerships.

Jolo products are used in the most diverse areas of the construction industry. The Jolo precast slab with in-situ topping is used in regional commercial buildings, classic residential buildings and public buildings. Further series products are produced for the most diverse projects in the most diverse industries.



*For the storage and weighing of the aggregates, Kniele has installed an in-line silo with 3 chambers (3 m<sup>3</sup> each) with vibrating channels for coarse and fine dosing (frequency converter-controlled).*



*CRE Panel opted for a Kniele KKM 250/375 cone mixer.*

After Markus Loacker joined the management board as the third generation in 2015, the founding of CRE Panel followed rapidly. This was Jolo's reaction to the lively industry in which many companies want to reposition themselves for the future. Behind CRE Panel is Jolo, a company with tradition and long experience in the precast sector.

**Precast concrete elements in combination with modern technologies**

CRE Panel manufactures precast concrete elements in combination with modern technologies. "Concrete meets Design" - "Concrete meets Textile": with this project the company replaces the conventional reinforcing steel with a high-performance textile reinforcement.

"While traditional reinforced concrete constructions are cumbersome and logistically complex to handle as prefabricated elements, textile-reinforced concrete offers a lighter and less complicated alternative that makes new dimensions possible in the production of precast concrete elements. Long durability, high material savings and reduced transport and logistics costs are arguments that clearly speak in favour of the use of textile-reinforced concrete in terms of efficiency and economy, in addition to the idea of producing in the most environmentally friendly and resource-saving way possible and thus also making a contribution to a better environment," explains Markus Loacker.

The company sees the great advantages of textile-reinforced concrete in the significantly lower concrete cover required, the resulting drastic weight reduction, the increased design freedom, the resource-saving use of materials and, finally, the resulting reduction in CO<sub>2</sub> emissions.

**New concrete mixing plant from Kniele**

For the storage and weighing of the aggregates, Kniele has installed an in-line silo with 3 chambers (3 m<sup>3</sup> each) with vibrating channels for coarse and fine dosing

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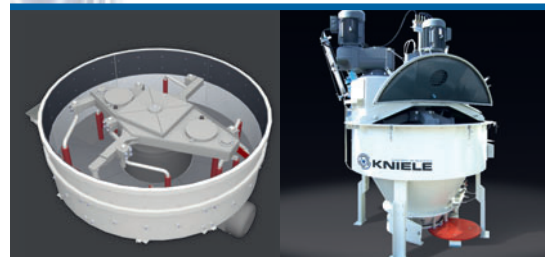
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*New Raiffeisenbank building in Oberriet with façade elements manufactured by CRE Panel*

(frequency converter-controlled). Weighing is performed by the mobile batcher. A skip hoist with tilting bucket then transports the weighed material to the cone mixer. A further installed container enables the special feeding of powder components with screw dosing.

**KKM 250/375 for high-quality concretes**

CRE Panel opted for a Kniele KKM 250/375 cone mixer. The mixing principle of the Kniele cone mixer is based on a conical mixing trough. A homogeneous mass is created in a short time due to the two counter-rotating agitators. Two coaxial agitators are installed on the central axis of the Kniele cone mixer. One agitator consists of a cylindrical or conical screw or helical blades, while the second agitator has

mixing arms with mixing paddles that scrape the mixer container surface that is in contact with the mixture.

The central helical agitator drives the mix upwards in a vertical direction, imparting a rotational movement to the mixture transported by the screw. The outer mixer arm agitator counteracts this rotational movement. Powerful whirling and fast, thorough mixing of the entire mixer contents are achieved due to these opposing, transverse mix flows.

With its cone mixer, Kniele’s promises include streak-free blending of colours and no loss of quality when mixing minimum quantities. The cone mixer can be completely emptied in a short time and the funnel-shaped construction saves a great deal of space.

**CRE Panel acquires the translucent concrete brand Luccon**

Luccon Lichtbeton GmbH, manufacturer of the multiple award-winning translucent concrete product, filed for bankruptcy at the beginning of 2017. In mid-April 2017, CRE Panel GmbH took over the Luccon brand. Managing Director Markus Loacker sees the purchase of the Luccon brand as a logical expansion of the company. The translucent concrete is also produced at the second production site in Götzis-Hopbach.

**Hi-tech material with amazing properties**

Luccon is translucent due to the use of light conducting fibres: Colours and shapes can be perceived through the concrete under appropriate lighting conditions. The classic properties such as high strength, waterproofness and frost resistance are retained. The material is suitable for both indoor and outdoor use and opens up new perspectives for architects, designers and artists.

[www.luccon.com](http://www.luccon.com)



*Jolo Managing Director Markus Loacker presents the innovative translucent concrete.*

The cone mixer has very diverse applications. Due to independent control of the speeds of both agitators – especially the inner agitator – both liquid and earth-moist concrete can be produced with the cone mixer. Furthermore, according to the manufacturer, this mixer type is also especially suitable for special concretes, such as UHPC und SCC, fibre-reinforced concretes, lightweight concretes, heavy concretes, etc. The infinitely variable control enables precise adjustment to the specific mixture and significantly reduces the mixing time of these special concretes thanks to this optimisation.

The mixer is equipped with a water dosing system which is suitable for both coarse and fine dosing.

### Admixture batcher

The complete system is equipped with an AC 5/5 admixture batcher from Würschum, including two ZD 3 pumps. The construction principle is a calibratable liquid batcher with weighing containers made of acrylic glass or alternatively of stainless steel, which are resistant to aggressive liquids. The batcher is installed in a protective cabinet with a window and is designed in such a way that the individual weighing containers can be combined as required with 5, 15 or 30 litres. The weighing containers are mounted on a plate with an electronic weighing cell.

### Mixer cleaning / forced dedusting

The mixer has been equipped with a system for forced dedusting. In addition, the automatic mixer cleaning with low-pressure system ensures a clean mixer, which is absolutely necessary, for example, with every colour change in order to meet the very high demands placed on the final products. The mixer cleaning operates with three spray heads and a pump for dirty water. This means that the mixer is primarily cleaned with dirty water.

The control of the concrete mixing plant comes completely from Bikotronic.

### White concrete facade made of 59 individually manufactured elements

A prime example of quality precast concrete elements "Made by CRE Panel" is the new Raiffeisenbank building in Oberriet, Switzerland, close to the Swiss border. For the project, CRE Panel produced a total of 59 (47 straight, 12 rounded) individual façade elements made of high-strength concrete in special casting moulds. The high-performance binder Dyckerhoff Flowstone White was used. In addition to synthetic fibres, titanium dioxide was also added. The white pigments are intended to prevent organic impurities and the titanium dioxide to counteract air pollution.

The open façade has a total area of more than 300 m<sup>2</sup>. An additional surface protection was omitted in order not to hinder the aforementioned functions of the white pigments and the titanium dioxide. ■

"Industry 4.0 does not stop at precast concrete elements and we would like to continue to introduce innovative new technologies in the precast concrete sector in the future." Markus Loacker, Managing Director of Jolo and CRE Panel.

### FURTHER INFORMATION

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